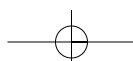
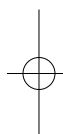
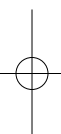


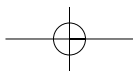
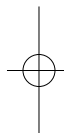
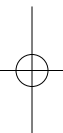
THE PREHISTORY OF BOHEMIA 5

THE EARLY IRON AGE –
THE HALLSTATT PERIOD





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contributions from

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Archeologický ústav AV ČR, Praha, v. v. i.

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The Prehistory of Bohemia 5

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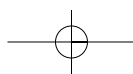
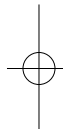
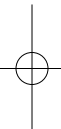
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Foreword

Despite spanning a large part of the Iron Age in Bohemia, the Hallstatt period has attracted somewhat less interest than either the preceding Bronze Age or the following La Tène period. According to the central European chronology and terminology, the Hallstatt period occupies the Early Iron Age.

Like the period itself, this volume is divided into two sections: the Hallstatt period with the individual, territorially distinct and contemporaneous Bylany, Hallstatt Tumulus, Silesian-Platěnice and Billendorf cultures, and the late Hallstatt period ending with the early La Tène period, which was already culturally uniform. While linking the early La Tène period to the late Hallstatt period might seem unusual and debatable, the cultural continuity of these two periods cannot be doubted and is not even disrupted by the introduction of the La Tène art style.

The two periods, Hallstatt and late Hallstatt, are discussed jointly in the introductory chapters, which also include a chapter dealing with production areas and activities that are culturally indistinguishable. Other subjects such as activities connected with settlement and ritual are taken up in chapters dealing with individual, culturally specific Hallstatt cultures, and with the late Hallstatt period. It was not possible in this work to take a deeper view at questions of cultural specificity. It would be useful to analyse the congruity and differences (not only in Bohemia) between Hallstatt period entities commonly labelled as cultures, since in many cases these were in fact just cultural groups within the Hallstatt culture in Europe. This also holds true for the Bylany culture and Hallstatt Tumulus culture in Bohemia.

The factual emphasis employed by the writers throughout the volume is evident not only in the descriptive sections devoted to artefacts, but also in the independent treatment of the manufacturing activities

whose output – final products – are the artefacts themselves. The brief descriptions are supplemented with rich reference to, above all, Czech literature that provides the reader with further information or a detailed presentation of the subjects addressed here in only a concise manner. As drawings were mostly taken from the individual authors without major modifications, their appearance is not uniform. This makes it possible to compare various methods of documentation, which also reflect the variability of archaeological interpretation.

The aim of the work was to present the current state of research on the Hallstatt period in Bohemia and to show the quality and size of local finds. The data provided in the volume can be used for promoting new research themes while also raising new questions, and thus represents an invitation to students and researchers from both home and abroad.

The collective of authors was made up of archaeologists who study the Hallstatt period comprehensively in their fields of interest as well as researchers whose work addresses specific subjects using the find inventory from Bohemia as a whole. The methodological approaches and the emphasis placed on individual aspects of the study of the Hallstatt period naturally differ, depending on the interests of the authors. The authors contributed to the volume to a different degree. Chapters on the individual Hallstatt cultures were written by Drahomír Kouček (7.1), Jan Michálek and Miloslav Chytráček (7.2), Vít Vokolek (7.3) and Drahomír Kouček and Vít Vokolek (7.4); the other parts of the volume represent the joint work of all the authors. Data for most of the chapters were supplemented by contributions from Pavel Sankot.

*Natalie Venclová
April 2013*

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1 Introduction

The Iron Age in central Europe begins with the Hallstatt period, which can be characterised as a time of dynamic social and economic development marked by an openness to a wide variety of impulses and ideas, especially – to a gradually increasing extent – to those from the ancient world; nevertheless, the region retained its own identity despite the new influences. With its salt mines and cemetery with graves richly furnished with large numbers of imported artefacts, the eponymous site of Hallstatt in the Salzkammergut area of Austria heralded the important aspects of the Hallstatt period – the growing significance of specialised production and expanded trade and cultural contacts with the Mediterranean. *H. Hildebrand (1874)* used the term “Hallstatt period” to designate the early (pre-Roman) part of the Iron Age. From an archaeological classification perspective, the Hallstatt period includes stages Ha C and Ha D; *P. Reinecke’s* chronology (1902; 1904; 1906; 1911) also places stage LT A in the Hallstatt period, a system that is commonly accepted and used in central Europe to this day.

The period encompassing stages Ha C and Ha D1 is often designated, though not quite appropriately, as the later Hallstatt period to distinguish it from the “early Hallstatt period”, as the preceding stages Ha A and Ha B, which still belong to the Bronze Age, were formerly called. Two cultures were present in Bohemia in Ha C and Ha D1: the Hallstatt culture and the Urnfield culture. The local Hallstatt cultures (or rather cultural groups) were the Bylany culture in central and northwest Bohemia and the Hallstatt Tumulus culture in west and south Bohemia; the Urnfield groups were represented by the Silesian-Platěnice culture in east Bohemia and the Billendorf culture in northwest and north Bohemia and in the northern part of central Bohemia.

The following period beginning with stage Ha D2 is referred to as the late Hallstatt period; the early La Tène period, or stage LT A according to Reinecke’s system, is also included, although it might seem illogical, in the late Hallstatt period (*Reinecke 1902*). Older Czech literature also uses the term “Hallstatt-La Tène” period and, on the regional level, the names “Citoliby group”, “Hořejany type” and “Turnov type” for local late Hallstatt period groups. These terms are no longer commonly used today. This terminological chaos is the result of a research tradition spanning over one hun-

dred years. The terms “La Tène period” or “La Tène culture” are derived from the La Tène site on the shore of Lac Neuchâtel (Neuenburger See) in today’s western Switzerland, where numerous artefacts made and decorated in a previously unknown style (see *Vouga 1923*) were found in the second half of the nineteenth century and at the beginning of the twentieth century, thus becoming the eponymous site of the culture. The style took hold at the beginning of stage LT A, which, however, remained connected to the preceding late Hallstatt in its other manifestations, appearing to be part of the Hallstatt culture.

Initially the Hallstatt period was not culturally uniform in stages Ha C–D1; however, the internal consistency and cultural homogeneity that then appeared in stage Ha D2 to LT A make it impossible to distinguish between previously distinct cultures. Perhaps the only exception is the northwest Bohemian River Elbe region, where the Billendorf culture encounters other cultural impulses from areas to the north of Bohemia. Certain specific characteristics also continue to appear in this period in the Silesian-Platěnice culture in east Bohemia.

In the Ha C–D1 period the Hallstatt culture was spread over a vast area north, west and southeast of the Alps, separating into the West and East Hallstatt circuits or zones, the border of which is typically regarded as the line running northward from the site of Hallstatt. Bohemia is usually still placed within the West Hallstatt zone – on its eastern border (cf. *Egg – Pare 1995*, 161, 167); hence, the eastern border of the Bylany and Hallstatt Tumulus cultures simultaneously forms the eastern border of the West Hallstatt zone (*Torbrügge 1991*, Beilage 11). In reality, the border between the West and East Hallstatt zone cannot be well defined and was permeable in both directions.

Urnfield culture groups occupied north Moravia, Silesia and east Bohemia in this period, with the east Bohemia with its Silesian-Platěnice culture forming its peripheral southwestern part. The Hallstatt period Urnfield culture groups were culturally based in the Late Bronze Age (*Vokolek 1999*). For the Billendorf culture, which is very closely tied to the preceding Urnfield culture, the northern part of Bohemia forms only the eastern and southeastern edge of its region, which in particular encompasses Saxony, Lusatia and Lower Silesia.

THE EARLY IRON AGE - THE HALLSTATT PERIOD

The Hallstatt period is characterised by the adoption of an iron-making technology and its regular use in the production of tools, weapons and other artefacts, initially still along with bronze. Weapons and the use of a ceremonial horse-drawn wagon, and the horse riding become attributes of social standing. There is a gradual increase in the intensity of contacts with the classical world, especially Etruscan and Greek, but also with eastern regions and cultures via the East Hallstatt groups and nomadic cultures. As one of the main progressive regions of the Hallstatt world in this period, Bohemia acquires prestige goods along with new technologies and ideas in exchange for raw materials (tin, gold) and apparently also slaves and livestock. The elites adopt a certain model of social behaviour including banqueting, or drinking feasts, that were adopted from the Mediterranean and develop into a source of power; warfare mechanisms change (military leaders followed by their armed groups appear) and new technologies emerge (agricultural techniques, iron manufacturing and working, the use of potter's wheel). The symbolism expressed by an essentially geometric art style with predominant solar motifs begins to change in the early La Tène period into an abstract style using plant, zoomorphic and anthropomorphic elements. Emerging ideological changes reflected in the symbolism employed are also manifest in the disappearance of hoards of bronze artefacts and in burial rite. This gradually adopts inhumation, and presents a greater variability of burial customs including the construction of graves and the composition of grave inventories. The provision of some graves with wooden and stone chambers, the monumental dimensions of some barrows, the selective deposition of

swords, wagons, horse harness and imported goods in graves reflect a gradually evolving complex social structure documented in the secular sphere by the variability of settlement forms ranging from open rural settlements to hilltop settlements of various sizes and with elaborate enclosure. The complexity of Hallstatt society is also apparent in the terse and misleading terms commonly used for the most striking graves and residential areas – “princely graves” and “princely seats”, which were adopted from German archaeology (*Fürstengräber, Fürstensitze*: Kimmig 1969).

The period beginning with the early La Tène, or even earlier, is usually regarded as protohistory – a time when central Europe becomes an area of interest for the ancient world and is mentioned in historical reports written by Greek and Latin authors. One such source, *The Histories* by *Herodotus*, provides information that the area where archaeology identifies the La Tène culture was occupied by Celts, beginning in the fifth century BC at the latest. Since *Herodotus* drew from *Hecataeus of Miletus*, who was active during the sixth century BC, the report is certainly already linked to that period. Also appearing are historical names of other “barbarian” tribes or nations (from the perspective of the ancient civilisations) such as the Cimmerians, Thracians, Scythians, Illyrians and Veneti, with whom the central European Hallstatt population had various contacts (mediated in a number of ways), as is suggested by the evidence of archaeological finds. Archaeology and history then concur that major partners (above all in trading) from the ancient world for the transalpine cultures of the Hallstatt period were the Greeks and Etruscans.

2 The history of research

It should be pointed out that not only has a specific, generally valid research concept not been developed for the study of the Hallstatt period in Bohemia, but Czech researchers have not even consistently applied or tested some of the European theoretical models. Noteworthy in this regard is the concept of “princely seats” formulated in the 1960s using finds from the Heuneburg hillfort (*Kimmig 1969*) and especially the model of the world economy (centre and periphery) from the 1970s (cf. *Kristiansen 1998*, with refs.), which considers cultures outside of the Mediterranean as a dependent peripheral zone and overestimates the importance of trade with ancient civilisations for local development – a model that was applied to Hallstatt Europe (for a discussion and critique, see *Eggert 1997*; *Brun 1997*; *Bats 2006*; *Eggert et al. 2010*; *Collis 2010*, with refs.).

An undeveloped theoretical research paradigm connects Bohemia with other Central European countries. Czech scholarship is indebted to German archaeology for a large corpus of classified comparative database for this period. As this chapter illustrates, the rich Czech data and a thorough understanding of the material resulting from the systematic work of several generations of researchers create an adequate basis for testing a wide variety of models and paradigms across individual cultures and periods. This is the task facing Czech (or European) archaeology in the near future.

Individual cultures and cultural groups in the Hallstatt period in Bohemia were identified more than one hundred years ago (for the state of research as in the 1960s, see *Pleiner – Rybová /eds./ 1978*). Unfortunately, with few exceptions they have been studied separately until now; for this reason this chapter is divided not only into two main chronological segments, but in the earlier of the two (in Ha C–D1) also into individual cultures.

2.1 HALLSTATT PERIOD, HA C TO HA D1

The Bylany culture

The eponymous cemetery in Bylany near Český Brod was excavated by *J. L. Píť (1897; 1898)*, who then published the Bylany culture finds obtained by himself and a group of co-workers in *Starožitnosti země České (Bohemian Antiquities: Píť 1899)*, though without a correct chronology. In *Rukověť české archeologie (Handbook of*

Bohemian Archaeology) *K. Buchtela* and *L. Niederle (Buchtela – Niederle 1910)* along with the anthropologist *J. Matiegka* presented the Bylany culture together with the Platěnice culture, as did *J. Schráníl (1928)*. *A. Stocký (1925; 1928)* reviewed Píť’s concept of the Hallstatt period cultures and treated the Bylany culture separately from the Platěnice culture.

J. Böhm and *J. Filip* in particular had a strong influence on the theoretical research of the Bylany culture. Böhm was the first to divide the Bylany culture into three phases dated using metal artefacts and characterised according to prominent cemeteries: early phase – Praha-Střešovice; middle phase – Bylany; late phase – Čičovičky (*Böhm 1925*). This classification remains valid as a rough outline to this day. Böhm also divided graves into two groups – large richly furnished inhumation and cremation graves, and small urn burials with poor grave goods. He interpreted the graves from a social and ethnic perspective, ascribing large graves to foreign members of the aristocracy that had moved into the area, and urn graves to the domestic population of the Knovíz culture tradition. In his study on the foundations of the Hallstatt period (*Böhm 1937*), Böhm also addressed the emergence and chronology of the culture in the Ha C period. Filip made an in-depth analysis of the Bylany culture finds in the Hallstatt period context in central Europe (*Filip 1936–37*), dividing the Hallstatt culture from a geographical perspective into two zones – West Hallstatt, in which he placed the Bylany culture, and East Hallstatt; he then described their archaeological content. Filip attempted to establish boundaries between the Bylany, Platěnice and Hallstatt Tumulus cultures, distinguishing between large chamber graves and small urn burials and, like Böhm, interpreting them from a socio-ethnic perspective.

Great gains were made in the study of the Bylany culture between the World Wars and the find inventory expanded considerably. Although new Bylany culture cemeteries were excavated in the Prague area in Praha-Bubeneč, Dolní Liboc and Střešovice, the analysis and publication of the finds took place much later (*Fridrichová – Koutecký 1981*; *Fridrichová – Koutecký – Slabina 1996; 1997*, with refs.). *F. Dvořák* made important contributions to the understanding of the Bylany culture in the Kolín region with his excavations in Hradenín, Plaňany, Poboří, Kouřim and at other sites

(*Dvořák 1934–35; 1936; 1938; 1939*). German scholars who contributed to the journal *Sudeta*, especially E. Benninger, H. Födisch and H. Preidel, were responsible for new finds in northwest Bohemia, particularly in the Litoměřice, Most and Chomutov regions (e.g. cemeteries in Straškov-Račíněves, Budyně nad Ohří and Litoměřice). The same authors also listed finds from individual regions in this area (*Födisch 1940; Preidel 1934; 1935*). *M. Zápotocký (1964)* later published older grave finds from the River Ohře region.

The development of field activities in northwest Bohemia beginning in the 1950s (large-scale rescue excavations connected with opencast coal mining and other industrial activities) led to the discovery and excavation of many new sites, especially cemeteries (Lovosice: *Pleiner 1959*). The boom in fieldwork and theoretical research concerning the Bylany culture falls mainly into the period of D. Koutecký's activities. The basis of his work was the creation of a detailed classification and relative chronology of the Bylany culture, and an analysis of its burial rite including a classification of graves based on their inventories that is used to this day (*Koutecký 1968*, with refs.). Koutecký regarded the members of individual groups as foreign, proto-Celtic immigrants from the west (inhumation graves with wagons, horse harness and weapons) in contrast to the original local population in a subjugated position (cremation graves). The results of the research on the Bylany culture in Bohemia were used as the basis for a study of painted Hallstatt pottery (*Siegfried-Weiss 1979*).

Koutecký evaluated and published his own numerous finds, especially those from graves (Poláky: *Koutecký – Smrž 1991; Koutecký 1993b*; Rvenice: *Koutecký 1966*; Vikletice: *Koutecký 1988a*; additional excavations in northwest Bohemia: *Koutecký 2000a; 2000b; 2003b; 2003c; 2006; 2008a*), contributed to the publication of finds from cemeteries in the Prague area (*Fridrichová – Koutecký – Slabina 1996; 1997; 1999*), Kolín (*Koutecký – Sedláček 1984*), Čelákovice (*Koutecký – Špaček 1982*), and published earlier finds from the eponymous Bylany site (*Koutecký 2003a*). Significantly less attention was paid to settlements, which were mainly identified in the Prague area (*Fridrichová 1974*) and the Kolín region (*Sedláček 1980*). Listing of finds from the Louny region represents the first attempt to discover the structure of the Bylany culture settlement and its natural background (*Pleinerová – Pleiner 1981*). Further settlement assemblages were gradually published (*Koutecký 1985; 1988a; 1988b; 2004; Koutecký – Špaček 2004*). Finds from the Bylany culture settlement and burial areas in the Kutná Hora and Čáslav regions were recently studied (*Šumberová 1996a; 1996b*). Modern investigations at Praha-Miš-

kovice (*Trebsche 2011*), Praha-Hostivař (*Veselá 2007; Ernée 2008*) and Praha-Dolní/Horní Počernice – Černý Most (*Mácalová – Frolík 2011*) have provided a new view of Bylany culture settlements and their internal organisation. Nevertheless, despite the quantity of finds available today, a comprehensive evaluation of Bylany culture has still not been conducted.

The Hallstatt Tumulus culture

The numerous barrow cemeteries in west and south Bohemia have been a subject of interest to archaeologists since the beginning of archaeological research in Bohemia (*Křikava – Smolík 1883, 1*). Based on their find assemblages, *L. Niederle (1893, 471)* first distinguished Bronze Age barrows from Iron Age barrows, and *J. L. Píř (1900)* considered the “stone barrow people” as a single tribe that remained in the land continuously from the earliest barrows to the Celtic period. *F. X. Franc (1988)* studied barrows along the River Úslava and in the area around Plzeň, where his field observations and precise documentation of find contexts made it possible to divide the finds from barrows into three cultures and periods which he designated with the letters C, D, E. In this way Franc succeeded in differentiating the Middle Bronze Age Tumulus culture (C) from the Milavče and Hallstatt cultures (D) and the latest of the three, the La Tène culture (E). *J. Eisner (1924)* was the first to characterise the Ha C and Ha D finds of the Hallstatt Tumulus culture and separate it from the Milavče and La Tène cultures.

A comprehensive picture of the content and cultural classification of the west Bohemian group of the Hallstatt Tumulus culture was created by *V. Šaldová (1965; 1968)*, who investigated the cemetery at Nynice and collected all of the available finds from the other west Bohemian cemeteries. This research was later expanded to include graves from the cemetery in Manětín-Hrádek (*Soudská 1994*), several newly published finds from earlier barrow excavations (*Hralová 1987b; 1993*) and cemeteries investigated later (*Šaldová 1974a; 1992; 1994*).

The settlements of the Hallstatt Tumulus culture in west Bohemia were unknown for many years; the enclosed Ha C/Ha D1 to Ha D1 farmstead in Štítary nad Radbuzou-Hostětice did not come to light until the 1980s (*Chytráček 1994; 1997; 2002b; 2009, 125, Abb. 10B*). The Ha C lowland settlements were recorded only recently (*Chytráček – Metlička 2004, 109, Karte 18; 2011*).

In south Bohemia the basic Hallstatt period inventory was identified as early as the second half of the nineteenth century when, following a period of random discoveries and amateur excavations of barrows with rich burials (e.g. Rovná and Dražejov in 1860), the

first systematic excavations of barrows began in Plav near České Budějovice in 1866 (*Hraše – Stultk 1868*) and continued to the early twentieth century. J. L. Píč and J. Rychlý headed the excavations at a majority of important south Bohemian sites, including Hanov in 1895, Řepeč in 1880 and 1897, Sepekov in 1865, 1878 and 1898 and Křtěnov in 1882–83 (*Píč 1900*). The first half of the twentieth century was characterised by excavations conducted by the České Budějovice Museum (e.g. A. Lindner – Dubné, I. Wodiczka – Pašovice, Hosty, etc.), the Museum in Tábor (J. Švehla – Skalice, etc.) and above all, by the excavations by B. Dubský, especially in the Strakonice and Písek regions (*Dubský 1949*). Since the beginning, attention has also been paid to both hilltop settlements and hillforts (J. Woldřich and J. V. Želízko, later B. Dubský and J. Maličský) and lowland settlements (with the greatest contribution by Dubský). J. Böhm and A. Stocký investigated numerous barrows near Láz and Malenice in the Strakonice region in the 1920s. The first modern barrow excavations were launched in 1930 by the so-called American Expedition from Harvard University led by V. J. Fewkes with the assistance of R. W. Ehrich at the site Hroby near Křtěnov and in 1931 in Babín near Horažďovice. In the early 1950s, the existing knowledge, along with west Bohemian finds, was summarised (*Šaldová 1952*).

Following a break of nearly twenty years, fieldwork began again in the 1960s, mainly with rescue excavations. Barrow cemeteries were investigated near Zbislav, Dobešice, Oldřichov, Týn nad Vltavou, Dobřejovice and several other sites. *J. Michálek (1972; 1978; 1979; 1981; 1990; 1999; 2000b; 2003a; 2007; 2011b; forthcoming)* and his co-workers (*Michálek – Parkman 1996*) have made a significant contribution to the understanding of the Hallstatt Tumulus culture in south Bohemia, both with their fieldwork and theoretical research. Results of early excavations of barrow cemeteries, e.g. by Píč, were assessed (*Chvojka – Michálek 2011*). Investigations of hilltop sites over the past decade have produced new data (*Hrubý 1998; Michálek – Lutovský 2000; Opalice: Chvojka – John 2009; Opařany: Chvojka et al. 2011*). However, Czech archaeology still awaits a comprehensive evaluation of the entire Hallstatt Tumulus culture.

The Silesian-Platěnice culture

J. L. Píč named the latest east Bohemian Urnfield period the Platěnice culture in 1905 following the excavation of the eponymous cemetery at Platěnice (*Píč 1903; 1905*). Although K. Buchtela ascribed the finds from this period (even from east Bohemia) to the Bylany culture (*Buchtela 1906; Buchtela – Niederle 1910*) and the term “Bylany-Platěnice” culture was also ap-

plied (*Hellich 1906*), the term “Platěnice” culture, which was understood as a separate stage of the Urnfield culture, henceforth took hold for east Bohemia. In addition to the fieldwork conducted by Píč, excavations by V. Diviš, L. Duška and others, and mainly the archaeological work of L. Domečka at the end of the nineteenth century and the beginning of the twentieth century were of key importance in learning about the culture. As *J. Filip (1936–37)* assumed continuous development of the Urnfield culture from Ha B1 until deep into the La Tène period, he merged the Silesian and Platěnice cultures under the name of the Silesian-Platěnice culture. Filip’s thesis had a substantial impact on subsequent research, and the basic outline of his chronology remains in use to this day.

Following World War II, east Bohemian finds of the Hallstatt period were dealt with systematically by V. Vokolek, who published finds from the eponymous Platěnice site (*Vokolek 1993a*), comprehensively evaluated the Silesian-Platěnice culture within east Bohemian prehistoric context (*Vokolek 1993b*) and produced a catalogue of east Bohemian cemeteries, many of which he investigated himself (*Vokolek 1999*). Settlements were recorded on a small scale during rescue excavations, represented by some sunken features or occupation layers (Lípa, Lochenice), and larger-scale excavations have only recently taken place (Milovice: *Hralová 1987a*, with refs.; Obědovice, Slepovice, Opatovice nad Labem: excavations by V. Vokolek). According to Vokolek, beginning in Ha B1, the Silesian-Platěnice culture represents a second population wave from the home-area of Poland to east Bohemia.

Work has only just begun on the evaluation of data from settlements (e.g. *Vokolek – Sedláček 2010*); unfortunately, settlement assemblages are not attractive to the younger generation of researchers due to their size, especially with regard to the quantity of pottery finds and the amount of work required for their classification and evaluation. Hence, an overall synthesis of the Silesian-Platěnice culture with its rich find inventory is a prominent future research priority.

The Billendorf culture

The Billendorf culture is relatively well recognised in the main area of its occurrence, i.e. in Saxony, Lusatia and the neighbouring parts of Silesia, where it is called the Białowice culture (*Kropf 1938; Buck 1977; 1979*). In connection with the publication of the Niederkaina cemetery, *L. Nebelsick (2001)* and *J. Kaiser (2003)* took a renewed interest in the Billendorf culture and summarised the history of research on the subject.

The term “Bělin type” was used in Bohemia after World War II (*Neustupný 1946; Filip 1947*), but did not catch on. E. Plesl published Bohemian finds of the

Billendorf culture (*Plesl 1960a; 1960b; 1961a*) and D. Koutecký treated more recent finds (*Koutecký 1993c; 2001a; 2003b*). V. Vokolek, who regards the Billendorf culture as a continuation of Lusatian culture in Ha B, Ha C and further (*Vokolek 2004*), added Billendorf finds from earlier excavations to the list. Koutecký considers Billendorf finds in Bohemia as part of the Bylany culture complex, whereas V. Vokolek views them as a manifestation of contacts between the two cultures, similar to the situation on the eastern border between the Bylany culture (in the Nymburk region and along the Jizera river) and the Silesian-Platěnice culture. *N. Venclová (1973)* pointed out the role of the Billendorf culture in the context of the La Tène period Podmokly group.

2.2 LATE HALLSTATT PERIOD, HA D2 TO LT A

The late Hallstatt period has usually been studied in Bohemia either in connection with the preceding Ha C–D1 cultures, or, in contrast, with the La Tène period (LT B–D). A review of Iron Age studies (including the late Hallstatt period) in the 1970s to early 1990 in Bohemia was presented by P. Drda and A. Rybová (*Drda – Rybová 1994*). Far less common is the separate study of late Hallstatt in Bohemia; pioneering works in this regard were the research on stamped pottery (*Linkšfeiler 1978; Schwappach 1973*) and on the LT A wheel-turned pottery (*Gosden 1987*). J. Waldhauser (*Waldhauser et al. 1993*) was one of the few to address the late Hallstatt in Bohemia as a whole (while studying the settlement site of Radovesice). The recognition of the importance of Bohemia as one of the significant areas for the emergence of the La Tène culture and the La Tène art style in LT A must be ascribed to a new research trend that takes advantage, among other, of the advances in documentation and conservation techniques (*Sankot 1994; 1996; 2003; 2012*). Ha C to LT A gold artefacts in Bohemia were thoroughly studied (*Michálek – Frána 1997*), as were the acquisition and working of copper (*Waldhauser 1986*), glass artefacts (*Venclová 1990*) and, most recently, Mediterranean imports (*Trefný 2011; Trefný et al. 2012a*). The study of the settlement structure and its relationship to the natural environment has also gradually progressed; noteworthy in this regard are the generally valid modelling of the hinterland of settlement sites based on investigations in the micro-region of the Vinoř stream and its late Hallstatt components (*Dreslerová 1995b*), and the investigation of animal bones in central Europe, including Bohemia (*Müller-Scheessel – Trebsche 2007*).

New archaeological methods such as aerial photography and magnetometry are contributing today to the study of the late Hallstatt period and the preceding phases of the Hallstatt period. Examples of the use of

these technologies include the documentation of barrows and enclosures in recent years (*Michálek – Lutovský 2000; Smrž – Krivánek 2002; Chytráček – Metlička 2004; Foster 2004*). The use of metal detectors by archaeologists produced many new finds (*Fröhlich – Michálek – Jiřík 2011*).

As the research of the late Hallstatt period up to now has primarily been linked to individual regions, they will be addressed separately.

Central and northwest Bohemia

The past two hundred years have witnessed the extensive destruction of archaeological monuments from the late Hallstatt period in central and northwest Bohemia as the result of intensive agricultural and industrial activities. The long list of examples includes the ploughing up of the barrow cemetery in Lochovice near the Kočvary estate in 1802–03 (*Maličský 1953, 22; Sklenář 2002*), the unearthing of a grave in Želenice in 1843 (*Moucha 2002, 4–5*), the excavation of cremation graves in Hořín in 1895 (*Čermák 1900, 516–524*), the destruction of barrows near Želkovice in 1900 (*Jíra 1902; Maličský 1953, 22–23; Chytráček 1988; 2000*) and at Libčice-Chýnov in 1902 (*Sankot 2001, 299*), or the gradual excavation of the cremation cemetery in Praha-Bubeneč in 1907, 1931, 1937 (*Hájek 1939, 86*).

There are so many gaps in the Ha D2 to LT A inventory of burials beneath barrows or from cemeteries with flat cremation graves in this area that so far it has not become a base for a reliable chronology. A comprehensive view of the cemeteries from this period is still missing, individual regions nevertheless have been studied (the River Ohře region: *Holodňák 1988; Prague: Fridrichová – Koutecký – Slabina 1996; 1997; 1999*).

At the beginning, the study of settlements was based only on individual small-scale excavations (*Zápotocký 1963*, with refs.), and since the 1950s mainly on rescue excavations. The largest excavations in central Bohemia were conducted in Praha-Hloubětín in 1953 (*Soudský 1955*) and in Krašovice in 1955–60 (*Jansová 1957; Soudská 1966*). Unfortunately, these large-scale excavations were not comprehensively published, although selected finds were used to create chronological schemes (*Rybová – Soudský 1962*, etc.). However, research at the time was influenced by J. Filip's theory on the continuation of the Hallstatt culture until the later La Tène period (*Filip 1956*). The majority of fieldwork activities captured only sections of settlement areas (e.g. Tuchoměřice, Tuchoměřice-Kněžívka: *Soudská 1966; Praha-Bohnice – Nad Podhořím, Praha-Bubeneč: Fridrichová 1974; 1986; Fridrichová /ed./ et al. 1995, 182, 204–205, 212; Počeradý: Koutecký – Venclová 1979*). Large-scale rescue activities and fieldwork

projects in the last twenty-five years have provided a more comprehensive image of residential areas and entire settlement structure (including Poříčany: *Čtverák 1986*; Jenštejn: *Dreslerová 1995a*; Libčice-Chýnov: *Sankot 2001*; Chržín: *Chytráček 2007b; 2008*; Tuchoměřice: *Sankot 2004; 2007*; Kotopeky: *Stolz 2012*; Praha-Pitkovice: *Trefný – Polišínský 2008*). Also contributing to a better understanding of the Late Hallstatt period is the gradual evaluation of systematic excavations at central Bohemian hillforts (Závist: *Jansová 1983a; Motyková – Drda – Rybová 1984; 1988; Drda – Rybová 1998, 75–88; 2008*; Minice: *Slabina 2003, 201–204; Chytráček et al. 2010a*) and in their surroundings (Dolní Břežany: *Motyková 1986*; Praha-Zbraslav: *Chytráček – Bernat 2000*). In connection with large-scale industrial field work, especially opencast coal mining, vast residential areas were investigated (e.g. Tuchomyšl: *Koutecký 2004*), several of which were published (Hostomice: *Budinský 1997; 1999*) and studied in a broad context extending beyond the borders of Bohemia (Radovesice: *Waldhauser et al. 1993*). The study of hilltop settlements, both individual (*Koutecký 2005; 2008b; Sankot 2009*) and on a regional basis, including their environment and settlement structure (*Smrž 1992*), produced valuable results. More was learned about a little-known type of residential and production area represented, for example, by the enclosed farmstead in Droužkovice (*Smrž 1996*).

A new view of the entire settlement structure was gained in particular by research projects in individual regions using surface survey and other field activities that also concerned the late Hallstatt period (central Bílina river valley: *Waldhauser – Holodňák – Salač 1986*; Lužický stream: *Smrž 1994*; Vnořský and Mratínský stream: *Kuna 1998*; Loděnice: *Venclová 2001*; Hořovice region: *Stolz 2003*; Říčany region: *Venclová et al. 2008*).

South and west Bohemia

Although J. Eisner was convinced that the Hallstatt Tumulus population remained in south Bohemia up to the period of Celtic flat cemeteries (*Eisner 1911; 1914*), he was not sure how did the artefacts of this period get into the earlier barrows. The finds in the Písek and Strakonice regions were acquired in the first half of the twentieth century thanks to the work of B. Dubský, in the Blatná and Břežnice regions through the activities of J. Siblík and J. Hykeš (*Siblík 1915; 1926; Dubský 1932; Šaldová 1955*); a comprehensive evaluation was then conducted by B. Dubský (1949). The excavation of the west Bohemian cemetery in Nynice enabled a precise differentiation of Hallstatt burials from the late Hallstatt and early La Tène ones and also made it possible to study the relationship between flat cremation

graves and barrow graves (*Šaldová 1971a*). The vast cemeteries in Plzeň-Radčice (*Baštová 1986b*; not yet comprehensively published) and Manětín-Hrádek (*Soudská 1994*) have made a significant contribution to the understanding of the period in west Bohemia.

Hillforts in south and west Bohemia have attracted attention since the second half of the nineteenth century, and important works concerned were produced by J. E. Wocel (1865), J. E. Födisch (1868; 1872), J. Woldřich (1875) and J. L. Píč (1909). F. X. Franc (1988) built on their studies, verifying the age of many hilltop settlements by means of smaller excavations. In the middle of the twentieth century J. Maličský (1950) differentiated fortified hilltop sites of the late Hallstatt and early La Tène periods from earlier Knovíz culture hillforts. The fortified hilltop settlement from the Final Bronze Age and the late Hallstatt period in Podražnice in the Domažlice district was investigated in 1975–76 (*Čujanová-Jilková 1998; Šaldová 1998, 116–126*). The number of known hilltop sites in west Bohemia grew especially in the 1980s (*Baštová 1984; 1986a; 1986b; Baštová – Bašta 1991, 66, Fig. 2*). The Svřžno - Černý vrch hillfort in the Domažlice district was investigated in 1985–1995 (*Chytráček 1994; 1996; 1997; 2007d; 2009*). A detailed geodetic survey and evaluation of the find inventory of all west Bohemian prehistoric fortifications at hilltop locations at which finds from Ha D and Ha D/LT predominate was conducted in 1998–2003 (*Chytráček – Metlička 2004; Chytráček 2007a*). The multidisciplinary investigations of the Vladař hillfort are using a wide range of archaeological and natural science methods (*Chytráček et al. 2012; in press*).

Since the 1950s, the research in south and west Bohemia has also focussed on lowland settlements (*Dubský 1956; Jansová 1957; Soudská 1966*). Only individual features have been published thus far from the largest settlements investigated in west Bohemia (*Bašta – Baštová – Bouzek 1989; Bašta – Metlička 1992*), and an overall plan of an investigated settlement is only rarely available (*Šaldová 1984, Fig. 1*). The situation is better in south Bohemia, where J. Michálek made major contributions to the study and publication of finds of the Hallstatt to the early La Tène period (*Michálek 1972; 1979; 1990; 1999; 2000b; 2003a*). Over the past decade numerous settlements (*Zavřel 1998; Fröhlich 2001b; Parkman 2002*), farmsteads (Němětice: *Michálek 2000a; 2003b; Michálek – Lutovský 2000*; Strakonice: *Michálek – Venclová 1992*) and hilltop settlements (comprehensively in *Hrubý 1998*) have been investigated. A project involving surface survey in the Prácheň region provided a new view of the Hallstatt period in south Bohemia (*Dreslerová 2004*). South Bohemian barrow cemeteries and hillforts known by 1990, including those dating to the late Hallstatt period,

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were documented in detail in nearly all districts, of which the České Budějovice and Český Krumlov regions were recorded most comprehensively (*Beneš – Michálek – Zavřel 1999; Michálek – Zavřel 1996; Zavřel 1994*). The list of sites from the Písek district was updated (*Chvojka – Křišťuf – Rytíř /with the catalogue by J. Fröhlich and J. Michálek/ 2009*) and the overview for the Tábor district created (*Menšík – Křišťuf – Chvojka 2010*). The revision of earlier finds and excavation results has produced new information and interpretation (the Burkovák Hill near Nemějice: *Chytráček – Chvojka – Michálek 2008; Chytráček et al. 2009*).

East Bohemia

Research in east Bohemia was heavily influenced by *J. Filip (1936–37)*, who assumed the long development

of the Urnfield culture into the La Tène period; according to Filip the fourth stage of the Silesian-Platěnice culture lasted until LT C. He characterised the “Turnov type” in the Jizera river region in the same way (the relevant finds are no longer regarded today as a separate group). *A. Rybová (1969)* listed and classified Late Hallstatt pottery from settlements in east Bohemia including eastern part of central Bohemia. *V. Vokolek* considers the late Hallstatt period in east Bohemia as the continuation and archaeologically distinct development of the Silesian-Platěnice culture, which is thought to have lasted into stage LT B2 in the outlying areas (*Vokolek 1993a; 1999*). Vokolek is responsible for the large published inventory of finds acquired by his own fieldwork and the publication of earlier finds.

3 Main sources

As indicated in the previous chapter, the development of the Hallstatt period list of finds has not been steady and has recently changed both quantitatively and qualitatively. A new level of information has been obtained by means of recent large-scale excavations caused by development activities, which uncover not only individual features but also large parts of activity areas and their structure, using advanced fieldwork methods (e.g. the Bylany culture settlements in Praha-Miškovice and Praha-Hostivař).

The predominance or exclusivity of the cremation burial rite in the Hallstatt period has a negative impact on the preservation of the relevant sources. Deep ploughing and the large-scale removal of ploughsoil over the past century has undoubtedly destroyed (and continues to destroy) the last evidence of hundreds of graves and even entire cemeteries. Shallow graves, identifiable almost only through a detailed investigation of the topsoil, have been irretrievably lost; the greatest impact is undoubtedly on the Silesian-Platěnice culture as well as late flat Hallstatt cremation cemeteries. Information on the distribution of barrows is highly fragmentary and, although it might seem as if they were restricted to south and west Bohemia, they have been obliterated virtually without trace in other intensively cultivated parts of Bohemia. Graves and their potential enclosures were identified using magnetometric survey and aerial photography in only a handful of cases. The cremation burial rite, soil chemistry and even the improper treatment and storage of iron artefacts resulted in an entire category of LT A elite burials with weapons and dress accessories made and decorated in the La Tène style not being identified, a situation that has only begun to change in recent years thanks to new field methods, conservation procedures and museum care.

This chapter provides a list of sites chosen from the hundreds of recorded Hallstatt period locations (Fig. 1). The highly selective list includes only features and assemblages that have provided important data and which are quoted extensively in the text of the volume. As data on the unpublished complexes indicate, the potential of sites has not been exhausted in many cases. Although other sites also provide important new data for the study of the Hallstatt period, they could not be included in this summary because the research was conducted only recently or is ongoing and the information is preliminary;

examples include settlement and manufacturing areas in Čakov in the České Budějovice region (*Chvojka 2002*), Praha-Dejvice - the Podbaba-Sladovny site (excavations by M. Kostka in 2004), or Dobrovíz in the Kladno region (excavations by J. Řídký 2007).

The concise information is not meant as a detailed description of the relevant site (available elsewhere); the aim is to draw attention to these sources. The bibliography lists the most important literature or the most complete publications containing references to earlier work. The sources are then quoted in the text of the volume without bibliographical references, assuming that they do not involve detailed information requiring specific reference.

1. ALBRECHTICE (Klatovy district)

The Sedlo hillfort covers an area of 2.9 ha. The tripartite enclosed area is situated at a remarkable altitude of 902 m above sea level. The fortification consisted of ramparts 3–4 m thick with a stone face and an internal wooden construction with a gravel and earth fill. LT A, also with finds from the late La Tène period. Excavations conducted in 1930–32, 1953–55.

Dubský 1949; Chytráček – Metlička 2004, 135–145.

2. BDEŇEVES (Plzeň-sever district)

A settlement with the ground plans of at least five post-built houses (c. 10 x 4 m). A square chamber grave beneath a stone mound was discovered within the settlement area. Investigations conducted in 2000–01. Hallstatt Tumulus culture, Ha C1 to C2, with possible continuity from Ha B.

Metlička 2002; Chytráček – Metlička 2003, 99; 2004, 114.

3. BOUDY (Písek district)

A fortified hilltop settlement known to B. Dubský as Hrad u Čimelic. The overall enclosed area was 2.3 ha, including the inner area of 0.5 ha. The top of the dominant hill is surrounded by two concentric lines of dry stone banks. The inner enclosure has an unusual shape with pointed projections. Occupation layer, traces of stone constructions; sunken features were not found. A ritual function is assumed for the site. Investigations conducted in 2001–2005. Ha D2 to LT A.

Dreslerová 2004, 350–355; 2006; Dreslerová – Hrubý 2004; Dreslerová – Stejskal – Beneš 2003.

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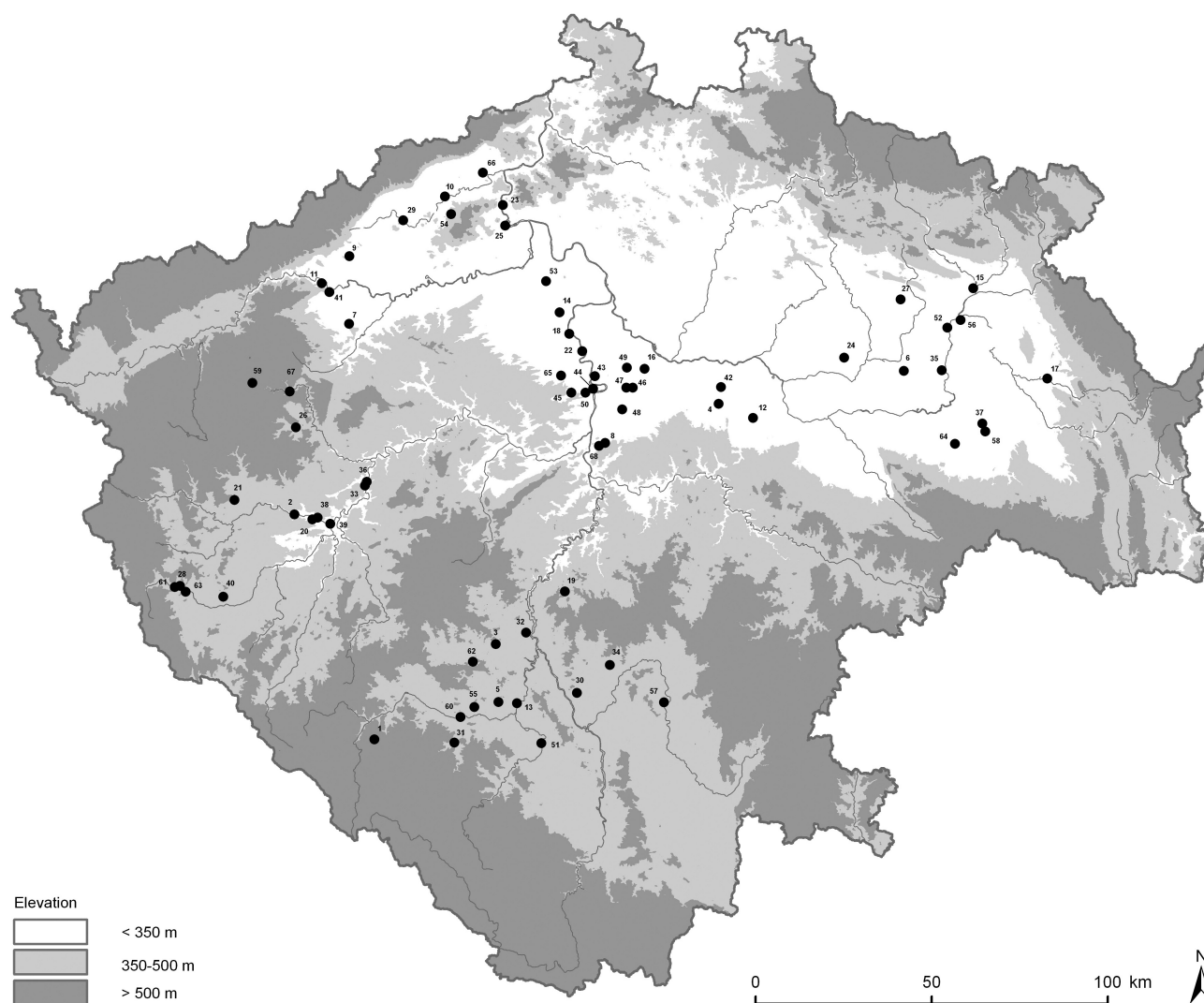


Fig. 1: Hallstatt period – main sources. The numbering of sites corresponds to the list in this chapter.

4. BYLANY (Kolín district)

At the eponymous site of the Bylany culture, the cemetery with fifty-two graves was excavated by J. L. Píč. The seemingly high number of forty-two large graves could be the result of the fact that small cremation graves went unnoticed or were destroyed by ploughing. Excavation conducted in 1895–96. Ha C2.

Dvořák 1938; Koutecký 2003a.

5. DOBEV (Stará Dobev, Písek district)

A lowland residential area with fifteen sunken features. Excavations by B. Dubský in 1935 and 1953. Ha D2/3 to LT A.

Dubský 1949, 297–306; 1956, 42–51.

6. DOBŘENICE (Hradec Králové district)

Soudný and Doroty Forest site. Cremation cemetery with fifty-seven preserved graves. Barrows have also

survived, although their dating could not be ascertained. Excavations by L. Domečka in 1907 and 1912. Silesian-Platěnice culture, Ha B3 to Ha C.

Vokolek 1999, 37–54.

7. DOLÁNKY (Louny district)

Rubín Hill and the surrounding area at the border of Dolánky, Kaštice and Pšov cadastral areas. The hillfort with an area of 0.7 ha featured a stone rampart; post-built structures were apparently also investigated (H. Preidel). The hillfort was occupied in several periods of prehistory and in the Early Middle Ages. Only part of the finds of the Hallstatt and early La Tène period has been published. Investigations conducted in 1934–38, 1970–71 and 1984–91. Ha D1 to LT A.

Smrž 1992, 90–91, with refs.; Koutecký 2005; 2008b; Sankot 2009.

8. DOLNÍ BŘEŽANY (Praha-západ district)

Nearly forty features were recorded at the unenclosed lowland settlement located close to the Závist hillfort. A large sunken house was reconstructed with a lower and upper floor. Investigations conducted in 1982–84. Ha D2 to LT A.

Motyková 1986; Drda – Rybová 1995, 69–70; 1998, 73–74; Čtverák 1999, 108, Fig. 4.

9. DROUŽKOVICE (Chomutov district)

The farmstead with an area of 90 x 90 m, with internal subdivision, was enclosed by a palisade. A sunken house and other features were preserved; among other items, the finds included imported Greek pottery and a small bronze figurine as a fitting of a bronze or wooden vessel. Investigations conducted in 1982–86. LT A.

Smrž 1996.

10. HOSTOMICE (Teplice district)

An unenclosed lowland settlement with around one hundred features; approximately one-fifth of the original settlement site was investigated. A detailed classification of the entire pottery assemblage is available. Finds have been made since the end of the nineteenth century; investigations were conducted in 1953 and 1965–1977. Ha D2 to LT A.

Budinský 1997; 1999, with refs.

11. HRADEC (Chomutov district)

The Hradec near Kadaň hillfort covers an area of 5 ha (the acropolis; the dating of two annexes is not certain). The site was settled between Ha C2 and LT A; the stone rampart with a box construction probably dates to Ha D2–3. Investigations conducted in 1953, 1971–72, 1986.

Koutecký 1985; Smrž 1992, with refs.

12. HRADENÍN (Kolín district)

The largest Bylany culture cemetery in the eastern part of central Bohemia with seventy-three mainly chamber and pit graves. Three of the graves contained wagon burials, while in another five the wagon was symbolically represented by lynch pins. Noteworthy finds include two wooden yokes covered with bronze sheet. Excavation conducted in 1925. Ha C to D1. A settlement apparently related to the cemetery was investigated in 1978.

Dvořák 1938; Šaldová 1997.

13. HRADIŠTĚ (Písek district)

a) The only Hallstatt Tumulus culture settlement structure from south Bohemia investigated to date. The rectangular house with a post construction was probably part of a lowland settlement or farmstead. Investigations conducted in 1997. Ha C – early Ha D. A group of

contemporaneous barrows located about 200 m away at the Na Čapíku site was dug in 1895.

Fröhlich 2001a, 119–129.

b) Na Dolinách site. Two large “princely” barrows. Barrow I/1858 with the size of around 40 x 20 m contained a chamber grave with a male burial (LT A) and a female burial (Ha D2–3) with an imported drinking set (two bronze beaked flagons and bowls, a silver strainer), gold jewellery (small spirals, boat-shaped earrings, massive rings and a small gold plate), bronze jewellery (including a pin with figural decoration), a small iron fire dog, amber objects, etc. Often referenced, the find inventory is of European significance. Excavation conducted in 1858.

Michálek 1977, 634–643, with refs.; Drda – Rybová 1998, 45–48, Fig. 4; Sankot 2002d, 197–208.

14. CHRŽÍN (Kladno district)

An unenclosed lowland settlement. Sunken houses, storage and other pits and post-built structures form groups - homesteads. A bronze metallurgy workshop found within the settlement. The find inventory includes imitation of Greek red-figure pottery. Investigations conducted in 2001. LT A.

Chytráček 2007b; 2008; Trefný et al. 2012a.

15. JAROMĚŘ (Náchod district)

The barrow cemetery used between Ha C and LT A was destroyed by a sandpit. In 1857 F. Petera managed to rescue at least some of the artefacts, which, according to his notes and drawings, date to Ha D1. A hoard of bronze phalerae was deposited in a barrow in LT A; a bronze vessel was found in another barrow. A small, unique bronze anthropomorphic figurine comes from the area of the barrow cemetery. A Ha D1 settlement is perhaps also located at the site.

Chytráček 1988, 58, with refs.; Vokolek – Sankot 2001a.

16. JENŠTEJN (Praha-východ district)

An unenclosed lowland settlement. A total of forty-four features were grouped into four or five contemporaneous units representing homesteads. The excavation covered at least half of the residential area, which originally reached c. 3–4 ha. The finds were used to create a classification system for Hallstatt pottery. Investigations conducted in 1984. Ha D1 to LT A.

Dreslerová 1995a.

17. KOSTELEČ NAD ORLICÍ (Rychnov nad Kněžnou district)

A cremation cemetery with Lusatian culture barrow graves which were disturbed by Silesian-Platěnice graves. Eight of the graves were enclosed by a trench,

while several of the burials were deposited in wooden coffins; biers are also documented. A small post-built structure with a storage pit in the middle was located near the graves. Investigations conducted in 1926 and 1981–84. Ha C to D1.

Vokolek 1991, 206–209; 1999, 70–76.

18. KRALUPY NAD VLTAVOU-MINICE (Mělník district)

The Minice hillfort covering an area of 3 ha and fortified by a stone rampart and ditch features a central acropolis and annexes. The foundations of a larger rectangular structure, apparently with stone paving, were discovered at the acropolis, whereas sparse built-up area with sunken houses, storage and other pits was found at another place within the hillfort. The rich find inventory includes Mediterranean imports. Investigations conducted in the 1970s and 1980s. Ha D2(?). Unpublished.

Slabina 1981; 2003, 201–204; Chytráček et al. 2010a, 158–162.

19. KRAŠOVICE (Příbram district)

The settlement and farmstead were located on an area of 8100 m². The late Hallstatt and also late La Tène built-up area produced post-built structures, a larger number of sunken houses, kilns, hearths and gullies. The area also included a rectangular enclosed space representing a farmstead with a large post-built house in the corner. Although the farmstead was originally dated to the late Hallstatt period, this is problematic due to the fact that the space was settled in the period from Ha D2 to LT A and again in the late La Tène period. Excavation conducted in 1955–1960. The finds have not been comprehensively published.

Jansová 1957; Jansová, L.: find report no. 1771/57 in the Archive of the Institute of Archaeology in Prague; Soudská 1966, 536, 540–542, Fig. 24.

20. KŘIMICE (Plzeň-město district)

The site is one of the few Hallstatt Tumulus culture settlements investigated to date. The ground plans of post-built houses, typically with eight (less often six) posts in two rows, were identified. Investigations conducted in 1996–97. Ha C.

Chytráček – Metlička 2003, 99; 2004, 114; 2011.

21. KŠICE (Tachov district)

A barrow cemetery with additional cremation graves cut into earlier barrows dates to the period from Ha C to Ha D1. One flat cremation grave was also discovered. A bronze LT A mask fibula was also found at the site. Excavations conducted in 1934 and 1971.

Eichhorn 1935; Rybová 1957; Šaldová 1974a.

22. LIBČICE NAD VLTAVOU-CHÝNOV (Praha-západ district)

The barrow cemetery in Chýnov composed of several dozen barrows was already known to V. Krolmus in the middle of the nineteenth century; burials were deposited at the site continuously from the Bronze Age. A well-known LT A mask fibula was found at the site. Located nearby are one or two residential areas dating to Ha C, and Ha D – LT A with dozens of features; a LT A hoard of iron and bone artefacts was deposited under the floor of the sunken house 21/82. Excavations conducted since the nineteenth century and in the 1970s and 1980s.

Sankot – Vojtěchovská 1986; 2001; Sankot 2001; 2002a.

23. LIBOCHOVANY (Litoměřice district)

Twenty-two graves dating to the period from Ha C up to LT A were found within a Lusatian culture cemetery. Billendorf culture pottery was found in many of the graves. Excavations in the nineteenth century and at the beginning of the twentieth century.

Heger 1883; Plesl 1961b; Koutecký 2003b, 8–32; Vokolek 2004.

24. LIŠICE (Hradec Králové district)

The hillfort covering several hectares and surrounded by three banks is located in the borderland between the Silesian-Platěnice and Bylany cultures. Silesian-Platěnice culture, Ha C to Ha D1. The site was surveyed in the 1950s and excavated in 1956. Unpublished.

Böhm, J.: find report no. 2142/51 in the Archive of the Institute of Archaeology in Prague.

25. LOVOSICE (Litoměřice district)

The Bylany culture cemetery, with more than thirty graves, was investigated in 1928, 1956, 1989 and 2002–2006. Of the large documented inhumation and biritual graves, three include parts of a four-wheeled wagon and several contain horse harness. Other finds comprise three swords, three spearheads, belt fittings, personal ornaments including amber beads and gold spirals, and a large number of vessels. Along with Poláky and Račiněves, Lovosice is one of the largest cemeteries in northwest Bohemia. Ha C – Ha D1.

Pleiner 1959; Zápotocký 1964; Koutecký 1968, 419–420; 2003b, 118–19; Půlpán 2008; 2009.

26. MANĚTÍN-HRÁDEK (Plzeň-sever district)

The largest investigated Hallstatt cremation cemetery in west Bohemia. Five graves at the cemetery, originally possibly barrow burials, date to Ha C2 to Ha D1; two large chamber graves beneath stone covering with urn burials and rich pottery finds date to Ha C2; graves

on the surface or slightly sunken, likewise below stone covering, are from Ha C3/D1; five other graves, within square enclosures with burials on the surface or slightly sunken, date to Ha D1–D2; 225 graves belong to Ha D2 – LT A. Grave 196 contained a part of a two-wheeled chariot and a horse harness. Seventeen graves contained small gold ornaments. A unique bronze anthropomorphic fibula found at the site dates to LT A. Investigations conducted in 1965–1982.

Soudská 1994.

27. MILOVICE (Jičín district)

A settlement with sunken features, possibly including sunken houses; an above-ground building with a construction of three rows of posts was also found at the site. Investigations conducted in 1976–1986. Silesian-Platěnice culture, Ha C. Not comprehensively published.

Vávra 1977; Hralová – Vávra 1978; Hralová 1987a, with refs.

28. MÍRKOVICE (Domažlice district)

A barrow cemetery used since the Bronze Age, perhaps also in Ha C. Twenty investigated barrows contained burials from Ha D to LT A, including “princely” graves with two-wheeled chariots, horse harness, iron weapons and gold jewellery. An exceptional find is a bronze Etruscan stamnos-situla. Poorer cremation graves were deposited in earlier barrows. Excavations conducted in the second half of the nineteenth century.

Chytráček 1990.

29. MOST (Most district)

Hněvín Hill. The hilltop Bylany culture settlement dates to Ha D1. The enclosure was probably built later in Ha D2. Investigations conducted in 1977–78. Unpublished.

Smrž 1992.

30. NEMĚJICE (Písek district)

Burkovák Hill. The ritual area on the hilltop plateau (c. 35 x 10 m) at a height of 504 m above sea level was in use from Ha C to Ha D2/3. The find assemblage contains more than 6,000 small clay artefacts and vessel fragments. The clay objects, with perforations for suspension, are figurines of horses and perhaps birds, a toothed disc (sun), spools with a toothed edge, cylinders, rings, rectangular, trapezoidal, oval and bowl shapes and funnels. Shallow pits and post holes that were also found on the site belong to a wooden structure or a cluster of posts. A barrow cemetery from Ha C to Ha D is located on the west hillside. Excavations and finds in 1919–1947.

Dubský 1949, 205–217; Filip 1970, 58–62; Drda – Rybová 1998, 23–24; Lutovský – Michálek 2002, 104, 106; Chytráček – Chvojka – Michálek 2008, 97–106; Chytráček et al. 2008, 89–94; 2009.

31. NĚMĚTICE (Strakonice district)

The farmstead covering just under 1 ha on a promontory is demarcated by a palisade and ditch. An above-ground house, sunken huts and pits (including storage pits) were located inside the enclosed area. Numerous settlement finds include a crucible, a bronze bow fibula, a horse figurine, iron slag and raw graphite. Excavations conducted in 1907–08, 1920, 1982–83 and 1988–89. Ha D1 to Ha D2–3.

Michálek – Lutovský 2000; Lutovský – Michálek 2002.

32. NEVĚZICE (Písek district)

The barrow containing a burial apparently with a two-wheeled chariot, a set of decorated discs, a bridle and a turban-ring was destroyed in 1884. Ha D2/3 to LT A.

Michálek 1972, II, 92–93; Sankot 2002c, 152–163, with refs.

33. NYNICE (Plzeň-sever district)

A cremation cemetery used from Ha B to LT A; twenty-three graves belong to Ha C, one hundred and twenty-one to Ha D2–LT A. The find assemblage was used to establish the chronology of the Hallstatt period in west Bohemia. Investigations conducted in 1953–60.

Šaldová 1968; 1971a; 1991.

34. OPAŘANY (Tábor district)

Two barrows with exceptional furnishings: barrow 1 contained a female burial with a turban-ring, gold earrings, and a belt with a sheet metal appliqué; barrow 2 contained a male burial with the metal fittings from a four-wheeled wagon (?), horse bits decorated with metal discs, etc. Excavation conducted in 1899. Ha D2.

Michálek 1972, II, 97–98; 1997, 199–208; Drda – Rybová 1995, 34, 36, 178; 1998, 38, Fig. 3.

35. OPATOVICE NAD LABEM (Pardubice district)

The largest Silesian-Platěnice culture settlement known to date is located at a site demarcated by an old meander of the River Elbe. Investigations revealed an irregular circular area with a maximum diameter of 46 m, enclosed by two rows of double posts; a reconstruction suggests that the posts were part of a timber and earth rampart that was revetted by wood on both the inner and outer sides. Four smaller enclosures interpreted as auxiliary farming or settlement spaces adjoined the central area. The entire site is regarded as a seat of the elite similar to the West Hallstatt *Herrenhof*

farmsteads. Investigations conducted since 2000. Ha D1. Part of a contemporaneous cemetery (nineteen graves) found at a distance of c. 150 m was investigated in 1957.

Rataj – Vokolek 1962; Vokolek – Sedláček 2010.

36. PLANÁ-RADNÁ (Plzeň-sever district)

The hillfort built on a promontory over the River Berounka covered 4.5 ha and was divided into three parts. Three rectangular sunken houses were investigated on the inner side of the acropolis fortification. Excavation conducted in 1951. Ha D2–3.

Šaldová 1977; Chytráček – Metlička 2004, 211–220.

37. PLATĚNICE (Pardubice district)

The eponymous site is also the largest known Silesian-Platěnice culture cemetery in Bohemia. Excavations were conducted by J. L. Pič in 1901 (257 graves) and J. Böhm in 1926 (46 graves). Twelve graves belong to the late Hallstatt period. Ha C to LT A.

Pič 1903, 479–80; Vokolek 1993a, 1–53.

38. PLZEŇ-RADČICE (Plzeň-město district)

The cremation cemetery with a total of 420 graves was used continuously from Ha B to LT A; a lone inhumation grave dates to LT C1. Thirty-four graves belong to Ha C; in addition to large ground-surface graves covered by a layer of stones, pit graves also occur. More than 150 flat graves are dated to Ha D – LT A. Investigations conducted in 1982–88. The finds have not been comprehensively published.

Baštová 1986b; Bašta – Baštová 1992; Šaldová 1992; 1994, 301, 304; Chytráček 1999; Chytráček – Metlička 2004, 106–109; 2011.

39. PLZEŇ-ROUDNÁ (Plzeň-město district)

The site is the largest lowland settlement in west Bohemia. Of the 1,200 investigated features, seventeen were sunken houses. The find assemblage contains an imitation of a Greek red-figure vessel. Investigations conducted in 1977–79. Ha D to LT A. The finds have not been comprehensively published.

Bašta – Baštová – Bouzek 1989; Chytráček – Metlička 2004, 114; Trefný et al. 2011; 2012a.

40. PODRAŽNICE (Domažlice district)

The hillfort covers an area of 1.6 ha. The rampart was built of vertical and horizontal beams, and the space between them was filled with earth. A surface structure was identified along the inner side of the wall. Investigations conducted in 1975–76. Ha D2–3.

Čujanová-Jilková 1998; Chytráček – Metlička 2004, 231–35.

41. POLÁKY (Chomutov district)

The largest Bylany culture cemetery in northwest Bohemia featured seventy-three or seventy-four preserved graves and approximately twenty-five destroyed graves in an area of 10 ha. The chamber and pit graves were deposited beneath barrows, with stone rings and stelae identified for the first time. One noteworthy grave contained the remains of a chariot and five complete horse harness sets. Investigations conducted in 1976 and 1980–81. Ha C1 to D1.

Koutecký – Smrž 1991; Koutecký 1993b.

42. POŘÍČANY (Nymburk district)

The settlement was partially enclosed by a palisade and a ditch. In addition to fifty-one sunken huts, traces of a large post-built structure were also found. Working of amber and metal is documented at the site. Investigations conducted in 1981–84. Ha C to LT A, with the greatest activity in Ha D. The finds have not been comprehensively published.

Čtverák 1986.

43. PRAHA-BOHNICE (Praha 8 district)

A rectangular farmstead of c. 1 ha with settlement features and enclosed by a palisade was investigated on the promontory at the Nad Podhořím site. A contemporary and a later unenclosed settlement with ten sunken huts and other features is located nearby. One of the homesteads featured a rectangular enclosure. Investigations conducted in 1968–74. Ha D1(?), Ha D2–3 to LT A.

Fridrichová 1974; 1975, 211–214; 1986.

44. PRAHA-BUBENEČ (Praha 6 district)

J. A. Jíra, L. Horáková-Jansová and L. Hájek investigated the largest known Bylany culture to late Hallstatt cemetery, lasting from Ha C to LT A, at a site east of Jugoslávských partyzánů Street, where approximately 100 preserved and 200 destroyed graves were discovered. The majority of graves are cremation burials in pits; one grave contained a chariot and a cremation burial, a combination that was previously unknown. At least several dozen urn graves belong to the late Hallstatt period. A LT C fibula found in one of the graves was previously thought to be evidence of the duration of the Hallstatt culture deep into the La Tène period; however, recent findings indicate that the fibula did not in fact belong to the contents of the grave. Excavations conducted between 1906 and 1937.

Fridrichová – Koutecký – Slabina 1996; 1999, with refs.

45. PRAHA-DOLNÍ LIBOC (Praha-Liboc, Praha 6 district)

Used up to the late Hallstatt period, the second largest Bylany culture cemetery in the Prague area consisted

of at least twenty-three graves, five of which were large chamber graves. Excavations conducted in 1935–36. Ha C to Ha D2–3.

Fridrichová – Koutecký – Slabina 1997; 1999, with refs.

46. PRAHA-DOLNÍ/HORNÍ POČERNICE (Praha 9 district)

One of the largest Bylany culture settlements was investigated at the Černý Most site on the boundary between Praha-Dolní Počernice and Praha-Horní Počernice. Twelve sunken houses, at least two post-built structures and seven storage and other pits were recorded. Investigations conducted in 2008. Ha C–D1.

Mácalová – Frolík 2011.

47. PRAHA-HLOUBĚTÍN (Praha 9 district)

The residential area with several dozen sunken huts and other features also produced evidence of a Knovíz culture settlement. Numerous post-built structures and post holes, including a palisade enclosure, cannot be precisely dated due, in part, to incomplete documentation. It cannot be proven that finds of iron slag were necessarily related to iron smelting activities. The pottery from the settlement was used in the 1960s as a base for a relative chronology of the Hallstatt period in Bohemia. Excavations conducted in 1953. Ha D1 to LT A.

Soudský 1955; Rybová – Soudský 1962; Sedláček, Z.: find report no. 2111/04 in the Archive of the Institute of Archaeology in Prague; supplemented by Z. Sedláček.

48. PRAHA-HOSTIVAŘ (Praha 10 district)

Seven hectares of a settlement area of the Bylany culture and other prehistoric cultures above the floodplain of the Botič stream was investigated, representing the largest methodologically significant investigation of a stratified prehistoric site in Bohemia. More than 90 % of the features and finds come from the occupation layer above the subsoil; only a small number were discovered on the level of the subsoil. The settlement was divided into several areas enclosed by a palisade or wooden fence; a triple enclosure could belong to a homestead. In addition to sunken features, pits and several combustion structures, a number of post-built houses were also identified. Investigations conducted in 1999 and 2004–2006. Ha C2 to Ha D1–2.

Veselá 2007; Ernée 2008.

49. PRAHA-MIŠKOVICE (Praha 9 district)

Discovered at one of the largest known Bylany culture settlements are thirteen sunken huts, thirteen smaller post-built structures with ground plans with four, six

and nine posts, possibly granaries, and larger structures with three or four rows of posts. A sunken feature within the ground plan of a large post-built house perhaps represents a cellar. Additional features consist of five storage pits and other pits, and palisade trenches for various enclosures. Investigations conducted in 1996–2004. Ha C. The finds have only been partially published.

Ernée 2005; 2008; Trebsche 2011.

50. PRAHA-STŘEŠOVICE (Praha 6 district)

The Bylany culture cemetery with twenty-one graves was excavated by J. Böhm, J. Axamit and J. A. Jíra. The majority of graves are inhumation burials; three cremation graves were also found. All of the graves were large; small pit graves were not observed. Excavations conducted since the nineteenth century and at the beginning of the twentieth century. Ha C1 to D1.

Fridrichová – Koutecký – Slabina 1999.

51. PROTIVÍN (Písek district)

Barrow cemetery. Two large barrows with richly furnished inhumation burials in a wood and stone chamber represent one of the best preserved Hallstatt Tumulus culture grave find assemblages in south Bohemia. Barrow 2 contained an iron sword and parts of a horse harness. Investigations conducted in 1970. Ha C and Ha D1.

Beneš 1972, 286–292; Michálek 1972, II, 118–124; forthcoming.

52. PŘEDMĚŘICE NAD LABEM (Hradec Králové district)

Thirty-six incompletely preserved graves were recorded at the Silesian-Platěnice culture cemetery ravaged over the years. The finds provide evidence for contacts with northern Italy as well as the Thracian-Cimmerian territory. Excavations were conducted from the end of the nineteenth century to the first half of the twentieth century. Ha C to Ha D1.

Filip 1936–37; Vokolek 1999, 112–125.

53. RAČINĚVES (Litoměřice district)

Of the nineteen graves known from the long-term excavations at the Bylany culture cemetery, several are located beneath barrows, one with a wagon, two with horse harness; in addition to large chamber graves, two pit graves and two small cremation graves were found. Another uninvestigated part of the cemetery was identified by aerial survey. It is assumed that the entire burial ground contained at least one hundred graves. Excavations conducted in 1911, 1913, 1933, 1998–2006. Ha C.

Koutecký 2008a.

54. RADOVESICE (Teplice district)

The lowland unenclosed settlement with forty-eight sunken huts and dozens of pits was thoroughly investigated. Founded in Ha D, the settlement gradually expanded from one to four homesteads – residential and farming units, with peak settlement in LT A. The same site was then occupied continuously up to LT D. Investigations conducted in 1969–1988.

Waldhauser et al. 1993.

Sedlo near Sušice: see Albrechtice (Klatovy district)

55. ROVNÁ (Strakonice district)

The group of barrows in the Sedlina Forest became known in 1860 from the discovery of two bronze turban-rings, and from excavations conducted by B. Dubský. Barrow 1 with a diameter of 25 m, disturbed by recent metal detector activity, produced a unique assemblage of five bronze vessels (two ribbed buckets, a small bowl, a situla and a cauldron). A barrow with a chamber grave, a two-wheeled chariot, a horse harness and other rich finds has been investigated. Ha D 2/3. Excavations and finds in 1874, 1927–28, 2009 and 2012–13. The new investigation results are as yet unpublished.

Dubský 1928–1930, 290–291; Michálek 1972, II, 133–134, with refs.; forthcoming.

56. SKALICE (Hradec Králové district)

The largest continually used cemetery in east Bohemia since Ha B1 also produced thirty-three Silesian-Platěnice culture cremation graves. Excavations conducted in 1930, 1952, 1954. Ha C to D1.

Vokolek 2002a.

57. SKALICE (Tábor district)

The largest within the group of four barrows contained a central chamber (?) grave with a male burial and exceptional grave goods, including bronze vessels – a ribbed bucket and a Hatten-type bowl, metal fittings of a four-wheeled wagon, a Scythian-Thracian axe, horse bits, two gold rings, bronze turban-rings and pottery. The barrow also contained a secondary grave. Excavations in 1901–04. Ha D2/3.

Michálek 1972, II, 142–45, with refs.

58. SLEPOTICE (Pardubice district)

One of the few Silesian-Platěnice culture settlements that have been investigated to date produced finds of post-built structures grouped around an open space enclosed on one side by a palisade. Above-ground granaries with ground plans with four to six posts, and several storage pits were also found at the site. Investigations conducted in 2001. Ha C–D1.

Vokolek 2002b.

59. SOVOLUSKY (Karlovy Vary district)

The cemetery with thirty-two flat graves, mainly in pits, is the westernmost site in the upper Střela river basin within the hinterland of the Vladař hillfort. Excavations conducted in 1957–58 and 1961–62. Ha D2 to LT A.

Beneš 1969; Soudská 1969a.

60. STRAKONICE (Strakonice district)

Four sunken huts investigated inside a smaller, perhaps only lightly enclosed farmstead located on a terrace of the River Otava produced numerous settlement finds, iron slag and a fragment of a small Mediterranean glass aryballos. Investigations conducted in 1990–91. Ha D2/3 to LT A.

Michálek 1992, 123–26; Michálek – Venclová 1992.

61. SVRŽNO (Domažlice district)

Černý vrch. The hillfort covering an area of 0.97 ha featured two phases of fortification, from a wooden enclosure to a rampart built of wood, stone and earth that was revetted on both sides. The built-up area with residential and production structures was investigated. Investigations conducted in 1985–93. Ha D2–3 to LT A.

Chytráček 1994; 1997, 86, Abb. 4–6; 2006; 2007a; Chytráček – Metlička 2004, 245–257.

62. ŠKVOŘETICE (Strakonice district)

The flat cremation cemetery excavated in 1883 and 1887 allegedly originally contained up to 500 graves with stone mounds and numerous finds of vessels, weapons, horse harness and other items, none of which have survived. If the published data can be trusted, the cemetery, used since the Bronze Age, is the largest of its kind in Bohemia. After the location of the cemetery was verified in 2003, three additional graves with pottery were found. Ha D2/3 to LT A.

Strnad 1888, 322–24; Dubský 1949, 388–341; Michálek 2007.

63. ŠTÍTARY NAD RADBUZOU-HOSTĚTICE (Domažlice district)

The first excavation of a rectangular *Herrenhof* farmstead of the Hallstatt Tumulus culture in Bohemia took place on this site. Covering an area of 0.6 ha, the farmstead on an elevated location was enclosed by a multiple wooden palisades, with the outer line encompassing further settlement features outside the farmstead. Amongst other features, post-built houses and evidence of smithing were discovered in the interior. Investigations conducted in 1988–91. Ha C to D1.

Chytráček 1994; 1997; 2002b; 2006; 2007a; 2009; Chytráček – Metlička 2004, 257–271; 2011.

64. TOPOL (Chrudim district)

This is the only Silesian-Platěnice culture hillfort where a larger-scale investigation has taken place. The hillfort covered an area of c. 1 ha, and the enclosure was an earthen bank with a wooden construction and topped by a palisade; a shallow ditch was located on the outer side of the bank. Vessels (storage vessels and cups) and piles of stones were found *in situ* besides the inner side of the bank. The interior of the hillfort was densely covered with post-built structures and sunken features. Investigations conducted in 1977–79 and 1981–83. Ha D1.

Vokolek – Sigl 1978; Vokolek 1982; Vokolek – Vávra 1983; Vávra – Vokolek 1984.

65. TUCHOMĚŘICE (Praha-západ district)

The lowland residential and production area contained numerous sunken houses, a large post-built structure, kilns, a smithing forge and various types of pits; the site also provided evidence of amber working. Fragments of Greek pottery indicate long-distance contacts. Investigations conducted in 1960–63, 1998 and later. Ha C to LT A.

Soudská 1966; Sankot 2000, 108; 2004; 2007, 152.

66. TUCHOMYŠL (Ústí nad Labem district)

The unenclosed lowland settlement produced 400 features, including several post-built houses. Excavations conducted in the 1950s, the 1960s and 1970s. Ha D2 to LT A. Only the excavation results from the 1950s have been published thus far.

Koutecký 2004.

67. VLADAŘ (Záhořice, Karlovy Vary district)

Vladař Hill. Covering an area of 115 ha and surrounded by an intricate fortification system, Vladař is one of the largest late Hallstatt hillforts in Bohemia. Among other periods, the site was used in the Bronze Age, between Ha D and LT A and, according to pollen analyses and finds, also between LT B to LT D. The extraordinary occurrence of stratified wetland contexts at the acropolis and in the fortified annexe makes Vladař an archaeological site of great significance.

The interdisciplinary research at the site makes extensive use of palaeoenvironmental methods. The excavation of the remarkably preserved reservoir in the fortified annexe led to the dendrochronological dating of the oak beams from the timber retaining wall to the first half of the fifth century BC. The rampart of the acropolis (8 meters wide), with five construction phases and revetted on both sides, was also investigated. Trenching in the northeastern part of the acropolis found remains of post-built structures. An excavation of the rampart of the annexe distinguished three construction phases in the fortification which, based on radiocarbon dating, can be placed in the Hallstatt period and also to the late La Tène period. Investigations conducted since 2002.

Drda – Chytráček 2005, 59–62; Pokorný et al. 2005; 2006; Chytráček – Šmejda 2005; 2006; Chytráček 2006; 2007a; 2012; Boenke – Pokorný – Kyselý 2006; Chytráček et al. 2010a; 2010b; 2010c; 2012; in press.

68. ZÁVIST (Lhota, Praha-západ district)

The vast hillfort on a hill on the right bank of the River Vltava near its old confluence with the River Berounka gradually grew to cover an area of 90–100 ha. The rampart, supplemented in several places by ditches, divides the entire space into a central hillfort with a fortified acropolis (in LT A), a zone to the southeast with its own rampart, a ditch and the main gate (gate D), the fortified south bailey, and the eastern annexe enclosed by a rampart and a ditch. The acropolis with a number of unique ritual areas, with Etruscan or Greek style stone architecture (*temenos*), a large part of the main gate with the adjacent ditch, and the fortifications of the bailey, and also of the annexe were investigated. The built-up area consists of post-built and sunken houses and an industrial space. Finds include numerous imports and stone sculpture. Investigations conducted in 1963–89. Ha D2 to LT A; traces of the Bylany culture also detected. An important oppidum was built at the same site in LT C2–D.

Jansová 1983a; Motyková – Drda – Rybová 1984; 1988; Drda – Rybová 1995, 70–82; 1998, 75–88; 2008.

4 Chronology and periodisation

4.1 CENTRAL EUROPEAN CHRONOLOGICAL SYSTEMS FOR THE HALLSTATT PERIOD

The relative chronology of the Czech Hallstatt period is based on Reinecke's stages Ha C, Ha D and LT A (Reinecke 1902; 1904; 1906; 1911). Several chronological systems were gradually created for central Europe (e.g. Kossack 1959; Müller-Karpe 1959; Torbrügge 1979). H. Parzinger (1988) distinguished a total of ten chronological horizons in the territory between the Moselle and the Sava. Within the period of 750–640 BC, his horizons 1–3 are valid only for the region of the southeastern Alps, whereas horizons 4–10, dated to 640–390 BC, include the late Hallstatt to early La Tène period throughout the whole area of Hallstatt Europe. S. Stegmann-Rajtár (1992) addressed chronological relationships in the Final Bronze Age and the Hallstatt period in central Europe, including Bohemia, providing more precise dating for certain grave find assemblages.

Using metal artefacts, C. Pare (1999, Tab. 8) focussed on the chronology of the period from the Bronze Age to the Hallstatt period, comparing the chronological stages of the Hallstatt Tumulus culture in west Bohemia and the Bylany culture. U. Brosseder (2004) also studied the relative chronology of the Hallstatt groups, including Bohemia, using the seriation method, especially with regard to decorative elements on pottery.

Dendrochronological dates obtained in recent years from Bavaria and Alsace (and other parts of western Europe: Billamboz 2008) indicate that the end of the Ha B3 period and the beginning of Ha C can be set as early as 800 BC (Rind 1999, 109), though the middle of the eighth century BC is also possible (Krausse 1996, 336). Based on dendrochronological dates, J. Bouzek gives a period of 800–725 BC for Ha C1a, and 725–650 BC for Ha C1b (Bouzek 2004, 380, with refs.). Based on dendrochronology, the beginning of Ha D1 in southwest Germany is placed in the second half of the seventh century, approximately around the year 625 BC, the end in 540/530 BC; Ha D2 is demarcated by the years 540/530–500 BC, Ha D3 by 500–470/460 BC (Krausse 1996, 337). The end of the Ha D3 is signalled primarily by the demise of the Heuneburg fortified site. Based on the latest research at the site, the end of stage Ha D3 can probably be moved back to 480 BC (Pape 2000, 142–145; Böhr – Shefton 2000, 16), if not 490 BC (Möller 2000). A calibrated radiocarbon date of 398–385 BC, obtained at

the fortified hilltop site of Ehrenbürg from a context at the end of the early La Tène settlement (Abels 1994), marks the end of LT A in Bavaria. Although there is a tendency towards a higher dating, it has not yet been adequately supported (see Trachsel 2004).

Czech archaeology also adheres to this absolute chronology; the small amount of available natural science data conforms in general to this classification (Table 1).

Tab. 1: Chronology of the Hallstatt period. After Bouzek 2004; Koutecký 2001c; Krausse 1996; Pape 2000; Pare 1999.

ABSOLUTE DATES BC	KOUTECKÝ 2001c	DENDROLOGY, RADIOCARBON
800		
	Ha C1	Ha C1a
	725	730
700		720
	Ha C2	Ha C1b
	650	660
		625
	Ha C3	Ha C2
600		650
		600
	Ha D1	Ha D1
	550	540
		530
		500
	Ha D2-D3	Ha D2
		480
		460
		460
		400
400		LT A
		380

Terminological differences naturally exist – for example, in Koutecký's chronological scheme for the Bylany culture (see *below*). The relative chronology was created in Bohemia separately for individual cultures and regions, or separately for periods Ha C–D1 and Ha D2 – LT A.

4.2 HALLSTATT PERIOD, HA C TO HA D1

The Bylany culture

In contrast to *J. Filip's* (1936–37) idea of the short duration of 700–500 BC for the Bylany culture, today there is a preference, in agreement with the earlier opinion of *J. Böhm* (1925), for a dating between 800 BC (the beginning of Ha C1) and the middle of the sixth century BC (the end of Ha D1). D. Koutecký built on the periodisation of *J. Böhm* (1925) and, using grave finds, especially pottery, defined the content of the individual phases of the Bylany culture in the period of Ha C1 to Ha D1. He distinguished an early phase (Ha C1), a middle phase divided further into an early and late middle phases (Ha C2, Ha C3) and a late phase (Ha D1), mostly based on the morphology and decoration of pottery (*Koutecký 1968; 2001c*). *Pare* (1999, Tab. 8) correlates Koutecký's early phase of the Bylany culture with the western Bohemian Kostelík stage. *Pare* dates the transition of the early phase and the early middle phase of the Bylany culture (after Koutecký) to 750/720 BC, the transition of the early middle and late middle phases to 660/650 BC. Unlike Koutecký, he correlates the early phase of the Bylany culture with Ha C1a, the early middle phase with Ha C1b and the late middle phase with Ha C2; Ha C3 is not usually distinguishable. Although Koutecký believes that elements of Bylany culture can still be recognised in Ha D2–3, cultural differences are mostly no longer found at that time, having been replaced by the more or less uniform and generally adopted culture of the late Hallstatt period.

The only radiocarbon dates available for the Bylany culture are from an oak beam from the covering of a grave chamber at Rvenice: 2655 ± 50 BP (The Brown Coal Institute at Most, 1973). According to Koutecký, the archaeological dating of the find assemblage places the grave into the period after 650 BC.

D. Koutecký's detailed periodisation of the Bylany culture (*Koutecký 1968*) distinguishes three phases (Fig. 2):

Early phase: Ha C1 (Ha C1a according to *Pare*). Cemeteries: Čelákovice, Mochov, Praha-Bubeneč grave 8, Praha-Dolní Liboc graves 2 and 4, Praha-Střešovice grave 1, Vikletice grave 1/65, Poláky graves 9, 11, 24, 27, 28 and 45. Settlements: Cerhenice, Čelákovice, Kadaň (a hut at the Hospital site).

Main pottery forms: a storage vessel, a broad amphora, a gently profiled amphora-shaped bowl, a plate-

shaped bowl, a conical plate, an S-shaped cup and S-shaped bowl, a bowl with an in-turned rim, a jar with a relief band and a pot with lugs. Decoration: geometric incised, burnished and, in rare cases, black painted. Metal artefacts: an iron knife, bracelets with globular ends, torcs with engraved and stamped decoration, and with a hook and eyelet, spectacle fibulae (*Brillenfibeln*) with a figure-eight loop.

Graves of combination group II (see Chapter 7.1.5.1) belong to this period. The maximum length of a grave is 300 cm.

Middle phase: divided into the early middle and late middle phase.

Early middle phase: Ha C2 (Ha C1b according to *Pare*). Cemeteries: Bylany, Hradenín, Kutná Hora, Plaňany, Poboří, Praha-Bubeneč, Praha-Dolní Liboc, Praha-Lysolaje, Praha-Střešovice, Praha-Suchdol, Lovosice, Poláky (c. 25 % of graves), Vikletice grave 17/64. Settlements: Cerhenice, Čelákovice, Vikletice.

Main pottery forms: an amphora-shaped storage vessel, a classic vessel, a broad amphora, a tureen, a conical and flat plate, an amphora-shaped bowl, a cup with a handle above the rim, a situla, various types of jars and bowls, footed vessels, double and triple vessels. Decoration: geometric incised, burnished, black painting on a red base, relief elements and graphite coating in rare cases. Metal artefacts: wire bracelets with globular ends, torcs with a hook and eyelet, pins with a globular or vase-shaped head, pins with a swan neck, harp and saddle fibulae; a horse harness: bits, bridle cheek-pieces, studs and slips; four-wheeled wagon: tyres, lynch pins and nails; weapons and tools: iron and bronze swords with a tongue- or leaf-shaped handle, boat-shaped or wing-shaped chapes of sword scabbards, small and large knives, socketed axes and winged axes.

Belonging to this period are graves from the combination group I and II with wagons and harness (the earlier group of "princely" graves); graves from combination group III with poor furnishings increase in number.

Late middle phase: Ha C3 (Ha C2 according to *Pare*). Cemeteries: Bylany, Hradenín graves 24, 46, Plaňany, Poboří, Praha-Bubeneč, Praha-Dolní Liboc, Praha-Lysolaje, Praha-Modřany graves 2 and 3, Praha-Radotín, Praha-Střešovice grave 5, Lovosice, Račiněves, Dobroměřice, Poláky, Vikletice graves 17/63, 138/63–4. Settlements: Praha-Ďáblice, Kadaň-Bystřice, Chotěbudice feature 7, Petrohrad, Hradenín, Vikletice features 45 and 146/63.

Main pottery forms: in addition to forms from the earlier phase, a cup with a pointed handle extending above the rim, broad amphorae and clay "moon symbols" also occur. Decoration: incised, relief, burnishing inside bowls, graphite coating, black paint on a red

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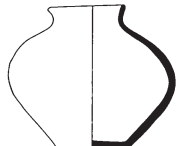
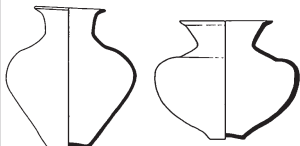
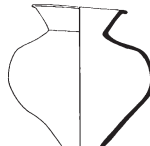




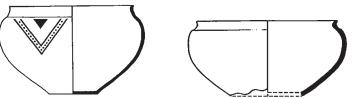















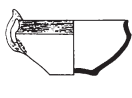





	Ha C1	Ha C2 (-C3)	Ha C3	Ha D1
STORAGE VESSEL				
CLASSIC AMPHORA				
WIDE AMPHORA				
TUREEN				
AMPHORA-SHAPED BOWL HIGH				
AMPHORA-SHAPED BOWL LOW				
PLATE				
CUP				
SITULA				
FOOTED VESSEL				

Fig. 1: Chronological scheme of the Bylany culture pottery. After D. Koutecký.

base. Metal artefacts: bracelets with globular and stamp-shaped ends, bracelets with double ribs, anklets and torcs with stamped decoration, pins with a vase-shaped head or a swan neck, harp fibulae, saddle fibulae and *Kahnfibeln*, toiletry sets and needle holders; weapons, tools and items of horse harness and wagons are the same as in the previous phase.

Belonging to this period are the large graves of combination groups I and II (the later group of “princely” graves); group III is represented by a higher number of pit and urn graves.

Late phase: Ha D1. Cemeteries: Praha-Bubeneč graves 1, 12, 18, 29, Praha-Dolní Liboc grave 10, Praha-Střešovice grave 8, Hradenín grave 28, Poláky grave 39. Settlements: Praha-Řeporyje, Praha-Troja, Želénky, Chotěbudice. Hillforts: Hradec near Kadaň, Dolánky-Rubín.

Main pottery forms: amphora-shaped storage vessels (rare), a small amphora with a flask-shaped neck, a cup with a pointed handle, a tureen with its largest diameter in the upper third of the vessel, various types of bowls, “moon symbols” (rare). Decoration: grids (raster) of fine grooves, incisions, graphite coating. Metal artefacts: horse harness and parts of wagons, as in the previous period; knives; weapons are lacking. The small number of vessels in the grave is typical (maximum of ten).

Large inhumation graves are a rare occurrence; the number of small pit and urn graves increases.

The Hallstatt Tumulus culture

An analysis of graves from Nynice and comparison with other contemporaneous finds in the region was of fundamental importance for the chronology of the

Hallstatt Tumulus culture (*Šaldová 1968*, 389, Fig. 44). In Ha C, the pottery from Nynice and the other western Bohemian cemeteries can be divided into three phases: 1. the transitional phase of the Kostelík type; 2. the early phase; 3. the late phase. The transitional phase is still closely related to stage Ha B and is a bridge between stages Ha B/C; in the late phase it is difficult to observe a precise division between Ha C and Ha D. It is clear that the Hallstatt Tumulus culture also continues into Ha D1. The same chronological development is seen in the south Bohemian group of the Hallstatt Tumulus culture (*Michálek 2003a*, 148–155). Using the chronology of the Hallstatt period cemetery in Grosseibstadt (*Kossack 1970*, 117, Tabelle 1), *E. Soudská (1994)* established the absolute dating of the graves from the first two phases in Manětín-Hrádek (Ha C2–D1) between the final quarter of the seventh century BC and the period around the year 600 BC.

Only a small number of radiocarbon dates from south Bohemia (e.g. a Ha C barrow burial in Dobešice near Písek: 2495±35 BP, i.e. 770 or 790 BC; *Křišťuf – Rytíř 2009*, 51) are available for refining the absolute chronology of the Hallstatt Tumulus culture.

The Silesian-Platěnice culture

J. Filip was the first scholar to work on the chronology of the Silesian-Platěnice culture (*Filip 1936–37*), and his basic scheme for phases I to IV is in fact used to this day (see *Vokolek 1999*). The third phase of the Silesian-Platěnice culture corresponds to the period of Ha C–D1, the fourth phase to the period of Ha D2–3 to LT A in H. Müller-Karpe's classification (*Müller-Karpe 1959*). The Turnov type belongs to the fourth phase in J. Filip's system, a designation that is no longer used today. The preceding phases I and II of the Silesian-Platěnice culture, which belong to the period of Ha B1–B3, are discussed in Volume 4 of this series. Using pottery finds, phase III of the Silesian-Platěnice culture can be divided into Ha C and Ha D1.

The Billendorf culture

As the Billendorf culture appears in Ha B, it is just the culture's later phase that belongs to the Iron Age phases Ha C–D (*Koutecký 1993c; Bouzek – Koutecký 2000*). Although a longer duration (until LT A or longer?) is not ruled out (e.g. in the area of the Podmokly group), well-dated graves are lacking. *J. Kaiser (2003)* summarised the opinions on the Billendorf culture chronology, which lasted in Upper Lusatia until Ha D, in outlying areas perhaps until LT A.

4.3 LATE HALLSTATT PERIOD, HA D2 TO LT A

Attempts to produce a chronology of the late Hallstatt period in Bohemia were initially based mostly on set-

tlement finds. Several relative chronology schemes were gradually created using data from Praha-Kobylisy, Praha-Hloubětín and Hořany (*Rybová – Soudský 1962*, 197–221), Tuchoměřice, Tuchoměřice-Kněžívka and Krašovice (*Jansová 1957*, 454–56, Fig. 25; *Soudská 1966*, 562–582). However, these outlines were based only to a limited extent on stratigraphical observations and, with the lack of chronologically sensitive metal artefacts, especially fibulae, mainly made use of a classification of pottery according to formal, decorative and perhaps technological criteria. Although in certain regards the horizons that were produced quite correctly captured the relative chronology, the absolute dating was burdened excessively by J. Filip's thesis on the survival of the late Hallstatt population and its material culture deep into the La Tène period (*Filip 1956*, 284–89; comprehensively in *Gosden 1984*, 289–292).

V. Šaldová (1971a, 128–130, Tab. II) used the grave goods from flat cremation graves and barrow burials from the west Bohemian cemetery of Nynice to create the chronological phases with a suggested absolute dating: phases Ia–b – Ha D2 (550–500 BC), phase II – Ha D3/LT A (500–450 BC), phase III – LT A (450–400 BC). The south Bohemian region demonstrates a similar chronological scheme (*Michálek 2003a*, 155–174).

E. Soudská (1994, 60–61) assigned the graves of phase III at the cemetery in Manětín-Hrádek into Ha D1–D2, the burials of phase IVA into Ha D2–D3 and phases IVB1–B3 into Ha D3. Grave 162 of phase IVB2 was dated by thermoluminescent analysis to the broad interval of 650–500 BC. *Soudská* dated the cremation graves of phase IVC to the beginning of LT A, the final phase V to LT A. Grave 116 of phase V was dated by thermoluminescence to the period of 500–400 BC.

Vertical stratigraphy was used to produce a preliminary chronological pottery scheme for the Závist hill-fort (*Motýková – Drda – Rybová 1984*, 398–409). The stratified metal inventory, including fibulae from Závist and the nearby settlement in Dolní Břežany made it possible to correlate the basic settlement horizons chronologically with Ha D2, Ha D3 and LT A.

The acropolis fortification produced two calibrated radiocarbon dates: Ha D2 fortification 2520±50 BP, LT A fortification 2340±60 BP (*Drda – Rybová 2008*, 58–67, 111, 117–118).

V. Salač specified the pottery content of stage LT A for northwest Bohemia (in: *Waldhauser – Holodňák – Salač 1986*). His classification system was then elaborated by J. Waldhauser (*Waldhauser et al. 1993*, 277–285) for finds from the settlement in Radovesice. Waldhauser essentially arranged the pottery of the late Hallstatt period into horizons of graphited pottery (phases Ia–Ib: Ha D1–D2) and stamped pottery (phase II: LT A).

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Absolute calibrated radiocarbon dates were acquired in Radovesice for feature 162, which was dated archaeologically to the transition of Ha D/LT A: 1110–800 BC and 520–400 BC (*Veselý 1993; Neustupný 1993*). Absolute dates were also obtained from Radovesice using thermoluminescence (the following dates are interpolated from the three dates obtained): feature 62 (Ha D): 620 ± 110 BC; feature 97 (LT A/B): 340 ± 190 BC (*Kvasnička 1993; cf. Neustupný 1993*).

A LT A cremation grave inside a circular ditch enclosure in Uhy in the Kladno region provided a date of 565–400 BC (*Sofaer – Turek 2004, 300*). Two radiocarbon dates of 2435 ± 35 BP and 2455 ± 30 BP were acquired from LT A (?) grain storage pits in Tuněchody in the Chrudim region (*Tichý et al. 2006*). Following calibration, the dating of wood from a LT A hut in Chržín produced a date range of 540–390 BC (*Chytráček 2007b, 493, Tab. II*). An excavation of the Vladař hillfort provided a series of radiocarbon dates from the fortification of the acropolis (*Chytráček – Šmejda 2005*) and the

annexe (the earliest construction phase of the fortification 795–542 BC /Poz-33516/: *Chytráček et al. 2012*). Additional AMS radiocarbon dates come from the cistern on the acropolis (*Chytráček – Šmejda 2005, 10, Fig. 10, 12*); the cistern was still full during the La Tène period; radiocarbon dating of plant macro-remains from the earliest layer above the bottom of the cistern provides a date of 519–388 BC /Poz-37073/: *Chytráček et al. 2012*). The excavation of the water reservoir in the hillfort annexe also led to the dating of the timber retaining wall of the reservoir; the results are the earliest dendrochronological dates for oak obtained within the territory of the Czech Republic (the date when the trees used for building reservoir no. 2 were cut falls between 475–451 BC, whereas in the case of reservoir no. 1 only the latest year after which the trees could have been cut was established – 463 BC: *Chytráček et al. in press*). It is hoped that the rate at which additional chronological dates are obtained using natural science methods will increase.

5 Natural resources and their exploitation

This chapter does not aim to provide a comprehensive expert presentation of the natural environment in the Hallstatt period; instead, it will focus only on specific data sets acquired from well-dated archaeological contexts in Bohemia. Natural resources are mostly addressed here in connection with settlement activities, i.e. not from the perspective of their industrial use (raw materials for specialised production activities are presented in Chapter 6.3).

5.1 CLIMATE AND VEGETATION

Studies on the development of climate note that the warm and dry phase characteristic for the Final Bronze Age ends at the beginning of the Hallstatt period (Ha C) and is followed by the gradual onset of a cool phase. Based on research of glaciers in the Alps and in Greenland, and according to radiocarbon dates, the cool phase falls within the period of 830–725 BC (*Maise 1998*, 218–224, Abb. 23, 25). A great deal of evidence suggests that the cooler and wetter climate in the eighth century BC could be behind the reduction of settlement in many areas at higher elevations in western and central Europe, including Bohemia.

From a climate perspective, the Late Hallstatt period dates to the beginning of the Sub-Atlantic period, which corresponds approximately to today's climate.

Archaeobotanical data makes it possible to learn about vegetation in the Hallstatt period. Finds of charred wood from the Svržno and Štítary nad Radbuzou-Hostětice sites in west Bohemia (analyses by E. Opravil in: *Pokorný 2004*, 9) provide the following image of the Hallstatt period: the spectrum of species is dominated by oak (Svržno – 68 %; Štítary – 63 %), followed by fir and pine. The following species were identified in settlement feature 3/97 in Staré Prachatic: beech, willow, alder, birch, hazel, spruce, oak, fir and hornbeam (*Parkman 2002*, 22–23). Information on the relatively abundant occurrence of fir is in line with contemporary botanical research. Data from palynological analyses from the Upper Palatinate, performed by *M. Knipping (1989)*, could also be relevant for an interpretation of the vegetation in west Bohemia, as some of the studied sites are located along the Czech border. The data reveal that fir played a surprisingly important role in forest stands. The acquired information suggests increased anthropogenic pressure in the

Iron Age compared to the previous period, a phenomenon manifested primarily in deforestation and increased sunlight in forests, most probably the result of grazing.

Pollen and macro-botanical analyses (*Pokorný et al. 2005; 2006; Boenke – Pokorný – Kyselý 2006*) from the cistern on the acropolis of the Vladař hillfort provide a record of the development of vegetation and the landscape from the end of the early La Tène period (from c. 400 BC, LT A) to the present day. This information reflects the relatively strong influence of settlement, with the deforestation of the hillfort area and permanent and intensive agricultural activities; grazing apparently played a significant role. Scattered farming tracts can be reconstructed in the surrounding area for the relevant period, wet meadows on floodplains and flat lowlands, and forest vegetation with a substantial share of oak and mixed beech and fir in the remaining areas. The leading role of pine in these forest stands can apparently be ascribed to human influence. In another case, the woody species from the LT A settlement at Chržín, with evidence of the working of iron and non-ferrous metals, indicate a strong anthropogenic influence on the vegetation of the surrounding area, which can be characterised as a mosaic of open land, thin forest stands used for grazing and coppiced woodland (*Novák 2007*, 518; *Chytráček 2007b*, 494).

Scholars have recently been paying attention to matters involving the decline of forests, either under the influence of climate or as the result of population growth in general. *D. Dreslerová (1996)* tested the influence of the economy on the utilisation of forest in the Hallstatt period by using a model based on the Vinoř stream micro-region in central Bohemia to reconstruct the landscape as forested and with only smaller, more or less continuous open enclaves (Plate 1); according to her estimate, the consumption of wood by local communities should not have threatened the natural regeneration of the forest in any way. *J. Beneš (1995, 11–33)* outlined the process of synanthropization from prehistoric times to the modern period at the Bohemian side of the Šumava. Forest management in prehistory, which probably did not lead to deforestation, is a subject addressed by *D. Dreslerová (2012)*.

5.2 WATER AND ITS AVAILABILITY

Access to water was a basic condition for the founding of residential and production areas. The majority of analyses indicate that residential areas were located in the immediate vicinity of a watercourse. Special conditions applied when hilltop sites were settled, especially if they were located far above the watercourse (*Chytráček – Metlička 2004*, 96). In such cases water had to be secured using relatively demanding methods. Examples of such measures could be massive ditches or cisterns cut into the rock which, in addition to their primary function as part of the fortification and a source of building material, also served the important role of collecting rainwater (Závist acropolis, LT A). The two reservoirs cut into the bottom of the Ha D2-D3 ditch near the main gate of the Závist hillfort are dated to the period between the sixth and fifth century BC (*Jansová 1983a*, 29–35; *Motýková – Drda – Rybová 1984*, 364–368; *Drda – Rybová 2008*, 29–31, 34; Fig. 26, 29, 31). The large cistern at the acropolis of the Vladař hillfort was dug at the latest around 400 BC (*Pokorný et al. 2005*; *Chytráček – Šmejda 2005*, Fig. 6; 20; 2006, Abb. 10, 11), and two other large reservoirs with timber retaining walls were investigated around the spring in the fortified annexe (*Chytráček et al. 2012*; *in press*). The well-preserved excavated wooden structures of this age, their number and function have no parallels in central Europe. Springs and cisterns for collecting water were incorporated into fortification systems beginning at the end of the Hallstatt period and in the early La Tène period when a trend toward increasing the size of the fortified area to encompass up to dozens of hectares also emerged (fortifications built later to protect the annexe with the water supply are recorded in today's Hesse, northern Bavaria, the Baden-Württemberg region, the Saarland and Lorraine). The latest interpretation of this phenomenon suggests a reaction to historical events producing the need for greater protection of people and animals in a period of rising threats, as well as the closely related necessity of protecting water supplies (*Hansen – Pare 2008*, 79, Abb. 9–13; *Chytráček 2012*; *Chytráček et al. in press*).

5.3 WOOD, BUILDING STONE AND EARTH

D. Dreslerová (1996) estimated the annual consumption of fuel and construction wood for a single homestead, including wood for possible burial purposes, at 40 m³, which could be obtained from approximately 10 ha of forest while adhering to conditions for continuous forest renewal. Assuming that there were four families (i.e. four homesteads) in a settlement, a com-

munity of this size would require wood from 40 ha of woodlands. The model tested in the micro-region of the Vinoř stream (Plate 1), densely settled in the Hallstatt period, showed that with normal activities by the local population and a 25 % rate of deforestation, the ecological balance was not disrupted in any way.

The consumption of construction wood increased in the late Hallstatt period mainly in order to build the fortifications at hilltop sites. However, these were often sites that had not been used in the immediate past – settled in the final Bronze Age, with only a few exceptions not in Ha C however, and only rarely in Ha D1 (for northwest Bohemia: *Smrž 1992*; west Bohemia: *Chytráček – Metlička 2004*, 29), and, hence, there had been enough time for the natural regeneration of the forest. The volume of wood needed for the construction of the fortifications of enclosed sites must have been substantial.

The data obtained during the excavation of the acropolis at the Vladař hillfort indicates the periodic deforestation of the entire hilltop. Archaeobotanical analyses have also provided a detailed composition of tree species used at the site (*Boenke – Pokorný – Kyselý 2006*, 71–77, Abb. 5–8).

The Vladař and Závist hillforts are extreme examples of vast and massive fortifications. In the late Hallstatt period and at the beginning of the early La Tène period, the ramparts at the Závist hillfort gradually reached a length of 5350 m. P. Drda estimates that over 15,000 tree trunks, primarily oak, with a diameter of 25–30 cm (i. e. 78–93 years old) were needed for the front palisade face of the rampart bodies alone. As unmanaged mixed forests of average quality contain approximately 80–100 trees of this size per hectare, the minimum amount of land needed to harvest this construction wood is around 150 ha. Analyses of charred wood samples from the palisade fronts of ramparts identified oak and pine (*Quercus robur*, *Quercus sessilis*, *Pinus silvestris*; Opravil, E.: find report no. 2225/87 in the Archive of the Institute of Archaeology in Prague). Practically no other species appeared as construction material in the fortifications. The use of pine in the ramparts at Závist declined in the first half of the fifth century BC, a finding that is consistent with the absence of pine in the solid wood construction of a large dwelling (Ha D3-LT A) at a nearby homestead in Dolní Břežany. Drda and Rybová assume that all of the pine forests were cut down completely in precisely this period. It cannot even be ruled out that the deforestation of the landscape in the immediate vicinity of the hillfort began to reach such a scale that it led to changes in construction techniques in the early La Tène phases of the fortifications (*Drda – Rybová 2008*, 10, 12–13, 26, 111–12, 115–16).

The construction of the ramparts also demanded an enormous amount of stone. The Závist massif was a local source of stone of varying quality. Although stone was extracted to a smaller extent in quarries, a substantially larger volume was obtained from ditches which, with their considerable dimensions, became an important part of the fortification system. The greatest amount of rock, mainly siltstone and slate, is the 40,000 m³ which was extracted from the 500 m long ditch along the main line. The material was used to fill the rampart body at the end of the Ha D period (*Motyková – Drda – Rybová 1984*, 364–68, Fig. 21–24). The massive ditches in the rock surrounding the acropolis on three sides at the top of the hill were not dug until LT A, although apparently before the middle of the fifth century BC. The ditches yielded more than 8,700 m³ of stone – spilite slabs – used for the imposing rampart and for several stone structures inside the fortified acropolis (*Drda – Rybová 2008*, 31, 73, 116, 120, Fig. 26–32, 35–45, 93).

Compared to the vast Závist hillfort, the volume of building material at other fortified settlements in central Bohemia seems to be significantly lower. Never-

theless, the extraction of stone from two ditches at the relatively small hillfort at Minice, for example, represented a remarkable physical task.

Another building material, earth, was required in fortification as well as in occupation areas as daub for the walls of houses, to build kilns, etc., not to mention the production of vessels and other domestic and technical objects. Clay pits, irregular groups of features found within settlements, are regarded as evidence of clay extraction. *P. Trebsche (2011, 247–248)* calculated the smallest possible volume of clay from the identified clay pits in the Bylany culture settlement in Praha-Miškovice at 284 m³, which he estimated as being three times the amount of clay necessary for daub in the above-ground structures found at the site, assuming a wattle and daub construction, which required a greater amount of clay than in the case of a log house construction. Trebsche speculated that a nine-post structure with walls approximately 2 m high would require 2–8 m³ of clay, depending on the thickness of the walls (5–20 cm); an average of 1–2 m³ would then be needed for a sunken house.

6 Production areas and activities

6.1 SUBSISTENCE

Subsistence was secured by agriculture and animal husbandry, supplemented by hunting, fishing and gathering.

6.1.1 Agriculture

Fields and the field system. The agricultural model was produced for the period between Ha D1 and LT A for the Vinoř stream micro-region with an area of approximately 24 km². Based on the acquired archaeological data, Dreslerová believes that fifteen to twenty contemporaneous settlement areas could have existed in the micro-region (Plate 1). For every parcel of land cultivated in individual settlement areas, up to five times the same amount would have been left fallow. Calculations indicate that the area of deforested land, i.e. cultivated fields and those left fallow, amounted to approximately a quarter of the entire region. Overall, the communities settling this landscape would have used for their long-term subsistence just less than three-quarters of the area (around 1,750–1,800 ha), including forests for harvesting wood, grazing and gathering winter fodder for their livestock (Dreslerová 2002).

The share of land lying fallow could in reality be significantly lower, possibly only one-third of cultivated land, depending on soil quality and the field management, about which little is known for the Ha D – LT A period. The use of fertilisers must be assumed for this period, and as fallow land was clearly utilised for grazing livestock, it was also fertilised in a natural manner (Zimmermann 1999). At the same time, it is logical to consider the enclosure or other protection of planted fields in order to prevent animals from grazing the cultivated crops and reducing harvest.

The existence of pastures and fields can also be assumed in the fortified annexes of some hillforts. Based primarily on pollen and macrobotanical analyses, a reconstruction of the area surrounding the reservoirs in the fortified annexe of the Vladař hillfort places the reservoirs in meadows and pastures, raising the possibility that they served as a watering venue for free ranging horses and cattle. However, the animals naturally did not have free access to cisterns possibly provided with roofs or other protective features (Chytráček et al. 2012; *in press*).

Based on late Hallstatt macro-botanical data, Z. Tempír (1993) considers the possibility of a two- or four-year planting system for Radovesice; hence, a field would always remain fallow in the third or fifth year.

Agricultural tools. There have been few finds of tools, or their iron parts, used to cultivate fields and harvest crops in Ha D–LT A. As iron was a valuable material, larger and heavier tools that were damaged became scrap metal for recycling. The introduction of the iron ploughshare in LT A at the latest brought about a significant change in the cultivation of the land (Beranová 1980, 18; Břicháček – Beranová 1993); a narrow type of ploughshare was employed (Ledce, Hostomice, Fig. 3: 1, 5). The ploughshare made it possible to cultivate poorer and heavier soils. Yet another innovation was the establishment of meadows, which is documented by the use of an iron scythe for cutting grass. The earliest find comes from the fill of a late Hallstatt hut in Praha-Stodůlky (Motyková – Čtverák 2006; Fig. 3: 3). Two somewhat later scythes were deposited, as part of a hoard, at the settlement in Libčice-Chýnov at the end of LT A (Sankot – Vojtěchovská 2001; Sankot 2002a; Fig. 3: 2, 4), while others were found in Sedlec in south Bohemia (Břicháček – Beranová 1993, 252). Iron sickles and perhaps even sickle-shaped knives were used to harvest cereals (Fig. 3: 6, 7); one such tool comes from late LT A context at the Závist acropolis (Drda – Rybová 2008, 57, 81, 122, Fig. 71 :1; 95). The use of tools similar to a hoe (e.g. Klučov: Kudrnáč 1953, 326) is uncertain in farming. The use of wooden tools and their parts remains in the realm of conjecture.

Crops. Despite the considerable scope of settlement investigations, specific information on the spectrum of cultivated plants remains fragmentary, since it is based on a relatively small collection of investigated features from which soil samples of an adequate size could be subjected to flotation. According to analysed botanical macro-remains (Radovesice: Tempír 1993; Podražnice: Čujanová – Jílková 1998; Planá-Radná: Šaldová 1977; Závist – Ha D2–3 house A and LT A sunken structures D, E at the acropolis; LT A hut 114 from the central part of the hillfort: Drda – Rybová 2008, 115, 121; Vladař – layer on the bottom of the cistern, where sediments formed around 400 BC: Pokorný 2004, 88; Pokorný et al. 2005, 77, Fig. 11, and the layer from the floor of a Ha D3 above-ground feature

at the acropolis: *Boenke – Pokorný – Kyselý 2006*, 78, Abb. 11; Praha-Dolní/Horní Počernice – samples from eleven Bylany features: *Mácalová – Frolík 2011*; Praha-Hostivař: an assemblage from forty-three sunken features: *Veselá 2007*, according to the analysis of P. Kočár et al.), the following species are documented: common wheat (*Triticum aestivum*) including club wheat (*Triticum aestivum compactum*), einkorn and emmer wheat (*Triticum monococcum/dicoccon*), spelt (*Triticum spelta*), barley (*Hordeum vulgare*), millet (*Panicum miliaceum*), broad bean (*Vicia faba*), pea (*Pisum sativum*), lentil (*Lens esculenta*), vetch (*Vicia sativa*) and poppy (*Papaver somniferum*). Rye (*Secale cereale*) and oats (*Avena sativa*) occur less frequently. Six-row barley was identified (*Hordeum vulgare* var. *hexastichon*), and dill (*Anethum graveolens*) was also found. One of the LT A huts at the Závist hillfort provided an unusually large collection of lentils. P. Drda speculates that vetch (*Vicia* sp., *Viciaceae*) could have been used as horse fodder. A find of mistletoe (*Viscum album*) stands out in the assemblage of crops from the bottom of the cistern at Vladař and raises the question of its ritual or

medicinal use (*Boenke – Pokorný – Kyselý 2006*, 73). A sizeable assemblage of field weeds, both spring and winter, was obtained from Praha-Hostivař.

According to P. Kočár and D. Dreslerová (*Kočár – Dreslerová 2010*, 222–226), the assortment of cultivated plants is the same as in the preceding period. In summary, during the Hallstatt period emmer wheat was grown along with barley and millet, while the cultivation of einkorn wheat decreased. Spelt appeared, and lentil was the leading pulse. As documented by scythes and archaeobotanical finds of vegetation, the change in the agricultural system brought about by the cultivation of meadows did not occur until LT A.

Storage facilities. Seed stock had to be stored for the long-term, ideally in storage pits. Cylindrical, conical or biconical, storage pits were probably dug on the peripheries of homesteads within a residential area. The pits had a volume of around 1,000 litres (Radovesice: *Waldhauser et al. 1993*, 357). Storage facilities built above ground (granaries), from which supplies could be regularly drawn, are only documented by a few examples; it is assumed that rectangular structures with four, six or nine posts can be interpreted as granaries.

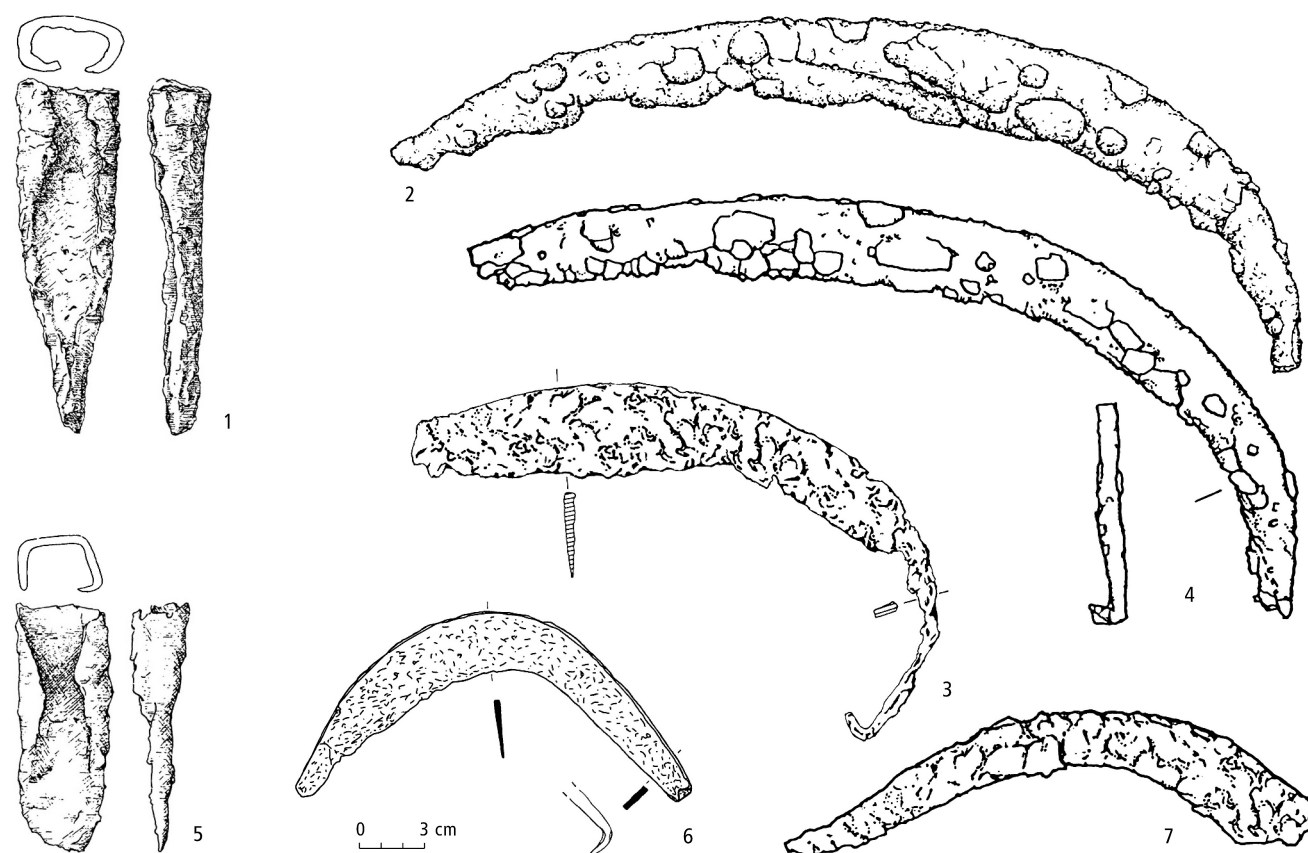


Fig. 3: Agricultural tools. 1, 5 ploughshares; 2–4 scythes; 6 sickle; 7 sickle-shaped knife. 1–7 iron. 1 Ledce (Kladno district); 2, 4 Libčice nad Vltavou-Chýnov (Praha-západ district); 3 Praha-Stodůlky; 5 Hostomice (Teplice district); 6 Zlivice (Písek district); 7 Nová Ves near Bakov (Mladá Boleslav district). After Břicháček – Beranová 1993; Michálek 1972; Motyková – Čtverák 2006; Sankot – Vojtěchovská 2001.

6.1.2 Animal husbandry

Livestock was fed by grazing in and outside of forest and, especially during the winter, with leaves and twigs or hay. Conceived as part of the cultural landscape and apparently also consciously managed, woods were used for grazing and as a source of leaves and twigs (*Dreslerová – Sádlo 2000*). Based on scythe finds, it is thought that meadows were cut for hay beginning in the late Hallstatt period. Livestock was probably fed a combination of hay, leaves and twigs, with only a small area of woodland and meadow being needed to feed the animals kept by a single family in the winter months; on the other hand, a substantially larger area of land was necessary for grazing (*Dreslerová 1996*, 608–609).

One of the largest investigated collections of animal bone is the assemblage from Radovesice with 2,500 identified bones (extending chronologically up to LT B1; see *Peške 1993*, Tab. 5); assemblages from Jenštejn (*Beech 1995*) and Praha-Bohnice (*Peške 1987*) contained 1,419 and 1,222 bones respectively, and 1,298 identified bones were found on the acropolis of the Závist hillfort (*Drda – Rybová 2008*, 107–110). Other sites have produced hundreds of bones at most, or merely dozens (e.g. Cerhenice: *Peške 1980*; Hradec near Němčice: *Petříčková 2000*, 271–75; Praha-Hostivař: *Veselá 2007*, with refs.). The most heavily represented species of domestic animals in west Bohemia are those connected with grazing, i.e. cattle, sheep and goat and horse (*Kyselý 2004*; *Boenke – Pokorný – Kyselý 2006*).

The following species appear in the greatest numbers during the Hallstatt period: cattle (33.5–45.5 %), sheep/goat (25.3–33.7 %) and domestic pig (20.3–27.6 %), with far fewer numbers (single digit percentages) of horse and dog. The relatively high percentage of horse at Štítary nad Radbuzou-Hostětice is surprising: horse bones represent 55 % of all osteological finds at the site (*Kyselý 2004*, 89, Graph 12). The occurrence of domestic fowl appearing from Ha C is insignificant in number (usually less than 1 %: *Peške 1976*; *Beech 1995*, 112, Tab. 22: 1, 5, 9, 13). Domestic goose is sporadic (Radovesice), assuming that the bones do not in fact represent a wild species. While exceptions do occur, they cannot be explained (Cerhenice: horse 21 %; Praha-Kobyličky: cattle 85 %, domestic pig and goat/ sheep only 6–7 %: *Beech 1995*, 111–12, Tab. 22). All assemblages reveal a clear predominance (over 90 %) of domestic over hunted species.

Animal husbandry played a key economic role. Cattle were raised for both meat and milk (as well as other products) and were important draft animals; their role as a source of fertiliser was also highly significant. Pigs and sheep were used mainly for meat, hides and wool.

The importance of pork was also reflected in its deposition in graves (for a comparison of the percentage of pig bones in Bohemia with other central European locations, see *Müller-Scheessel – Trebsche 2007*). Dogs were used to guard property and for herding and hunting; dog meat could naturally also have been consumed. In addition to various practical uses, horse ownership can also be understood as an undisputed expression of the social prestige connected with horse riding and war or ceremonial wagons, which is also documented by the appearance of horse harness in the graves of the social elite. Traces of the use of a bit were found on the premolar of a horse from Štítary nad Radbuzou-Hostětice, which corresponds to finds of harness in graves at the nearby cemetery of Mírkovice (*Kyselý 1994*, 90; *Chytráček – Metlička 2004*, 94). A phosphate analysis indicated that part of a house A in the Ha D2–D3 residential complex at the Závist hillfort served as a stable. Parts of a harness and chariot were found in the interior and in the surrounding area (*Drda – Rybová 2008*, 23, 24, 119; Fig. 19: 3, 6; 75). The connection of a noble house and an adjacent small stable (Ha D3–LT A), likewise with the remains of a chariot and harness, has also been documented at the nearby homestead in Dolní Břežany.

The assemblage of finds from Jenštejn indicates that cattle were slaughtered mostly at an early age, i.e. for meat; only a few individuals were kept for milk or draft purposes. Pigs were also raised for meat, with only a few older individuals serving as breeding stock. Sheep and goats were slaughtered at early age, with far fewer individuals retained for milk production. A large percentage of sheep or goats slaughtered at the age of one to two months was found at Vladař (*Boenke – Pokorný – Kyselý 2006*, 79, Abb. 14–15). At Radovesice the cattle were found to be larger in the Hallstatt period than in the La Tène period, and the same was true for horses.

Based on the expert estimates of L. Peške and assuming that meat was only a supplementary source of nutrition, *D. Dreslerová (1996)* concluded that the minimum number of domestic animals necessary for a single family (while also maintaining breeding stock) would have been one to two cows, two to three sheep or goats, and one or two pigs.

6.1.3 Hunting and fishing

Based on the assemblages of animal bone from settlement sites, it might seem that hunting was not a very common activity in the Hallstatt period. The remains of wild animals are a relatively rare occurrence in settlement features (if they appear at all) and represent a negligible part of bone assemblages. Data from the analysed settlements in Praha-Bohnice, Jenštejn and Tuchoměřice give a percentage of identified bones of

between 2.6 % and 7 % (*Beech 1995*, Tab. 18–21, 23: 1, 5, 9, 13), less than 10 % in west Bohemian assemblages (*Kyselý 2004*). Recorded in all of the listed assemblages, hare was frequently hunted game that was subsequently consumed at settlements. The same is true for larger game such as red deer and roe deer (*Kyselý 2005*). The animals are mostly documented by parts of antlers, which naturally could have been gathered as sheds and hence need not necessarily be evidence of hunting (Němětice: *Petříčková 2000*; Horšovský Týn - Sv. Anna: *Kyselý 2004*). Wild boar is not heavily represented (Tuchoměřice, Praha-Bohnice - Nad Podhořím, Planá-Radná). Evidence of animals hunted for pelts, the meat of which could also have been consumed on occasion, is not common. As the kill could have been field-dressed, parts of the skeleton might never have reached residential areas. Nevertheless, the bones of fox and beaver appear (Praha-Bohnice - Nad Podhořím, Poříčany: *Čtverák 1986*, 113; Planá-Radná: *Kyselý 2004*), as do those of rare examples of weasel (Prosmky: *Hrala 1978*, 152). In addition to these highly useful and, in a sense, even trophy catches, a bizarre admixture also included the remains of smaller creatures, especially rodents such as hamster or European water vole (*Beech 1995*, Tab. 23: 5, 9). Although it can be assumed that these smaller animals were viewed mainly as pests, other reasons for killing them cannot be ruled out; another possibility is that they represent recent intrusions. An overview of possible game also includes fowl such as goose, game birds and grouse at the settlement in Jenštejn and, sporadically, by bustard (Minice). Knowledge of swan is indicated by an image painted inside a LT A bowl from Radovesice, assuming it was not taken from another iconographic source. Snails and amphibians also appear in osteological assemblages.

The frequency of the occurrence of fish bones and scales hardly provides an objective image of the role of fishing in the subsistence strategy. Fish bones in the vast majority of cases do not survive in archaeological contexts, or are easily overlooked during excavations. As a result, catches from watercourses are represented thus far only by catfish (Praha-Bohnice - Nad Podhořím: *Beech 1995*, Tab. 24: 9), perch and crayfish (Poříčany: *Čtverák 1986*, 113), and carp species (Zbraslav: *Chytráček - Bernat 2000*, 299); other fish, as yet unidentified, were caught and taken to the Závist hillfort (*Drda - Rybová 2008*, 108–109).

The collections from two sunken structures at the Závist acropolis merit special attention. Structure D from the earlier phase of LT A contained more than 12% of bones from birds, hunted mammals and fish in a wide range of species: wild boar, red deer, fox, hare, beaver, squirrel, water vole, goose, quail and as yet

unidentified or unidentifiable remains of fish, small mammals and birds. Although structure E from the late phase of LT A provided fewer bones of hunted game (6.1 %) and an overall lower number of species, wild boar and hare were joined by roebuck and sporadic wild cat. Both structures were part of successive areas of a ritual nature (*Drda - Rybová 2008*, 48, 50, 58, 108–110, 120–123).

6.1.4 Gathering

The gathering of wild fruits provided welcome supplementary nutrition. Gathering is documented by finds of hazelnuts (e.g. Závist hillfort: Tempír, Z.: report no. 8761/74; Komárková, V.: report no. 9976/04 in the Archive of the Institute of Archaeology in Prague) and blackthorn pits (Závist - acropolis, structure D: *Drda - Rybová 2008*, 113). While many other fruits were certainly gathered, they are not documented archaeologically.

6.1.5 Food products

Foods obtained by farming, animal husbandry etc. had to be prepared for immediate or later consumption. Cereals for regular consumption were kept in storage vessels or containers made of organic materials, and the same is true for other foodstuffs. Granaries built above ground could also have held food for regular consumption.

Flour was ground using hand mills – grinding stones (saddle querns) comprised of a lower rectangular, round or oval flat grinding base and a round or lenticular handstone (Fig. 4: 1, 2, 4). The use of the so-called “Greek” type of quernstone (Olynth type or *Balkenhandmühle*) probably began in LT A (Fig. 4: 3, 5): an oval or rectangular flat handstone with a feeding hole, sometimes with opposing depressions on the sides, perhaps for moving the handstone backwards and forwards on an oblong or irregularly shaped lower stone (e.g. Albrechtice – Sedlo; several specimens at the hillfort of Velký Blaník: *Špaček 1972*; *Šolle 1988*, 98; further finds: *Fröhlich - Waldhauser 1989*, 30–33; *Čtverák - Holodňák - Sigl 2007*; *Danielisová - Mangel - Drnovský 2011*; see *Frankel 2003* and *Wefers 2012*, 23–27 for origin and distribution). The introduction of this device was an important innovation, as it was up to 600 % more efficient than the simple grinding stones (*Holodňák 2001*).

Some ovens are interpreted as bread ovens (Praha-Miškovice, Ha C: *Ernée 2005*, 697; Plate 2: 3, 4). Butchering, documented by traces on animal bones, and other food preparation was performed with a variety of iron knives, with a straight or curved back, or with small cleavers found in residential areas. One

THE EARLY IRON AGE – THE HALLSTATT PERIOD

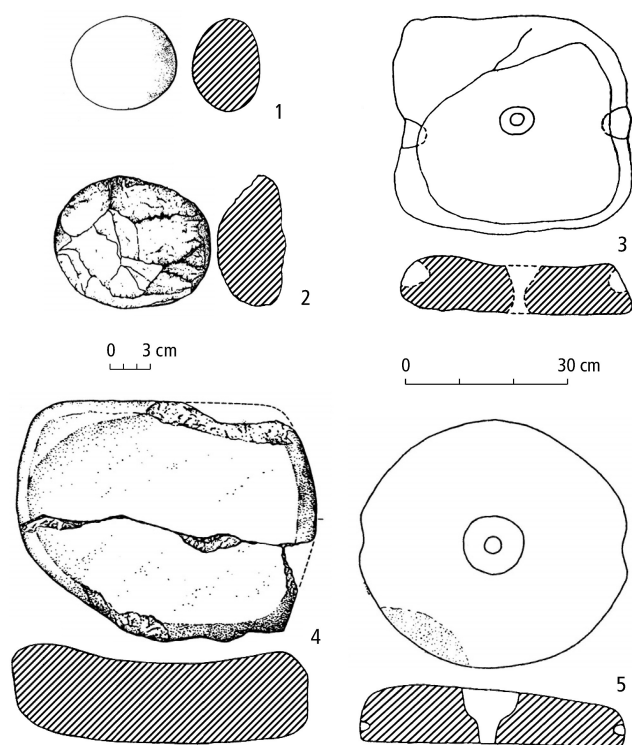


Fig. 4: Grinding stones. 1, 2, 4 parts of grindstones (handstones and querns); 3, 5 upper parts of the "Greek" (Olynth) type grindstone. 1 Planá-Radná (Plzeň-sever district); 2, 4 Němětice (Strakonice district); 3 Louňovice pod Blaníkem (Beroun district); 5 Albrechtice (Klatovy district), the hillfort of Sedlo. After Fröhlich – Waldhauser 1989; Šaldová 1977; Michálek – Lutosvský 2000.

sunken feature was interpreted as a work space for butchering meat (Praha-Liboc: Bureš 2005). While an iron spit and a fire dog could have been used for roasting meat, both artefacts mainly had a very prestigious and ceremonial significance and were not common finds in settlement contexts. Certain types of ceramic pots were used for cooking, and in rare cases they are found with organic traces of food (Svržno: Chytráček – Metlička 2004, 255); however, in most cases the residue found on the inside or outside of the pots cannot be identified. Bronze cauldrons could also have been used for cooking in exceptional cases, unless they had a ritual and ceremonial function. Clay strainers could be related to dairy production, less probably to the preparation and serving of alcoholic beverages, for which fine metal strainers were more appropriate. Food was prepared or served with clay spoons or ladles, objects that could also have had a ritual function (Chlum near Blatná, barrow 1; Fig. 69: 7).

In addition to boiling and roasting, meat was probably also smoked and cured with salt; a valuable article of trade, salt was used both to season food and preserve meat. Cereals were prepared for consumption by boiling or roasting, pulses were boiled or eaten like

bean sprouts. Common as early as in the Neolithic, the brewing of beer is also often mentioned in connection with the Celts in historical sources (see Volume 6 in this series). Sprouted cereal grains considered as evidence of the production of beer in the late Hallstatt period come from the princely burial at Hochdorf in Baden-Württemberg (Stika 1999). The fermented beverage mead was also prepared and, although evidence of this activity is not available in Bohemia, traces of honey (most probably mead) were found in bronze jugs from richly furnished barrow graves at the Glauberg in Hesse and also in bronze cauldrons from rich graves at Hochdorf and the Hohmichele in southern Germany (Rösch 2002).

Wine, the consumption of which is indirectly documented by bronze drinking sets, is an alcoholic beverage that falls into the category of imports. Drinking sets could also have included pottery vessels such as small Hallstatt situlae or the LT A wheel-turned bowls, flasks and lids.

6.2 DOMESTIC PRODUCTION

Domestic production was performed at each settlement along with the acquisition of food, and the products were consumed by the producers, their families and perhaps even the larger community.

6.2.1 Pottery production

The variability of the fabric, form and decoration of vessels indicates that pottery was supplied by a great number of producers; hence, the majority of production was domestic. Ceramic products included vessels, technical ceramics and other objects.

In most cases, evidence of pottery production is indirect. Although kilns did not survive *in situ*, certain finds are related to these structures. A pit (feature 78) at Štítary nad Radbuzou-Hostětice, filled with sherds from seventeen vessels deformed by fire, is regarded as a waste pit in which entire batches were discarded following unsuccessful firing along with charred wood and fragments of the clay dome of a pottery kiln of an unidentified type; a reconstruction indicated that the vessels were originally piled or stacked together and deposited in one large storage vessel or next to it (Chytráček 2007a; Chytráček – Metlička 2004, 261). Fragments of a clay furnace grate with perforations (Hradenín feature 3: Šaldová 1997, 20, 22), the fragments of the burnt wall of a combustion structure and some features at Hostomice (Budinský 1999, 211) were also assumed to have been connected with possible pottery kilns. Naturally, it is also possible that the pottery was fired in simple pits or surface bonfires, which need not have left any archaeological traces.

Pottery continued to be made by hand; production on the potter's wheel began in Ha D3 / LT A.

Three basic categories of pottery fabric occur: coarse, fine and graphite – a very rough classification that will need to be elaborated in the future. Vessels with coarsely tempered clay are the most common. Since LT A, the pottery made from fine clay was usually wheel-turned (or wheel-finished). Fine ware production may already have reached the level of specialised production (see *below*).

A special category appearing in the late Hallstatt period was graphite pottery, i.e. ware produced from clay with a varying admixture of graphite, the addition of which reduces sensitivity to the temperature and length of firing while also reducing the permeability of the fabric (*Hložek et al. 2003*, 126). The share of graphite pottery varies in settlement assemblages, with larger amounts occurring in south Bohemia (e.g. at the late Hallstatt farmstead in Hradec near Němětice, pottery with graphite temper amounted to 8.5 % of the entire assemblage, and to 14.6 % in feature 9 in Písek; *Fröhlich 2001b*, Fig. 25). Deposits of graphite in south Bohemia are known in the Český Krumlov, Netolice, Strakonice and the Týn nad Vltavou regions (*Michálek 1993*). Finds of lumps of raw graphite have been made at numerous south Bohemian settlements (e.g. Kapsova Lhota, Řepice, Radčice: *Dubský 1949*, 276, 282; *Michálek 2000a*, 258) as well as in other parts of Bohemia (*Hlava 2008a*, 197, 210). Analyses conducted to date (*Michálek 1993*, 75–95; *Kratochvíl – Rost 2000*, 243–49) of raw graphite and of pottery with a heavy graphite content indicate that at sites with a high quantity of graphite pottery, the graphite was obtained from a relatively close source. Nevertheless, the export of graphite from south Bohemia to Moravia has been documented (the Horákov culture: Těšetice; *Hložek et al. 2003*). Graphite could also have been acquired from northern Moravian outcrops (based on an analysis of graphite pottery from Neznášov in the Náchod district: *Hložek et al. 2003*); however, the number of analysed samples remains very low (see *Hlava 2008a*, 235). It cannot be excluded that graphite vessels were already being made by specialised producers in the late Hallstatt period, as was the case later in the La Tène period.

Hallstatt pottery (Ha C to LT A) has many common traits with respect to surface treatment and decoration. The application of techniques varies between individual cultural and chronological contexts. Surface treatment includes smoothing, rough smoothing and roughening, e.g. tooling with a wooden stick or straw. Decorative techniques, which can be basically divided into coarse and fine, include incision (coarse and fine, also applied using a compass beginning in LT A), impressions (strokes, dots and nail impressions, toothed

wheel impressions), stamping, graphite coating, bur-
nishing, painting and features in relief (cordons, knobs, lugs). The surface treatment and decoration of vessels was applied mainly with wooden, bone (Fig. 5: 3), antler and metal tools. Stamped decoration utilised stamps, which were found in neighbouring regions (see *Megaw – Megaw 2006*, 376–382). A noteworthy artefact is a flat, originally perhaps discoid, clay artefact with minute teeth around its perimeter that perhaps served for applying wheel-pressed decoration (Jenštejn feature 4; Fig. 5: 1, 2). The first find of an iron compass (perhaps a gauge for transferring measurements; *Sankot 2007*) in Bohemia comes from the residential area in Tuchoměřice (*Sankot 2004*, 62; Fig. 5: 8); in addition to its use on ceramic vessels, the tool was also used on bronze artefacts. Pieces of graphite, the smoothed fragments of which are found in settlement contexts (Fig. 5: 9), were probably used to apply graphite coating to the surface of vessels (*Budinský 1999*, 211); sherds from vessels with graphite temper could have served the same purpose.

Vessels were also repaired or employed for a secondary use. Finds of both coarse and fine wheel-turned vessels that had been repaired using iron (and sometimes bronze) clips (Fig. 5: 4–7, 10) are common (e.g. *Budinský 1999*, 211–14; *Drda – Rybová 2008*, 29, 117, Fig. 24: 6). Discs made from potsherds, or sherds with smoothed edges could have been used as a potter's blade to shape vessels or for surface treatment; the objects could also have been used for a different purpose (gaming pieces, symbolic objects). Perforated discs may have been used as spindle whorls for textile production, as was common in the La Tène period (LT B–D).

Technical pottery (crucibles, spindle whorls, loom weights, etc.) and small clay artefacts such as figural sculptures and symbolic objects are treated in this book in connection with production and other activities.

6.2.2 Textile production

Flax and wool were the basic materials for making thread. Clay spindle whorls used to weight the spindle as the thread was spun are common finds (Fig. 6: 1–8). The whorls are shaped in a great variety of ways, from flat to lenticular, spherical, conical, biconical and pear- or spool-shaped; they are often decorated with incised or impressed elements (depressions or nicks on the perimeter or around the perforation) or are plain. It is common for spindle whorls to be found in groups (*Budinský 1999*, 204–207; *Kudrnáč 1981*, 260; *Sedláček 1980*, Fig. 4; *Michálek 2003b*, 81–88; *Sedláček – Sankot 2013*). A large number of spindle whorls come from the Svržno hillfort, where they were found primarily on the floors of post-built houses. The dimensions of the

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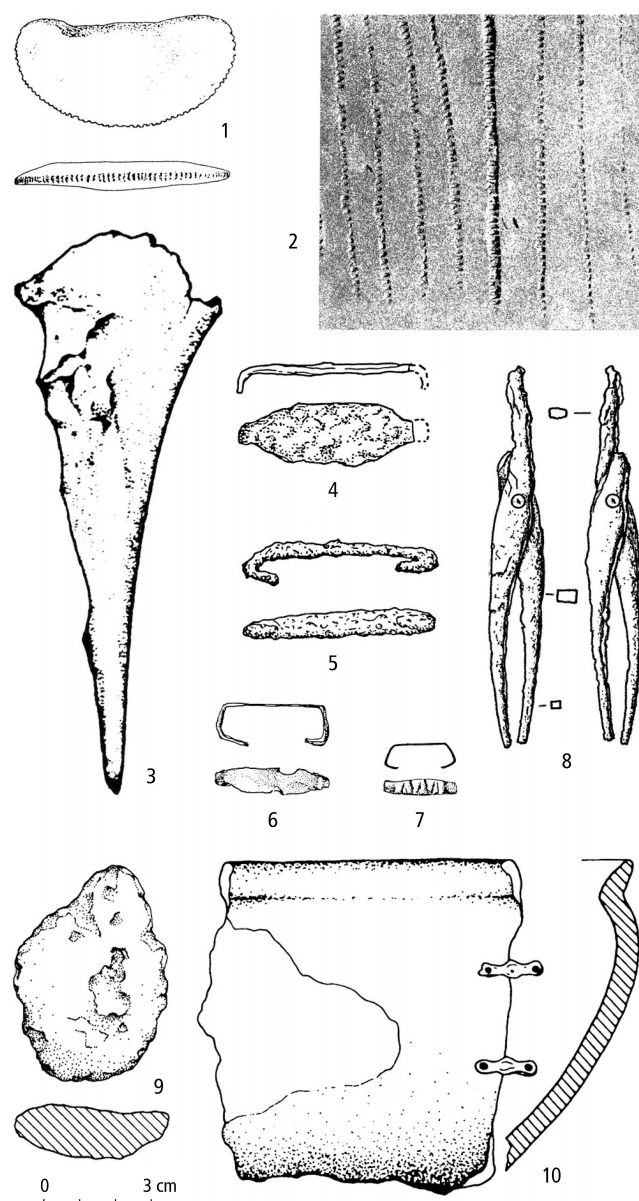


Fig. 5: Pottery production. 1, 2 toothed disc and its imprints; 3 stylus; 4–7, 10 repair clips; 8 compass; 9 lump of graphite. 1 clay; 3 bone; 4, 5, 8 iron; 6, 7 bronze; 10 pottery and bronze. 1 Jenštejn (Praha-východ district); 3 Cerhenice (Kolín district); 4 Svržno (Domažlice district); 5, 10 Hostomice (Teplice district); 6, 7 Závist (Lhota, Praha-západ district); 8 Tuchoměřice (Praha-západ district); 9 Němětice (Strakonice district). After *Budinský 1997*; *Dreslerová 1995a*; *Chytráček 1997*; *Michálek – Lutovský 2000*; *Motyková – Drda – Rybová 1988*; *Sankot 2004*; *Sedláček 1980*.

whorls (e.g. according to finds at the settlement in Hostomice: *Budinský 1999*, 204–207) indicate that they were used especially to spin finer linen thread (whorls with a diameter of up to 35 mm), coarse linen thread or medium weight wool thread (diameter between 35 and 45 mm; *Holodňák 1993*, 207). Miniature spindle whorls represent a special case, and their practical use seems quite improbable (small whorls were found with three small bronze sewing needles in sunken structure D at

the acropolis at the Závist hillfort: *Drda – Rybová 2008*, 47, 120, Fig. 50: 7–9; 51: 1–9; 84). Perforated discs cut from sherds (Fig. 6: 9) could also have served as spindle whorls, and discs without holes (Fig. 6: 10) are perhaps their semi-finished forms. Spools may also have been used (an interpretation that could also apply to several clay objects from the Burkovák Hill: see Chapter 8.5.3).

The weaving of cloth is documented by clay loom weights (Fig. 6: 11, 12, 14). They are typically poorly fired and are mostly found in fragments, making them difficult in some cases to distinguish from pieces of burnt daub. Numerous finds of weights from lowland settlements, farmsteads and hillforts testify that domestic weaving was a common work activity performed everywhere. Although the places where weaving was performed cannot usually be positively identified, they are assumed to be dwellings or possibly combined dwelling and production structures. Sunken feature 117 in Praha-Hloubětín contained at least sixty-seven loom weights showing varying degrees of firing. The weights were reportedly found in the hearth in the corner; the hearth was interpreted as some type of combustion structure and the whole feature as a workshop for producing the weights (*Soudský 1955*, 196, Fig. 100–101; loom weight description: *Sedláček*, Z.: find report no. 2111/04 in the Archive of the Institute of Archaeology in Prague). This interpretation does not seem very plausible; instead, the artefacts probably represented an accumulation of finished weights that were either being stored or were the remains of a loom. It should be pointed out that a Knovíz culture settlement also existed at the site and that the dating of the weights to the late Hallstatt period is based on the type of feature in which the weights were found and the formal qualities of the artefacts. An accumulation of at least fourteen intact pyramidal weights was found in hut IV at the Planá-Radná hillfort. A total of eleven weights and their parts were found on the floor of an above-ground settlement feature at the hillfort of Podražnice (*Čujanová-Jílková 1998*, 210, Fig. 5: 5). A conspicuous concentration of broken weights was found at the Svržno hillfort beneath the stones of the rampart destruction on the inner side of the fortification, to which a post-built house was attached (*Chytráček 2006*).

The weights have the typical shape of a truncated pyramid with a square base, in rare cases cylindrical (Němětice) or conical (Hostomice). Special forms include flat weights with three perforations (Planá-Radná), flat weights with a rectangular base and a perforation in the narrower side (Praha-Hloubětín, feature 117) and weights with an engraved cross on the back (Vladař hillfort; Praha-Bohnice, feature 14: *Fridrichová 1986*, Fig. 16: 1).

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Weaving on a vertical loom and the use of similar weights is documented from the Bronze Age. Finds from the beginning of the Hallstatt period from Burgstallkogel near Kleinklein in Austria, where at least eighty weights were discovered in what was perhaps their original position, were used to reconstruct the width of the local loom at 370 cm, a size that could pro-

duce cloth with a width of 310 cm (*Dobiat 1990, 50–60*). Although this case is extreme, it raises questions on the type of textiles produced, which need not have been used only to make clothing. Cloth was also used as decoration in the funerary context (as was found in a chamber grave in Hochdorf in Baden-Württemberg). Signs or fingerprints on weights could mark ownership,

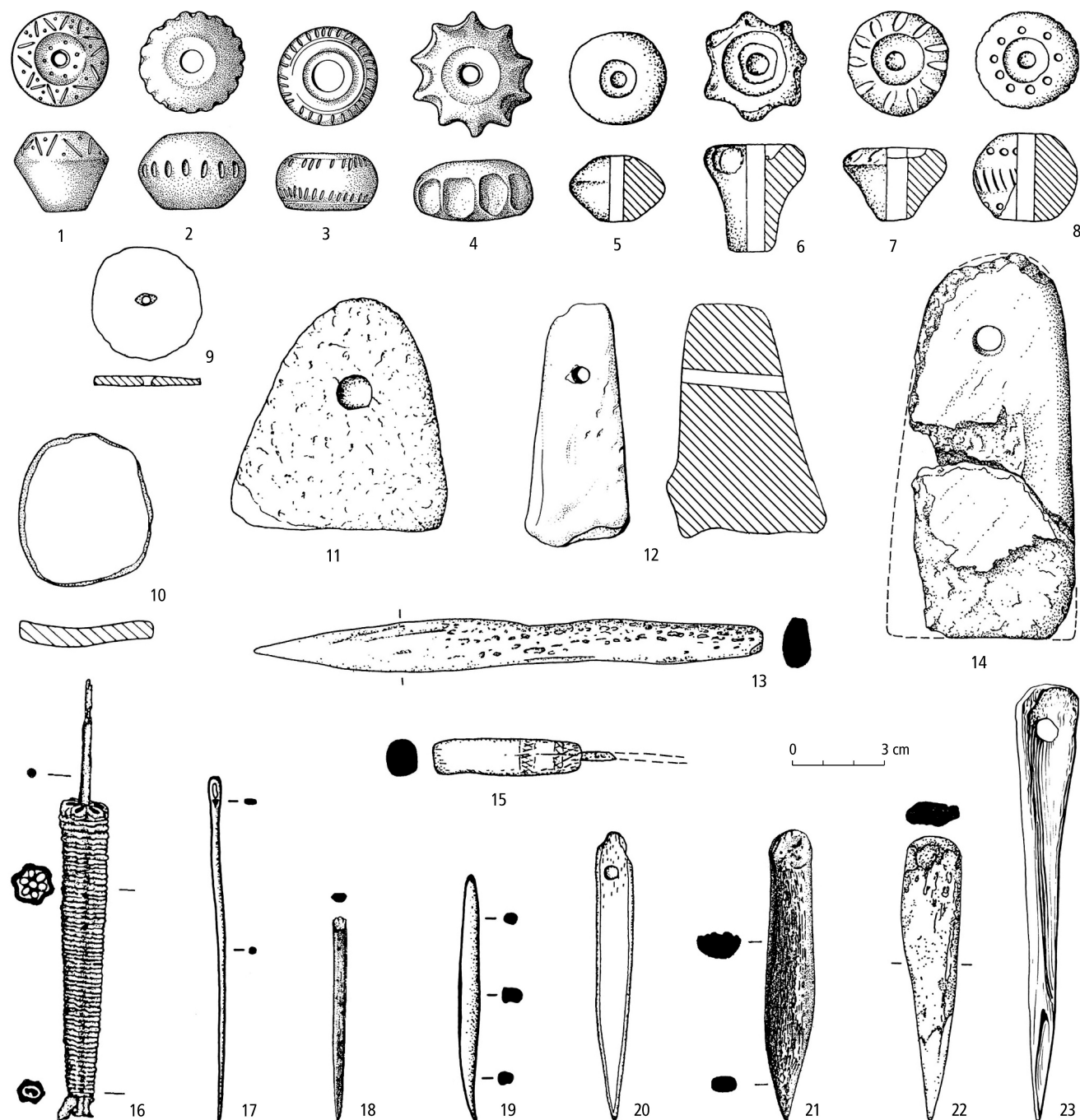


Fig. 6: Textile production. 1–8 spindle whorls; 9 spindle whorl (?) cut from a sherd; 10 disc cut from a sherd; 11, 12, 14 loom weights; 13, 15, 18–23 awls; 16 needle holder; 17 needle. 1–12, 14 clay; 13, 18–23 bone and antler; 15 bone and iron; 16, 17 bronze. 1–4, 14 Némětice (Strakonice district); 5–8, 11, 15, 20 Hostomice (Teplice district); 9, 10, 17, 19 Cerhenice (Kolín district); 12, 23 Planá-Radná (Plzeň-sever district); 13, 22 Radovesice (Teplice district); 16 Bylany (Kolín district); 18, 21 Praha-Stodůlky. After *Budinský 1997; Koutecký 2003a; Michálek – Lutovský 2000; Motyková – Čtverák 2006; Sedláček 1980; Saldová 1977; Waldhauser et al. 1993*.

the position of the weights on the loom or an ascribed ritual meaning. According to iconographic sources, weaving was an important female activity, even in the highest social classes (Bouzek 1997, Fig. 241; 2006).

Tablet-weaving was used to produce narrow bands of fabric (edging, tapes, etc.). Made of wood, few tablets have survived; nevertheless, a small number of finds from central Europe document this form of textile production (Grömer – Stöllner 2009). Based on Etruscan parallels, it is possible that two atypical iron blades found in a LT A sunken feature in Mikulovice in the Pardubice region could be related to weaving on a tablet (Sedláček – Sankot 2013).

Needles are related to the production and repair of clothing – in iron (Svržno, post-built house, Ha D2/3: Chytráček – Metlička 2004, Abb. 132: 5) or bronze (Fig. 6: 17); exceptionally small sewing needles found at Závist were mentioned above. Needle holders were used (Fig. 6: 16). While the number of awls made from iron was increasing in this period, the majority of them were made from bone or antler (Fig. 6: 13, 15, 18–25). Sporadic finds of shears may also be connected with textile production (Sankot 1999, Abb. 1: 8).

6.2.3 Stone working

Stone was used to produce numerous portable artefacts, from tools to ornaments and sculpture. In addition to extraction from quarries, stone was also acquired through gathering, including from river sediments.

A wide range of stone was used to make milling devices. The majority of grinding stones were made from local stone (e.g. Štítary nad Radbuzou-Hostětice, Planá-Radná, Němčice). The specific sources of materials are known in several cases (for northwest Bohemia in Ha D to LT A: Holodňák – Mag 1999, Tab. 7, 8). The exploitation of quartz porphyry from the Velké Žernoseky-Oparno deposit is documented; the rock was used in LT A to produce grinding stones, which were then distributed over distances of up to several dozen kilometres. The most distant site at which the material was found was the settlement in Soběsuky (50 km), possibly suggesting specialised production, not just domestic manufacturing. The quartz porphyry was the same material used to produce other types of milling devices in the later La Tène period. Local stone was apparently also used to make the two-part “Greek” (Olynth type) quernstones, which were probably introduced in LT A (Fröhlich – Waldhauser 1989).

Hammer stones for various purposes were often made from cobblestones. With only a few exceptions, whetstones were made from local quartz, sandstone and similar rocks. An unfinished loaf-shaped spindle whorl of non-local marl found in a Ha D2–3 context at

the Závist hillfort (Jansová 1983a, 58, Fig. 11: 6) documents local working of untraditional material. The processing of mountain crystal is shown by a worked fragment with an unfinished perforation (pendant?) from the Svržno hillfort (Chytráček – Metlička 2004, 36, Bild 4).

Special evidence of stonework is sculpture, which is represented only by a stone head of debatable origin and two fragments of anthropomorphic sculptures from Závist (Jansová 1983b; Drda – Rybová 2008, 82–84, 123–24, Fig. 56: 7, 96–97; see Chapter 9.2).

6.2.4 Working of organic materials

Wood. The existence of wooden vehicles and the production of wooden wheels is indirectly documented by metal components (tyres and hub fittings of wheels, the metal parts of drawbars, etc.), in rare cases the wood itself (oak parts of a wagon were found in Hradenín). Harnessing is represented by wooden yokes; although wood remains have been found in a few cases, the yokes are indirectly indicated by leather coating and bronze fittings (sheet bronze and rivets). The existence of wooden sword scabbards is documented by their metal chapes. Skilled carpentry and sophisticated building techniques are reflected by timbers for construction, sometimes with traces of axe marks (Vladař hillfort), cut branches and sticks (charred, or negative prints in daub) used to build domestic and other structures, burial chambers and fortifications. Various finds document post construction (cf. Závist, south bailey, acropolis: Drda – Rybová 2008, Fig. 6, 17, 21, 58, 73–74, 77, 80), timber construction, wattle walls, *Blockbau* technique (Dolní Břežany, house 1/82: Fig. 67: 1: Drda – Rybová 1998, 73–74; Závist acropolis, sunken structure D: Drda – Rybová 2008, 36, 112, Fig. 33–35) and even a unique case of a timber-framed technique (Závist acropolis, structure V: Drda – Rybová 2008, 41–45, 121–22, Fig. 42–44; 88–91). Wood was also used to line wells and cisterns. The reservoir in the annexe of the Vladař hillfort featured a retaining wall more than one metre thick made of timber chambers with walls of worked oak beams stripped of their bark. The retaining wall filled with clay and stone was constructed using the timber *Blockbalken* technique (Chytráček et al. 2012; in press).

Woodworking tools included axes (Fig. 7: 2, 3) and chisels (Fig. 7: 1); axes are well represented, and some of these could also have been used as weapons. Keys, whether for doors or chests, document specialised joinery. Some other metal tools were intended for working with wood or other organic materials in a wide variety of crafts and domestic work (Fig. 7: 4–9). The existence of artefacts without metal parts that formed a stable component of the inventory, e.g. wooden vessels,

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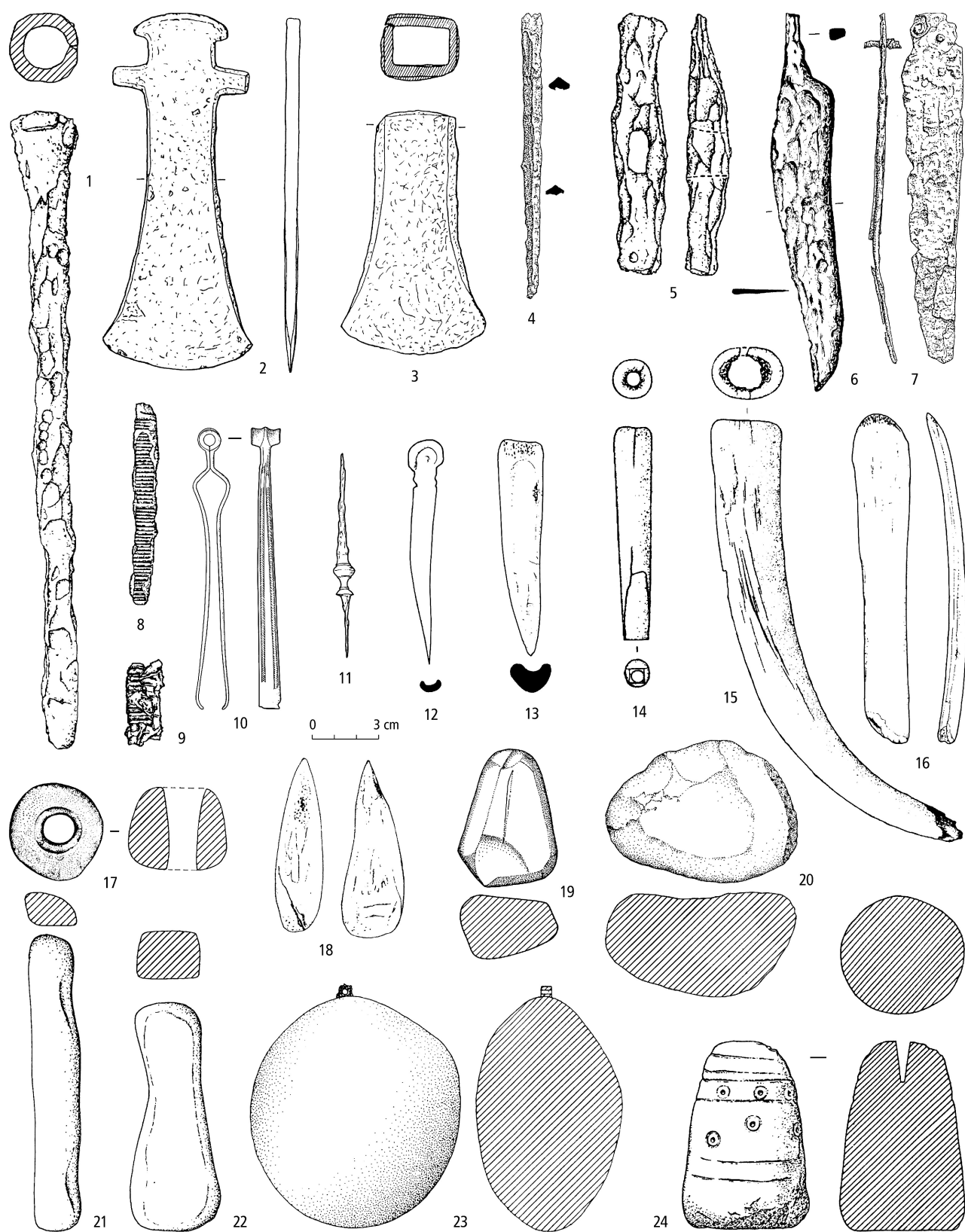


Fig. 7: Tools for various domestic and specialised production activities. 1 chisel; 2 winged axe; 3 socketed axe; 4 chisel; 5 hammer; 6, 7 knives; 8, 9 files; 10 tweezers; 11 stylus (?); 12–16, 18 points, handles, spatulas; 17, 23, 24 weights; 19, 21, 22 whetstones; 20 hammer stone. 1–9 iron; 10, 11 bronze; 12–16, 18 bone and antler; 17, 19–22, 24 stone; 23 stone and iron. 1, 5, 8, 9, 14, 15 Libčice nad Vltavou-Chýnov (Praha-západ district); 2, 3 Zlivice (Písek district); 4, 7 Svržno (Domažlice district); 6, 17 Poláky (Chomutov district); 10 Konobřez (Most district); 11–13, 16, 18 Jenštejn (Praha-východ district); 19, 20 Néměčice (Strakonice district); 21, 22 Hostomice (Teplice district); 23 Albrechtice-Sedlo (Klatovy district); 24 Unhošť (Kladno district). After Budinský 1997; Čížmář 1980; Dreslerová 1995a; Chytráček – Metlička 2004; Koutecký – Smrž 1991; Michálek 1972; Michálek – Lutovský 2000; Sankot 1994; Sankot – Vojtěchovská 2001.

tools, household furnishings, etc., must be assumed. Although preserved only in exceptional cases, the assortment of existing wooden artefacts can be reconstructed using finds from sites with exceptionally favourable conditions, such as the salt mines in Hallstatt (e.g. *Kern et al. /eds./ 2008*).

Antler, horn and bone. The working of antler, and less often the horn and bones of domestic animals, is well documented, especially in the late Hallstatt period. The end-products include awls, blades, smoothing tools and stamps for decorating pottery (Fig. 7: 12–16, 18), and also tool handles and other objects. Working traces on antler and bone artefacts and waste document cutting techniques employing saws and knives, as well as chopping, perforating and smoothing. Traces of the local working of horn come from a Bylany culture settlement feature in Praha-Kobylisy (*Fridrich 2005*, 685), and horn products are also known from the late Hallstatt period.

Leather. LT A shoes are documented in iconography. Shoes with a raised toe can be seen on the anthropomorphic fibula from Manětín-Hrádek (Fig. 81: 18), and a fibula from Hradiště near Kasejovice (Fig. 81: 11) is in the shape of a shoe. A stone pendant from Tuchoměřice, a clay vessel from Jíkev (*Schwappach 1967*, 320, Abb. 1: 1, 3) and a clay figurine from Praha-Pitkovice (*Trefný – Polišenský 2008*, 478, Fig. 3: 1) all take the form of a shoe. Saddlery is represented by straps from a horse harness (Mírkovice), the leather coating of a yoke and the remains of belts; indirect evidence of the leather used includes various metal discs, bosses and other parts of horse harness and belt clasps. Clay tuyères indicate the existence of leather bellows. The production of leather skins to transport liquids is also assumed. The occurrence of bronze and iron arrowheads and a rare find of bronze tip suggest the use of leather quivers (e.g. Závist, Chlum). Bone and iron awls and some iron knives were used to make leather artefacts.

6.3 SPECIALISED PRODUCTION

Specialised production does not serve to satisfy just the needs of the producer's family and community, but its products are intended for wider distribution; the number of producers is always substantially lower than the number of consumers. Specialised production, which resulted in goods used for exchange, required the mastery of demanding manufacturing technologies and the ability to organise work, secure raw materials and distribute the products; hence, specialised production is significant from both an economic and social perspective. Specialised production has many forms and degrees (summarized in *Venclová 1995; 2001; 2002*, with refs.). It is difficult to assume full-time specialisation in

the Hallstatt period, i.e. using the full capacity of the producer; however, if their existence is established, it could be considered in the case of itinerant craftsmen working on commission for the elite.

This chapter addresses specialised crafts documented in Bohemia in the Hallstatt period or whose existence can be justifiably considered, albeit often based on circumstantial evidence.

6.3.1 Iron production

Archaeology provides almost no evidence that the Hallstatt period population was familiar with iron ore deposits, despite the fact that iron smelting is assumed in Bohemia and elsewhere in Europe, in the late Hallstatt period at the latest. An accumulation of breccia-type rock found on the acropolis of the Závist hillfort with a relatively high content of iron was apparently the result of separation during the extraction of building stone at the end of the fifth or the beginning of the fourth century BC (Losert, report no. 8150/79 in the Archive of the Institute of Archaeology in Prague); it is unknown, however, whether this work was performed with an awareness that the rock was a potential source of iron. There is no evidence, though, of its use as an iron ore.

Although iron artefacts are common grave and settlement finds from Ha C, and many iron artefacts were certainly made locally, clear proof of the production of iron itself is unknown in Bohemia. Also noteworthy is the absence of any (dated) semiproducts, which are known in the form of bi-pyramidal ingots from neighbouring central European lands by the late Hallstatt period at the latest (*Pleiner 2000*, 26–28). Unfortunately, the lone find of an ingot of this type in Bohemia lacks a find context and typologically could belong at any time from Ha D to the late La Tène (Lužec nad Cidlinou: *Mangel 2012*). Therefore, iron artefacts were either imported and possibly only repaired or reworked locally (see Chapter 6.3.2), or bloomery workshops have not been identified thus far. The iron smelting mentioned at the late Hallstatt settlement in Praha-Hloubětín, an identification originally based on shallow, burnt pits and several pieces of slag (*Soudský 1955; Pleiner 1958*, 82–84), cannot be regarded as proven (a description of features and finds: Sedláček, report no. 2111/04 in the Archive of the Institute of Archaeology in Prague). Although a layer containing iron bloomery slag from Svatý Jan pod Skalou in the Beroun region contained LT A finds (*Venclová 1982*, 4–8), its dating is not certain due to the proximity of Roman period metallurgy components. The same is true for the Turnov - Maškovy zahrady site, where bloomery features exist together with the Ha D and Roman period component (*Prostředník 1996; 2001*). Bloomery slag in an occupation layer

associated exclusively with late Hallstatt settlement finds comes from Čakov in the České Budějovice region (*Chvojka 2002*); however, no production or any other types of features were found at the site.

However, only a very small number of bloomery workshops are reliably dated to the Hallstatt period in the immediate vicinity. Mentioned should be the shallow, probably domed furnaces in southwest Germany (Neuenbürg-Waldrennach: *Gassmann – Rösch – Wieland 2006*) or perhaps bowl furnaces in Upper Austria (Waschenberg: *Pleiner 2000*, with refs.); pit furnaces (?) were perhaps in operation in eastern Slovakia in this period (*Mirošayová 1995*). Information on Hallstatt period iron production in Europe was summarised by *Venclová (Venclová et al. 2008, 281–282)*.

6.3.2 Smithing

Smithing – the working of smelted iron into final products and repairing iron artefacts – is assumed on the basis of the existence of products regarded as local; nevertheless, features that may have served as smithies have not been positively identified to date. It is sometimes suggested that blacksmith's hearths were located in sunken houses, assuming they were not established there once the structure was abandoned (Praha-Stodůlky, sunken house 19, remains of a forge or furnace: *Motyková – Čtverák 2006, 454, 478, Fig. 21*). Smithing is documented at numerous sites, both by blowing equipment and waste – smithing slag. Stone blocks found in sunken features along with smithing slag are regarded as possible anvils (Tuchoměřice: *Soudská 1966, 542–544*). A conical tuyère and fragments of others, along with numerous pieces of smithing slag, were found in the farmstead at Štítary nad Radbuzou-Hostětice (Plate 5: 10). The tuyères from other sites (Němětice; Praha-Bohnice - Nad Podhořím) could naturally have served for other production activities such as bronze metallurgy. Associated finds of smithing slag and evidence for bronze metallurgy repeatedly occur together (see *below*).

Smithing slag identified by metallographic analyses is known from the Mediterranean and central European sites, including Bavaria (*Pleiner 2006, 114–15*). Metallography has also determined the use of sophisticated smithing operations, such as the tempering of the steel edge of a winged axe indicates (Březno - Ostrý Hill: *Hošek – Smrž – Šilhová 2007*).

6.3.3 Bronze metallurgy

It is assumed that, besides the Alpine and other European sources, the raw materials for the production of bronze – mainly copper and tin – could also have come from the Krušné Hory (*Erzgebirge*); nevertheless, di-

rect evidence for this hypothesis is not available (*Bouzek – Koutecký – Simon 1989; Waldhauser 1986*). One of the few pieces of evidence is the find of a poly-metallic ore containing copper, lead and other elements in the LT A context in Radovesice (*Krutský 1993*). Some scholars suggest that the location of some hillforts was related, among other reasons, to control copper and tin sources (e.g. the Svržno hillfort in west Bohemia: *Chytráček – Metlička 2004, 100–122*). Certain hammer stones were perhaps used to extract and crush ore.

Sunken features in residential areas in which clay crucibles were found are often interpreted as bronze metallurgy workshops; in some cases the crucibles contained drops of bronze or were also accompanied by iron smithing slag and tuyères (Radovesice; Libochovice – a sunken house with more than thirty crucible fragments: *Motyková-Šneidrová 1959*; Tuchoměřice – hut 7/63 with fourteen crucibles: *Soudská 1966, 543, Fig. 25: 1–3, 5–7*); however, it has not been proven that production occurred directly in these features (further examples: *Budinský 1999, 208*). Noteworthy relics of casting, including clay tuyères, were recorded at the LT A settlement in Chržín (Fig. 8: 2, 5, 6, 8, 9). Rectangular feature 160 was interpreted as a bronze casting workshop. Twelve crucibles were found in the feature; the remains found in some of them were identified by chemical analysis as iron and bronze. Fragments of moulds made of hard fired clay, apparently from a plate or discoid shape, used in casting plain rings with the lost wax method (types R1, 2, 4, 7: *Drescher 2000, 197, Abb. 5; Chytráček 2007b, 494, Fig. 15, 16, 18; 2008, 644–70, Abb. 10, 11*) were an exceptional find. A fragment of a clay tuyère was found in the same feature.

The casting of non-ferrous metals perhaps accompanied blacksmith activities in aforementioned sunken house 19 in Praha-Stodůlky (*Motyková – Čtverák 2006, 454, 478*). The oblong hollow in a LT A sunken hut in Statenice was interpreted as a fragment of a furnace with a pit in front (*Vojtěchovská 2005*); the feature also contained pieces of solidified bronze and a clay casting ladle (Fig. 8: 10). A sunken house with a similar pit and a large stone (anvil?) from Kozinec, accompanied by finds of solidified bronze, a crucible and casting ladles, may also have been a metallurgy workshop (*Stolžová – Šulová 2011*). An assumed production area at the Závist hillfort provided numerous semi-finished forms and pieces of cut sheet metal, some with signs of filing (Fig. 8: 13–16), as well as a two-part crucible (*Jansová 1983a, 36–40, Fig. 5, 7, 11: 4; Motyková – Drda – Rybová 1984, 382–86*). The contents of a hoard from the late LT A hut 21 in Libčice nad Vltavou-Chýnov points to specialised work with metal. An iron hammer (Fig.

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8: 7) and fragments of several files (*Sankot – Vojtěchovská 2001*, 317–18, 321, Fig. 18.7.1–3, 5–11; *Sankot 2002a*, 99) could have been used by jewellers to work either iron or bronze. A smithing hammer was found at the Svržno hillfort (Fig. 8: 12).

Clay crucibles of pear-shaped, ovoid, boat-shaped or bowl-shaped forms come mainly from unenclosed lowland settlements (Libochovice: *Motyková-Šneidrová 1959*; other examples: *Waldhauser 1986*; Hostomice, Praha-Hloubětín, Chržín). Some of the discovered clay tuyères (see Chapter 6.3.2) could have been used in bronze metallurgy. Moulds for casting are

rare (a mould for casting rings: *Budinský 1999*, 210; Fig. 8: 11), probably a result of the fact that the majority of castings were made using the lost wax technique. A clay spoon-like artefact may also have been related to bronze metallurgy (Praha-Bohnice - Nad Podhořím, feature 12/68).

6.3.4 Gold working

Secondary occurrences of gold in the sands of rivers – the Otava, Vltava, Lužnice, Blanice, partially also the Sázava and Berounka and their tributaries (*Kudrnáč et*

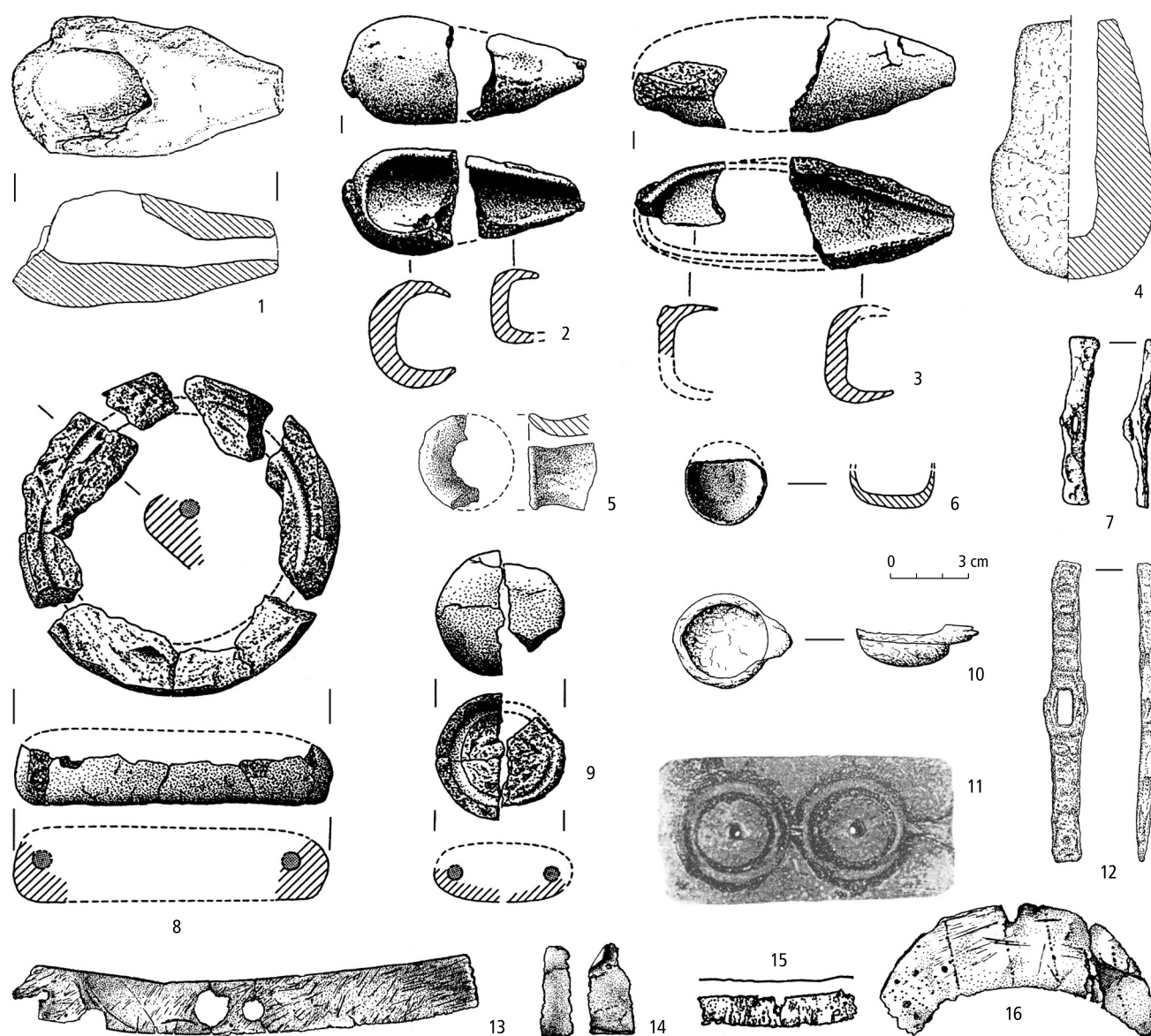


Fig. 8: Bronze metallurgy. 1, 5 tuyères; 2–4, 6 crucibles; 7, 12 chiselling hammers; 8, 9 fragments of lost wax moulds; 10 casting ladle; 11 casting mould; 13–16 semi-finished products. 1–6, 8–10 clay; 7, 12 iron; 11 stone; 13–16 bronze. 1 Štítary nad Radbuzou – Hostětice (Domažlice district); 2, 3, 5, 6, 8, 9 Chržín (Kladno district); 4 Hostomice (Teplice district); 7 Libčice nad Vltavou-Chýnov (Praha-západ district); 10 Statenice (Praha-západ district); 11 Libkovic – Mariánské Radčice (Most district); 12 Svržno (Domažlice district); 13–16 Závist (Lhota, Praha-západ district). After *Budinský 1968; 1997; 1999; Chytráček 1997; 2007b; Chytráček – Metlička 2004; Motyková – Drda – Rybová 1984; Sankot – Vojtěchovská 2001; Vojtěchovská 2005*.

al. 1997, 65–69; *Chytráček – Metlička 2004*, 100–122) – were probably exploited in the Hallstatt period. Although direct evidence of the mining and working of gold in Ha C to LT A is lacking, panning can be assumed since analyses indicate the local origin of part of gold artefacts that have been analysed (see *below*). A find of Hallstatt pottery in vast placer deposits near Černolice and Klíneč in the Praha-západ district was regarded as evidence of prospecting (*Kudrnáč 1982*, 466, Fig. 7). The gold from the local fluvial sediments of Neogene sandy gravel contains palladium, a metal of the platinum group (*Bernard 2001*, 122).

Analyses conducted so far indicate that the Ha C–LT A gold artefacts have a variable content of gold, silver and copper. Potential regional differences are observed when the content of pure gold in gold deposits in Bohemia is compared with the content of gold in products. Artefacts with particularly high gold contents correspond to the west Bohemian (up to 95 % Au), south Bohemian (up to 90 % Au) and central Bohemian (over 90 % Au) deposits of gold. In some cases it is also possible to recognise imports (two gold earrings from Hradiště near Písek with a low content of around 60 % Au; a ring from Droužkovice with 99.5 % Au; *Michálek 1997*, 199–204; *Michálek – Frána 1997*, 204–208). The recorded, but not preserved plain gold rings – possible ingots from the barrow at Hradiště near Písek (*Drda – Rybová 1998*, 46–47) – also suggest the possibility of an import (export?), unless the artefacts were in fact bracelets or armbands.

Very little gold was in circulation in Ha C to Ha D (the total weight of finds is 31 grams). Around 400 grams of gold is known thus far from LT A, of which approximately 370 grams alone is the weight of gold grave goods from the barrow at Hradiště near Písek.

Based on discovered gold artefacts, the following gold working techniques can be considered:

- a) the melting of gold grains and dust, sometimes along with older and damaged items, perhaps alloying with other metals;
- b) casting – the production of gold ingots or other artefacts in moulds;
- c) forging (the production of wire and sheet metal);
- d) hammering (creating individual artefacts);
- e) gilding or plating bronze or iron artefacts;
- f) inlays, soldering, etc.

6.3.5 Working of black materials

Various black materials were popular in western and central Europe for the symbolic meaning ascribed to the black colour beginning, at the latest, in the Bronze Age. The popularity of black ornaments, especially rings, peaked in the late Hallstatt period with the working of the posidonian shale (the so-called lignite) or jet in

workshops, for example, at the Heuneburg and the Dürrnberg, followed by the La Tène period with its industry of Kounov sapropelite – *švartna* or *Schwarte* (*Venclová 2001*, 119–122, with refs.). Made in a limited number of workshops for a large number of consumers, black ornaments were products of specialised manufacture.

Although the rare Hallstatt black artefacts (mostly bracelets) in Bohemia are typically imports (on the sources of materials for Hallstatt black rings in, among others, southern Germany: *Baron 2012*, with refs.), the material of some of them testifies to attempts at local imitations. The analysed material of bracelets from Dýšina and Nynice in west Bohemia is similar to the Nýřany and Radnice sapropelite from the Plzeň basin (*Venclová 2001*, 120, 388–89, with refs.). In contrast, the lone find of a core – a waste from the production of a bracelet made of the central Bohemian Kounov sapropelite, despite coming from the Ha D/LT A settlement layer in Hořtice in the Strakonice region, must be regarded as a later artefact, which could indicate activities in LT B2–C at the site (*Venclová 2001*, 342).

6.3.6 Amber working

The finds of raw amber of Baltic origin and finished products (mainly beads) made of the same material document the local production of amber artefacts. Production waste and semi-finished products served to identify a workshop at the Ha D settlement in Poříčany. The flotation of the fill of hut 1 produced a total of 56.8 g of amber in the form of raw amber, semi-finished products, finished and rejected small discoid and annular beads. Amber appeared as a raw material in the LT A feature 98/98 at the settlement in Tuchoměřice; numerous fragments of Baltic amber come from several features of the same date in Chržín (*Chytráček 2007b*, 496, Fig. 21; *2008*, 76, Abb. 15). The techniques employed were probably simple – cutting, perforating and polishing. The small number of workshops characterises this production as specialised. Evidence of amber imitation is a bead made of succinite – a local fossil resin (Kostelec near České Budějovice: unpublished analyses by C. W. Beck). Amber from the shores of the North Sea also reached Bohemia, as is documented by an analysis of a large bead from the Svržno hillfort (*Chytráček – Metlička 2004*, 36, Bild 4; *Chytráček 2007b*, 505); however, it is unknown whether the amber was also locally processed.

6.3.7 Specialised pottery production

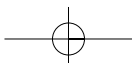
Fine LT A wheel-turned pottery, especially the so-called Braubach bowls and other forms, often with stamped and compass-drawn decoration, was apparently the product of a small number of workshops. *Ch.*



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Gosden (1984; 1987; 1993b) suggests the existence of perhaps three workshops producing mineralogically and decoratively distinct fine, wheel-turned pottery in northwest Bohemia, each with a distribution radius of 30–40 km; at the very least, one workshop existed for central, west and south Bohemia. Special production techniques were also used in these workshops to imi-

tate Greek red-figure pottery (*Třešný et al. 2011; 2012a, 156, Fig. 7*). Some finds from east Bohemia (a bowl from Neznášov, Náchod district: *Hložek 2003*) could belong to another workshop. Production in workshops with large distribution areas did not serve only the needs of the producers, and can be classified as specialised production.



7 Hallstatt period, Ha C to Ha D1: culturally specific characteristics

The recognition of individual archaeological cultures in Bohemia in Ha C to Ha D1 is based on a research tradition stretching back more than a century (Fig. 9). The Hallstatt culture influence, or the adoption of the culture, naturally erased some of the social, economic, ritual and symbolic differences. While the Urnfield sphere, including the Billendorf and Silesian-Platěnice cultures, is relatively distinct from the West Hallstatt sphere with regard to the structure of settle-

ments, the burial rite and pottery, the same does not hold true for metal weapons, ornaments and other objects, or even symbolism. The Bylany and Hallstatt Tumulus cultures are so similar that they could be considered merely as cultural groups within the West Hallstatt zone. However, due to the existing archaeological tradition, the settlement and ritual activities and artefacts of all cultures from this period are treated separately.

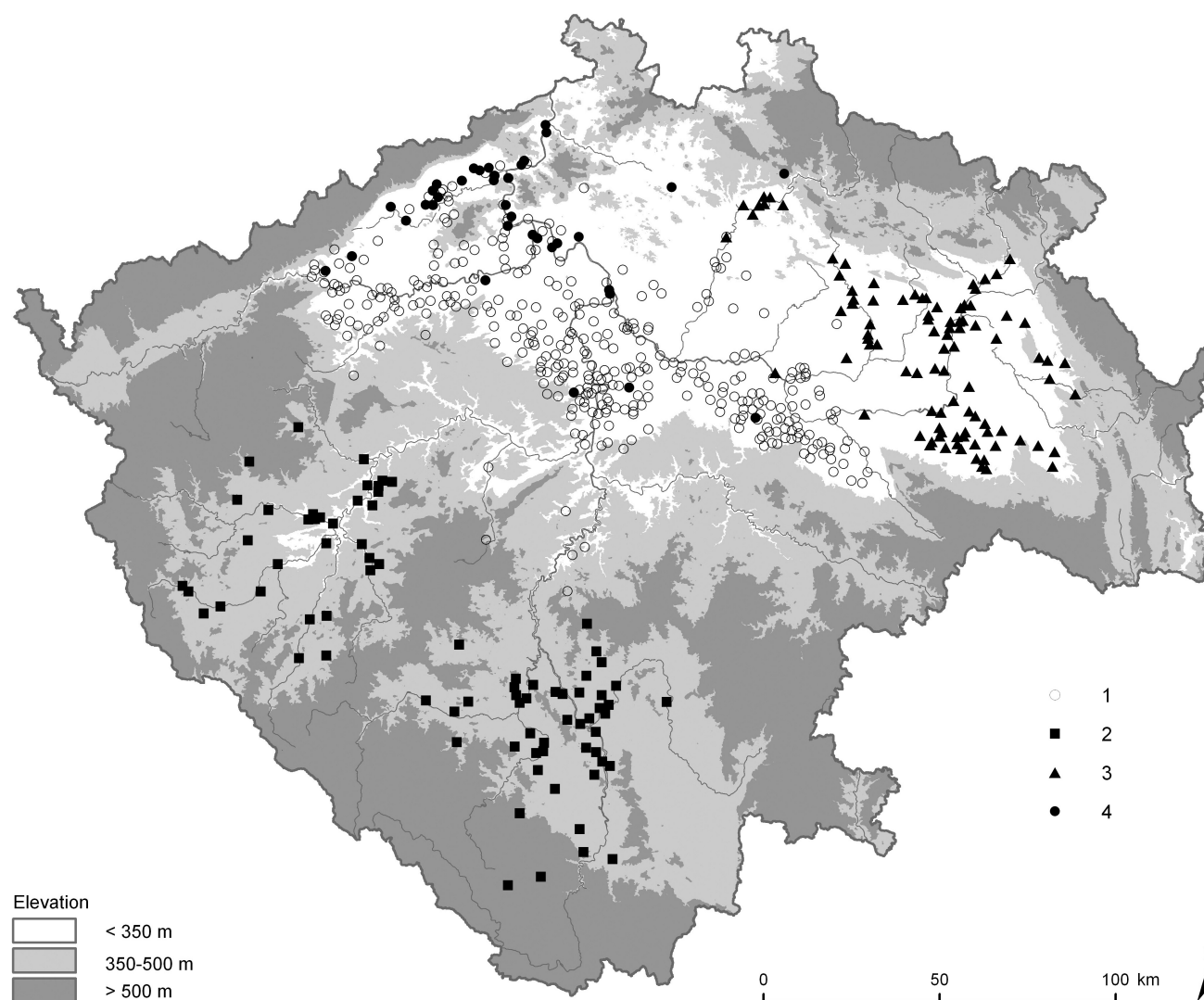


Fig. 9: The Ha C–D1 cultures in Bohemia (cadastral areas with finds of the relevant culture). 1 Bylany culture; 2 Hallstatt Tumulus culture; 3 Silesian-Platěnice culture; 4 Billendorf culture. Archive of the Institute of Archaeology in Prague, data revised and supplemented by D. Kouřecký, M. Chytráček, J. Michálek and V. Vokolek.

7.1 THE BYLANY CULTURE

Drahomír Koucký

7.1.1 Settled regions, density and continuity of settlement areas

Settlement in the period of the Bylany culture appears to have been more sparse than in the preceding Final Bronze Age; according to the information available today the number of Bylany cemeteries and settlements amount to approximately 60 % compared to those from the preceding Štítary culture. There were apparently multiple reasons for the sudden decline in the number of sites, which are found today in some three hundred cadastral areas (each of these areas could, though, contain more than one site); one possible explanation is climate change (see Chapter 5.1). Nevertheless, thought should be given to the question of whether this situation is only an illusion resulting, for example, from the inability, until recently, to distinguish Bylany settlement pottery from the pottery of other cultures such as Knovíz and Štítary, or even pottery of the Roman period.

Three spatial groupings can be identified in the Bylany culture (Fig. 9): the central Bohemian group (Prague and the surrounding area, with the Elbe as the northern border); the east-central Bohemian group (mainly the Český Brod, Kolín, Kutná Hora and Čáslav regions) and the northwest Bohemian group, which is further divided into the Ohře and Bělá regions. The border between the central and northwest Bohemian groups is not distinct. A sort of contact zone was formed between the Bylany and Billendorf cultures in the northwest Bohemia; individual Billendorf elements also appear in central Bohemia. The eastern border of the Bylany culture, i.e. with the Silesian-Platěnice culture, is vague, and finds of both cultures occur in the Kolín and Nymburk regions. The contact area between these two cultures is relatively wide. The Sedlčany region in the southern part of central Bohemia forms the border with the Hallstatt Tumulus culture. Some enclosed hilltop sites settled during the Bylany culture period are regarded as border locations (Dolánky-Rubín, Hradec near Kadaň).

For now settlement density can only be established using cemeteries. The distances between individual cemeteries in the well-investigated areas of northwest and central Bohemia are 1–4 km, in some cases only 400 m (Lovosice I and II).

Finds of transitional forms of pottery in Ha B3–C1 are interpreted as an expression of continuity between the Štítary and Bylany cultures (*Fridrichová 1969*). The continuity of settlement and burial from Ha C to Ha D2 or up to LT A is documented by several sites such as the Praha-Bubeneč or Praha-Dolní Liboc burial areas and the hilltop settlement of Hradec near Kadaň.

7.1.2 Forms of settlements

In addition to space for dwelling, settlements, or residential areas in a broader sense, also include spaces for other activities related to dwelling, either functionally or spatially. As storage, the handling of waste, domestic production and, to a certain extent, the acquisition of food (e.g. livestock stabling) are all related to dwelling, the spaces for these activities could have been part of a residential area. The residential area can overlap with areas for specialised production and even with ritual areas. Here, and in this volume as a whole, the term residential area designates an area in which activities related to dwelling were performed; naturally, a long list of other activities could also have been carried out in residential areas. Production activities (including subsistence and ritual activities) are discussed in another chapter of the book.

Since enclosing is a significant phenomenon in the structuring of space, be it for social, economic, military or ritual reasons, this element was chosen as decisive in classifying residential areas. Based on this criterion, a distinction can be made between enclosed and unenclosed lowland settlements, enclosed areas – farmsteads (lowland and hilltop), unenclosed hilltop areas and enclosed hilltop areas – hillforts. Not all of these settlement categories, however, have been identified in the Bylany culture.

7.1.2.1 Unenclosed lowland settlements

Unenclosed lowland settlements are the main form of settlement in the Bylany culture. From a topographical perspective, the areas are usually situated on a terrace, small height or slight slope; the distance from a watercourse does not exceed 500 m. Information on the interior layout of Bylany culture residential areas has increased in connection with modern archaeological excavation strategies, especially at sites where both negative features cut into the ground and the cultural layers above it are investigated (*Ernée 2008*). A unique discovery thus far is the incorporation of an enclosed area into the space of a settlement, as was recorded at the Ha C settlement in Praha-Miškovice: a 25 x 15 m area enclosed by a palisade trench (feature 506), interrupted at the entrance, contained a nine-post above-ground structure. This area, which could have held political or ritual importance (a meeting space, a guarded granary or tomb), has precise parallels at several other contemporary settlements in central Europe (*Trebsche 2011, 222–225, 258–260, Abb. 5, 12, 29, 30*). Further trenches found at this and other residential areas, both right-angled and curvilinear, indicate fencing or the enclosure of important spaces or buildings (Fig. 10). A 100 x 150 m oval area enclosed by a wooden fence was also discovered in Praha-Hostivař; inside it were post-built structures, while outside were located additional above-ground structures, small

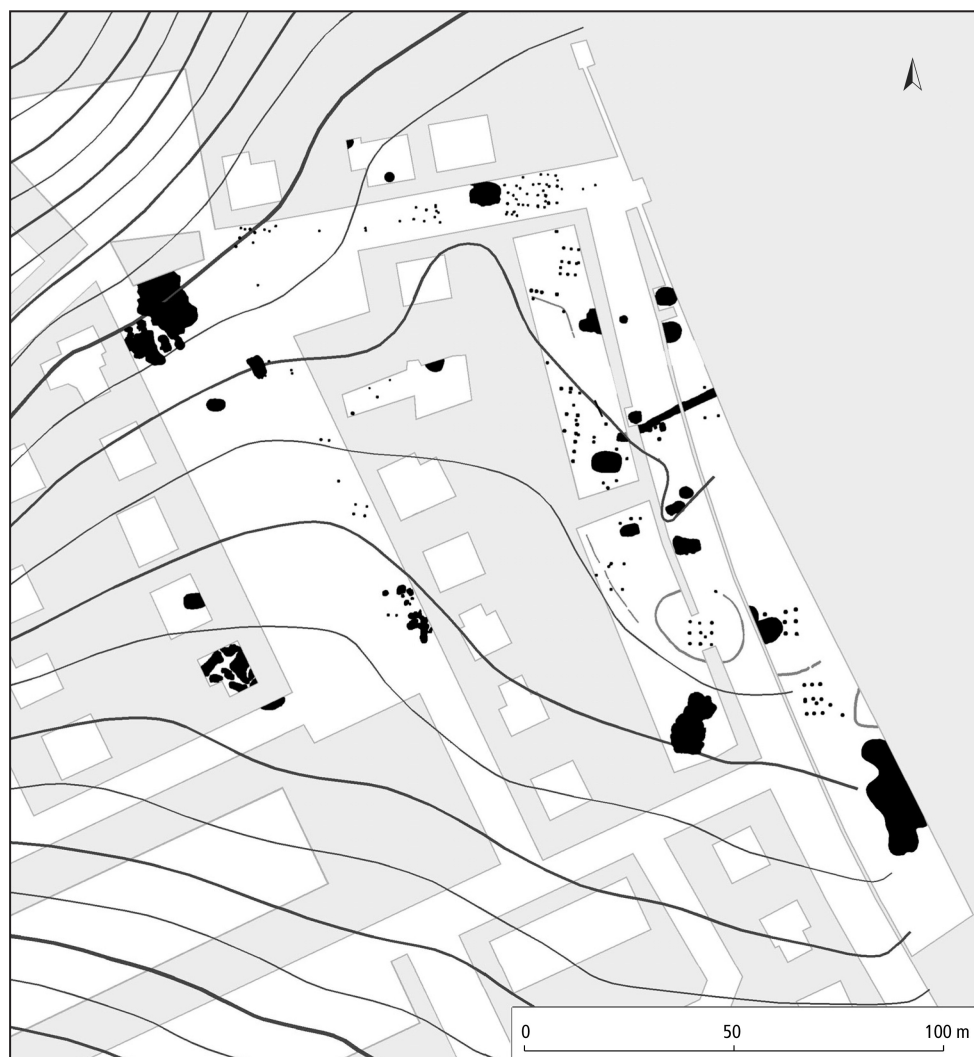


Fig. 10: The Bylany culture. Unenclosed lowland settlement in Praha-Miškovice. After *Ernée 2005*.

ovens and fences. An enclosed homestead apparently also existed on the site (*Veselá 2007; Ernée 2008, 45–47*). A more precise dating is not yet available for the palisade enclosure at the settlement in Poříčany, which was occupied from Ha C to LT A. However, groups of features that could be interpreted as individual homesteads still have not been identified at the settlements.

The settlements known thus far appear to be rural with domestic production (textile production, bone working, etc.), in rare cases with specialised production (smithing or bronze metallurgy).

7.1.2.2 Hilltop settlements

The existence of residential areas is documented at hilltop locations – on promontories and hills (Čáslav-Hrádek: *Šumberová 1996b, 701; Závist*). As information regarding these areas is fragmentary, the presumed absence of an enclosure has not been positively verified. The area (farmstead?) on a promontory in Praha-Bohnice – Nad Podhořím, the start of which perhaps

dates back to Ha D1 (*Fridrichová 1974*), was enclosed by a wooden palisade (Fig. 11). The Ha C2–D1 settlement, located on the Hradec near Kadaň promontory, was possibly not enclosed by a rampart until the following late Hallstatt period (Fig. 13). The same could be true for the hilltop site of Dolánky-Rubín. The occurrence of isolated Bylany culture artefacts at other hilltop sites has not been fully explained (*Libušín: Varadzin – Venclová 2007*).

A special category of elevated sites involves caves, the use of which is only documented by a small number of finds (Český Kras region: *Sklenář – Matoušek 1994, 128*) which need not necessarily be connected to the residential component.

7.1.3 Features in settlements

This chapter addresses only features with a probable connection to residential activities (dwelling, storage, domestic production). Features used for specialised production are discussed in Chapter 6.5.

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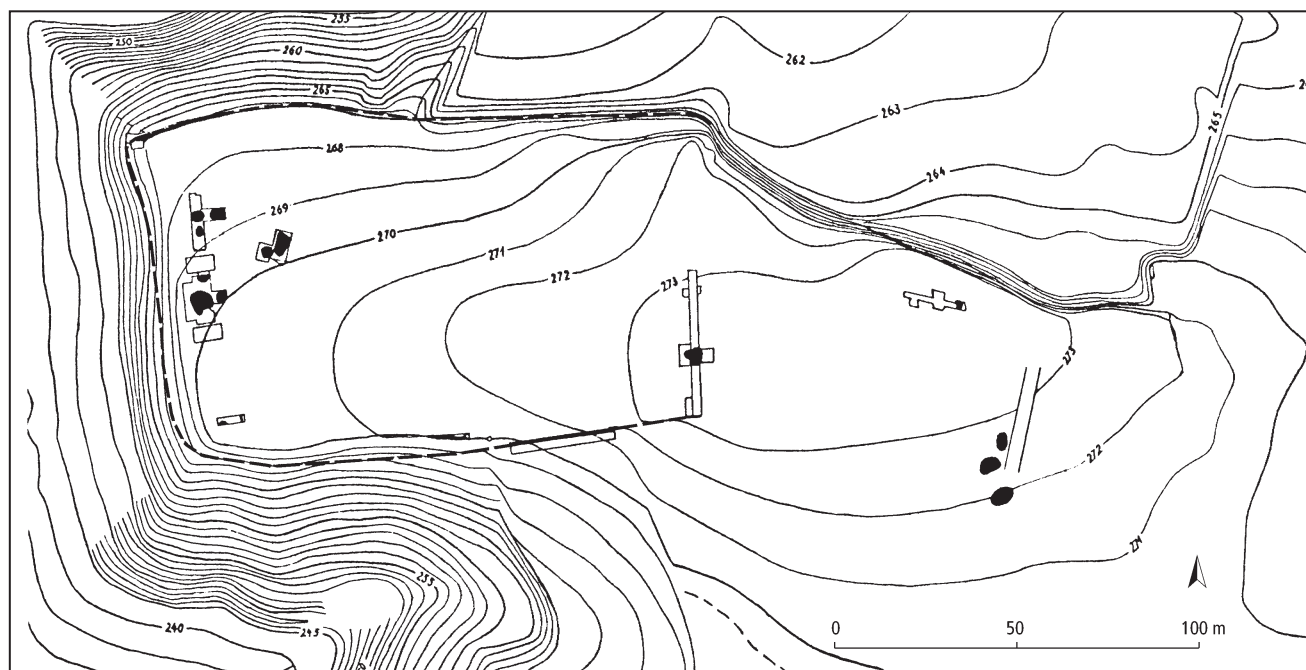


Fig. 11: The Bylany culture. Enclosed hilltop settlement site in Praha-Bohnice – Nad Podhořím. After *Fridrichová* 1974.

Sunken huts (*Grubenhäuser*). The largest number of sunken huts was discovered at the settlements in Praha-Miškovice (13) and Praha-Dolní/Horní Počernice (12). Features designated as sunken houses or huts usually have irregular ground plans almost square or rectangular with rounded corners; in other cases they are round or oval (Fig. 12: 1–2, 4–6; see *Trebsche* 2011, Abb. 9). Dimensions are in the range of 6–40 m², with the longest axis typically orientated in an E-W direction, with deviations to the north and south, as well as NW-SE. The ground plans sometimes contain post holes, in some cases on the axis of the feature, although usually along the short sides (Cerhenice feature 2/73) or, unusually, inside (Praha-Miškovice features 515, 1021, 1029), or around the outside (Praha-Dolní/Horní Počernice feature 156). The greatest number of smaller holes or a gully along the longer wall could be remains of interior furnishings (Praha-Dolní/Horní Počernice features 202 and 204). In some cases a hearth was found in the western half, or another part, of the feature; approximately half of the thirteen sunken features in Praha-Miškovice contained hearths (*Trebsche* 2011, 229–241). Part of a small oven lined with stones also occurred (Praha-Dolní/Horní Počernice). A sunken hut with thirteen post holes and three hearths was an exception (Praha-Dolní/Horní Počernice feature 125). Traces of a “bench” along the longer side of the feature were also discovered (Praha-Miškovice feature 1021). Querns or storage vessels

were found on the floor of the sunken huts in a number of cases (Praha-Dolní/Horní Počernice features 309, 310, 311). Finds of daub indicate the use of wattle and daub walls, which were perhaps also white-washed. Other fragments of burnt clay suggest that hearths were lined with clay and are proof of the construction of small ovens. A mixed residential/production function of the sunken huts is likely; the presence of hearths could indicate that they were lived in at least on a temporary basis.

Post-built structures. The site with the greatest number of post-built structures known so far is the settlement in Praha-Miškovice (*Trebsche* 2011, 226–229, Tab. 1). The structures can be divided into five types based on the layout of the posts: four-post square or rectangular structures, six-post, nine-post (Fig. 12: 7–10; Plate 2: 2) and extra-large structures. Standard structures at the Praha-Miškovice site had a maximum length of c. 7 m and an area between 3.6 and 28.1 m²; small structures had four posts in their corners, larger structures were composed of up to three rows of posts. Extra-large buildings with lengths of approximately 18 m and areas of 87 m² and 148 m² feature three rows of posts; the recess in one structure is regarded as an entrance. Structures of even greater length are also known. The ground plan of the largest above-ground house included a rectangular sunken structure interpreted as a cellar. Post-built structures were also investigated in residential areas in Praha-Dolní/Horní Počernice (*Mácalová – Frolík* 2011) and in Praha-Hostivař (*Veselá*

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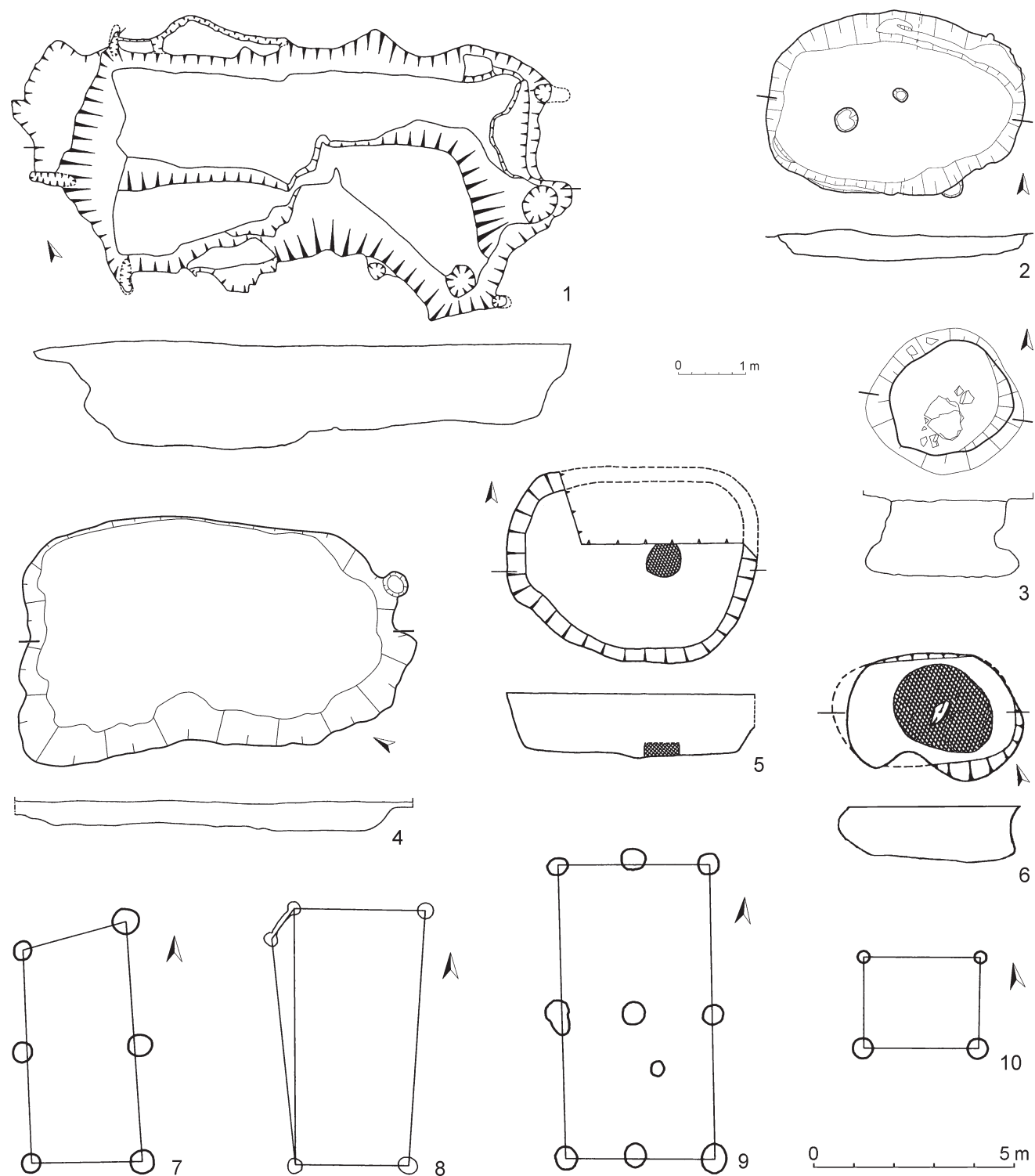


Fig. 12: The Bylany culture. Features in settlement sites. 1, 2, 4–6 sunken huts and pits; 3 storage pit; 7–10 post-built structures. 1 Cerhenice (Kolín district); 2–4, 7–10 Praha-Miškovice, 5 Čelákovice (Praha-východ district); 6 Hradenín (Kolín district). After Sedláček 1980; Trebsche 2011; Koutecký – Špaček 2004; Šaldová 1997.

2007; Ernée 2008, 45–47, Fig. 47). The interpretations of the structures range from granaries to dwellings. In several cases the large ground plans with 4 x 3 posts (a width of around 8 m, a length of up to 15 m) were

demarcated or enclosed by a rectangular gully (Čestlice feature 102/105: Trefný – Polišenský 2011, 340, Fig. 5; Kolín: Šumberová et al. 2012, 27, Fig. 37); however, their dating is not entirely clear.

Storage pits. The pits with a circular ground plan (a diameter of 100–200 cm) were conical or cylindrical (Fig. 12: 5). Those accompanied by 3–4 post holes could have been covered by a roof.

Clay pits. Large and irregular groups of pits are commonly interpreted as clay pits. The clay pits at the Praha-Miškovice site were located at the periphery of the built-up area.

Other pits. Pits of various shapes and sizes (Fig. 12: 2) the function of which cannot be identified also occur.

Heating structures. At the Praha-Hostivař site, heating structures were found in pits outside of above-ground structures (*Veselá 2007*).

7.1.4 Portable artefacts

7.1.4.1 Pottery

Vessels

From a morphological perspective, twelve basic types of Bylany culture vessels and a group of special forms have been identified, mainly based on grave finds.

1. Amphora-shaped storage vessel – two variants: a) thin and high forms; b) lower globular forms. Fig. 13: 1–5; Plate 4: 1.
2. Classic amphora: globular, low neck tapering toward the everted rim; the form is based on Štítary culture models. Fig. 13: 6–11.
3. Wide amphora: a form between a tureen and an amphora-shaped bowl; wide globular body, distinct neck, everted rim. Fig. 13: 12–14; Plate 4: 2.
4. Tureen: globular body with the maximum diameter in the upper third, a short neck tapering toward everted rim, in some cases with a small handle by the rim. Fig. 13: 15–18.
5. Amphora-shaped bowl – two variants: a) high (Fig. 13: 19–21); b) low (Fig. 13: 22–25; Plate 4: 3, 4).
6. Plate and plate-shaped bowl – four variants: a) a large, tiered plate with a distinct maximum diameter, an out-turned neck and an out-stretched rim (Fig. 13: 27); b) a large conical plate: similar to the previous form, but the maximum diameter merges with the neck; c) a short, flat conical plate with an out-stretched rim and a broad base (Fig. 13: 29); d) a plate-shaped open bowl with a rim that is reinforced inside and stretched out horizontally (Fig. 13: 26, 28).
7. Cup – four variants: a) an S-shaped cup with a slightly inverted or everted rim and a strap handle extending slightly above the rim (Fig. 13: 30, 31); b) an amphora-shaped cup with a handle extending above the rim (Fig. 13: 33, 35); c) a cup with a rounded body, a distinct, higher neck and a strap handle extending above the rim (Fig. 13: 32); d) an S-shaped cup with a pointed handle extending above the rim (Fig. 13: 34).

8. Jar – four variants: a) a barrel-shaped jar with a bulbous body, a tapered upper part, a rim slightly everted in some cases; this variant appears in two forms – higher and lower (Fig. 14: 2); b) a jar with a cordon or a row of depressions, in some cases with a handle, and a distinct, bulbous body; this variant appears in two forms – higher and lower (Fig. 14: 3–5); c) a broad, low jar, sometimes with a handle, projections or a row of depressions (Fig. 14: 1); d) a small, low jar with a roughened surface, sometimes called a ladle.

9. Situla and situla-shaped forms: a conical body with sharp shoulders below a slightly everted rim. The vessels are regarded as a clay imitation of bronze forms. Fig. 14: 6–11.

10. Footed vessels – two variants: a) on a hollow pedestal (Fig. 14: 12, 14); b) on three solid feet, in some cases with handles at the rim (Fig. 14: 13; Plate 4: 6).

11. Bowl and small bowl – four variants: a) an S-shaped bowl with an everted rim (Fig. 14: 15); b) a bowl with a rounded body (Fig. 14: 16; Plate 4: 5); c) a carinated bowl (Fig. 14: 17); d) a bowl with an inverted rim (Fig. 14: 18).

12. Special forms: amphora-shaped or bowl-shaped vessels with oblique fluting (Fig. 14: 19, 22) or horizontal fluting on the shoulders (Fig. 14: 20, 21). This category also includes double and triple vessels characteristic of the east-central Bohemian group.

Surface treatment and decoration. The surface of vessels is usually burnished or smoothed, roughened with an added layer of clay or treated with a spatula. White, yellow, black and red slips also occur. Decorative techniques include incision, relief decoration including impressions, graphite coating, burnishing and painting. Incision uses heavier as well as very fine lines. The most common relief element is a cordon on the shoulders of vessels, plain or with impressions, and in some cases lugs, grooves and dimples. Graphite coating is applied over large surfaces or is used only for decorative elements; burnished ornamentation is often applied on a graphite coated surface. Painting, which is typical, common and highly variable on Bylany culture pottery (Plate 5: 1–6), had its own development: black painting appears in Ha C1, red painting in Ha C2 and Ha C3 (black painting on a red base is especially characteristic) and yellow (ochre) paint is sometimes used in Ha C3. Painting disappears in Ha D1 and is replaced by graphite coating and fine incised decoration.

As is generally the case in the west Hallstatt zone, rich geometric decoration is typical. The basic decorative elements and motifs (*Koutecký 2001b*) are lines and groups of lines, gridded bands of fine lines, zigzag,

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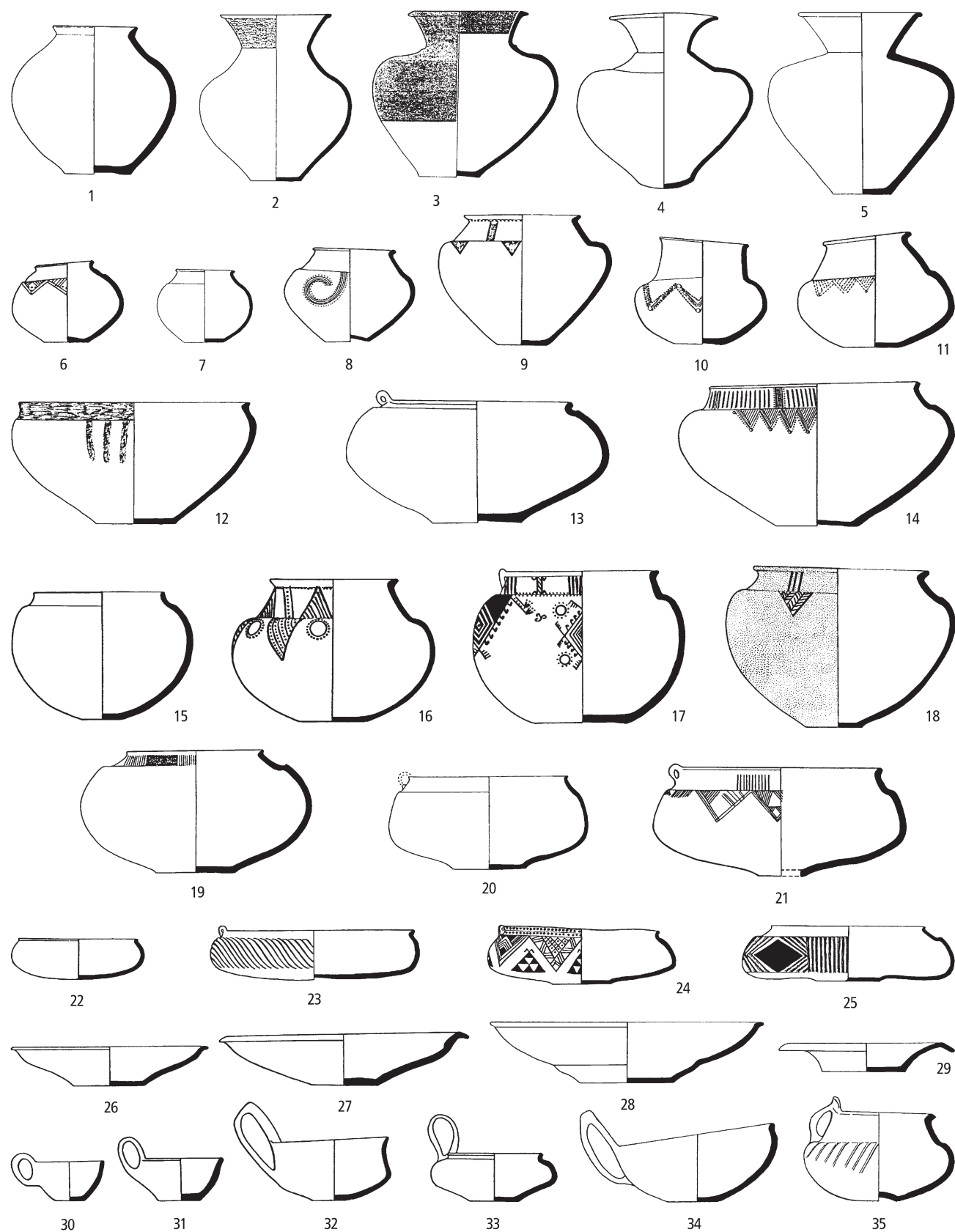


Fig. 13: The Bylany culture. Basic pottery forms. 1–5 amphora-shaped storage vessels; 6–11 classic amphorae; 12–14 broad amphorae; 15–18 tureens; 19–21 large globular amphora-shaped bowls; 22–25 low amphora-shaped bowls; 26–29 plates and plate-shaped bowls; 30–35 cups. After D. Koutecký.

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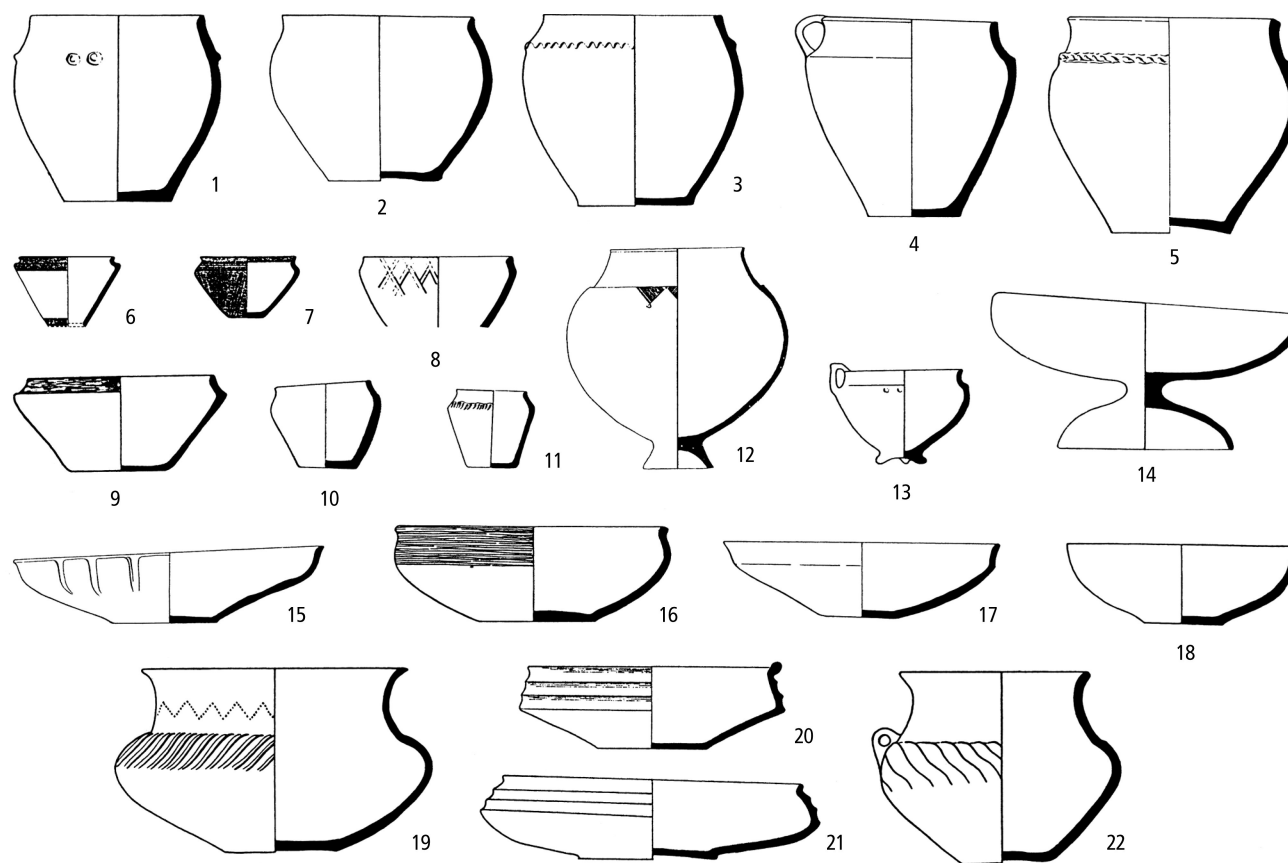


Fig. 14: The Bylany culture. Basic pottery forms. 1–5 jars; 6–11 situlae and situla-shaped forms; 12–14 vessels on feet or pedestal; 15–18 bowls and small bowls; 19–22 special forms. After D. Kouček.

wavy lines, stars, triangles, crosses, linear and curvilinear arrangement of strokes and dimples, including suns – rosettes (Fig. 15). Meander and garland motifs, regarded as more characteristic of Hallstatt Tumulus culture, also appear (Jiráň – Moucha 1992). Typical for both Bohemia and Moravia is the arrangement of triangles into a star-shaped pattern, especially on the inner surface of bowls (Fig. 16) and plates. Ornament is commonly composed in rows and bands, sometimes over the entire vessel. Despite being created from purely geometric elements, certain motifs could in fact be figural. Decoration was mostly applied to the outer sides of vessels, although frequently on the inside of bowls and plates.

Unlike settlement pottery, funerary pottery has been very poorly fired or even just dried; on the other hand, it is more heavily decorated. The technological and in some cases even ornamental differences between pottery in common use and pottery deposited in graves is also characteristic in this period for other cultures in the Hallstatt and Urnfield circuits, a custom that had carried over from the Late and Final Bronze Age.

Other clay artefacts

Round or pear-shaped rattles, in rare cases in the form of a water bird (Fig. 17: 2–4, 6), apparently served both as toys and as a ritual instrument (Fridrichová – Kouček – Slabina 1997, Fig. 27: 5–7, 28: 2). The same is true for small vessels with a spout (Fig. 17: 1). Clay figurines certainly served a special purpose (e.g. a horse figurine from Praha-Řeporyje: Fridrichová /ed./ et al. 1995, 197, 204, Fig. 126, and a fragment from perhaps a zoomorphic figurine from Praha – Dolní/Horní Počernice: Mácalová – Frolík 2011, 141, Fig. 5:1). The role of round clay discs, the centre of which features a projection reminiscent of ox horns or a crescent moon, is unclear. Although the term “moon idol” (*Mondidol*) is often used in archaeology for this artefact, J. Filip (1936–37, 35) used the more appropriate term “crescent object” (Fig. 17: 8). Other clay discs with an unknown function are plain (Fig. 17: 7) or decorated on one side or along the perimeter with depressions or finger-prints; discs with an off-centre perforation also occur (Sedláček 1980, 156). The assortment of clay objects includes modelled spindle whorls (see Chapter 6.2.2). Small discs were also cut out of sherds and were

perforated in some cases; they are regarded as spindle whorls or their semi-finished forms, as toys or ritual objects. A toothed disc from Čelákovice (Koutecký – Špaček 2004) is similar to artefacts from the Hallstatt period ritual area on Burkovák Hill near Nemějice in south Bohemia (Fig. 17: 5).

7.1.4.2 Iron and bronze

Iron and bronze were used to make weapons and tools, chariot and harness; personal ornaments and fasteners, vessels and other artefacts were made mainly of bronze.

Weapons and tools. Standing out among weapons is a long bronze or iron sword with a tongue-shaped handle (Fig. 18: 1) in a wooden or leather scabbard, from which a boat-shaped or winged chape survives (Fig. 18: 10–12). The occurrence of these types of chapes does not differ over time but rather regionally (Šaldová 1968, 372). A total of fifteen swords have been found thus far at ten Bylany culture cemeteries. Iron

spearheads (fourteen recorded today from eight cemeteries) occur in two variants: the earlier type has a leaf-shaped blade and a short socket (Fig. 18: 3, 4), the later type a slender blade and a long socket (Fig. 18: 2). Iron knives also appear in two variants: a short type with a maximum length of 25 cm is regarded as a tool (Fig. 18: 6), whereas the long type up to 50 cm could also have served as a weapon (Fig. 18: 5). Socketed axes (Fig. 18: 9) and winged (*Ärmchenbeil*) axes (Fig. 18: 8) made of bronze or iron could have served both functions. Warrior's gear included a belt with an iron hook (Fig. 18: 7) and perhaps other metal fittings, for holding a sword.

Wagons. A characteristic component of inventories from Hallstatt chamber graves of the Bylany and Hallstatt Tumulus cultures is a wooden four-wheeled wagon (Plate 3: 3), which appears mainly in Ha C1b–C2. The wagons are documented by iron tyres (Fig. 19: 1–3), linch pins with figure-eight, sickle-shaped, or plate-shaped heads (Fig. 19: 4–7), the metal fittings of

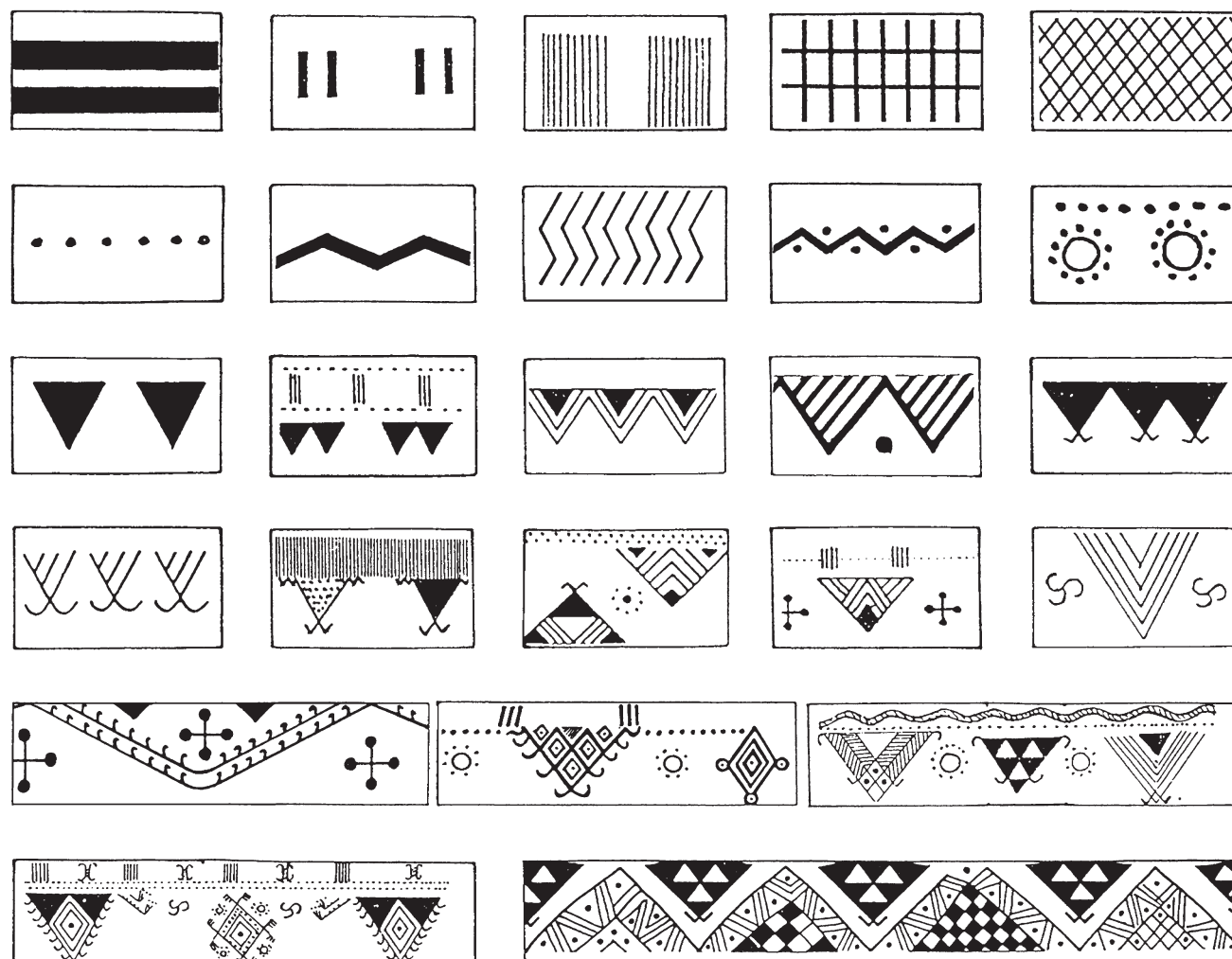


Fig. 15: The Bylany culture. Elements and motifs of pottery decoration. After Koutecký 2001b, revised.

THE EARLY IRON AGE - THE HALLSTATT PERIOD

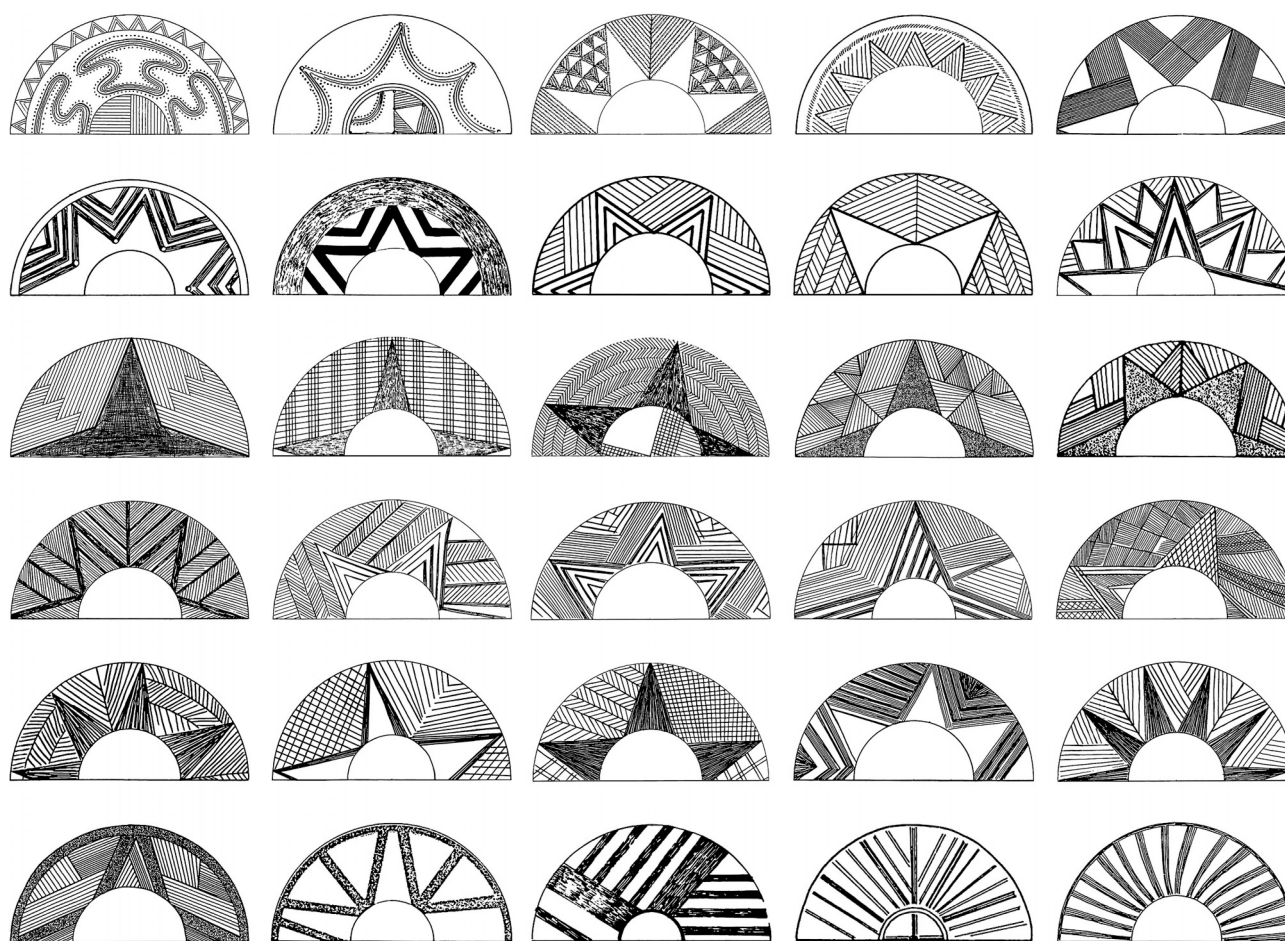


Fig. 16: The Bylany culture. Burnished and graphited decoration inside bowls. After D. Koutecký.

the wheel hubs (Fig. 19: 12–15), caps (Fig. 19: 8–11) and nails. Wheel diameters were over 80 cm, and the tyres were attached by numerous nails. Hub diameters were approximately 12 cm. Made primarily of planks, the dimension of the wagon bodies is estimated at approximately 2 x 1 m. Wagons were typically accompanied by a horse harness, in rare cases even a yoke.

Horse harness. Wooden yokes could be plain and undecorated (Ohrada near Kolín) or covered with leather or sheet bronze using rivets (Fig. 20: 1–4) in an ornamental arrangement (Hradenín graves 24 and 46, Plaňany grave 9, Lovosice; Praha-Bubeneč; Praha-Vinoř: *Fridrichová /ed./ et al. 1995, 205; Plate 7: 6*). Like the example in grave 47 in Hradenín, yokes could be decorated with bronze terrets made of twisted segments with sheet pendants.

Hallstatt horse harness was composed of a leather bridle (remnants of leather on metal buttons were preserved), a two-part bronze bit, usually with a braided or twisted body (Fig. 20: 5–9), B and D types according to *Ch. F. E. Pare (1999)*, later made of iron without decoration (Fig. 20: 13, 19). The bridle (halter) was

connected to the bit by means of iron rings and curved cheek pieces (Fig. 20: 13, 15, 19) or pegs (Fig. 20: 16, 17); horn or bone was an alternative material (Fig. 20: 18). Both ends of the two-part bits featured either a free iron ring or a link with two loops, a hook or a plate. Horse harness was decorated or connected by bronze open-work buttons, simple hemispherical buttons, slips, phalerae, bosses and rings (Fig. 20: 10–12, 14, 20–36).

Personal ornaments and fasteners. Personal ornaments and fasteners, made primarily of bronze, are represented by torcs, bracelets, anklets, fibulae, pins and beads. Torcs with a hook and eye can be decorated with groups of incised oblique lines or rings – stamps, or are undecorated (Fig. 21: 1, 2). Other ornaments include open bar bracelets with globular or seal-shaped ends decorated in the same manner as the torcs, or plain (Fig. 21: 7–11), bracelets with double ribs and simple wire bracelets. Occurring less often are sheet turban-shaped open bracelets with stamped decoration (Fig. 21: 16). Anklets are closed and open rings, plain, incised or with ribs (Fig. 21: 13–15).

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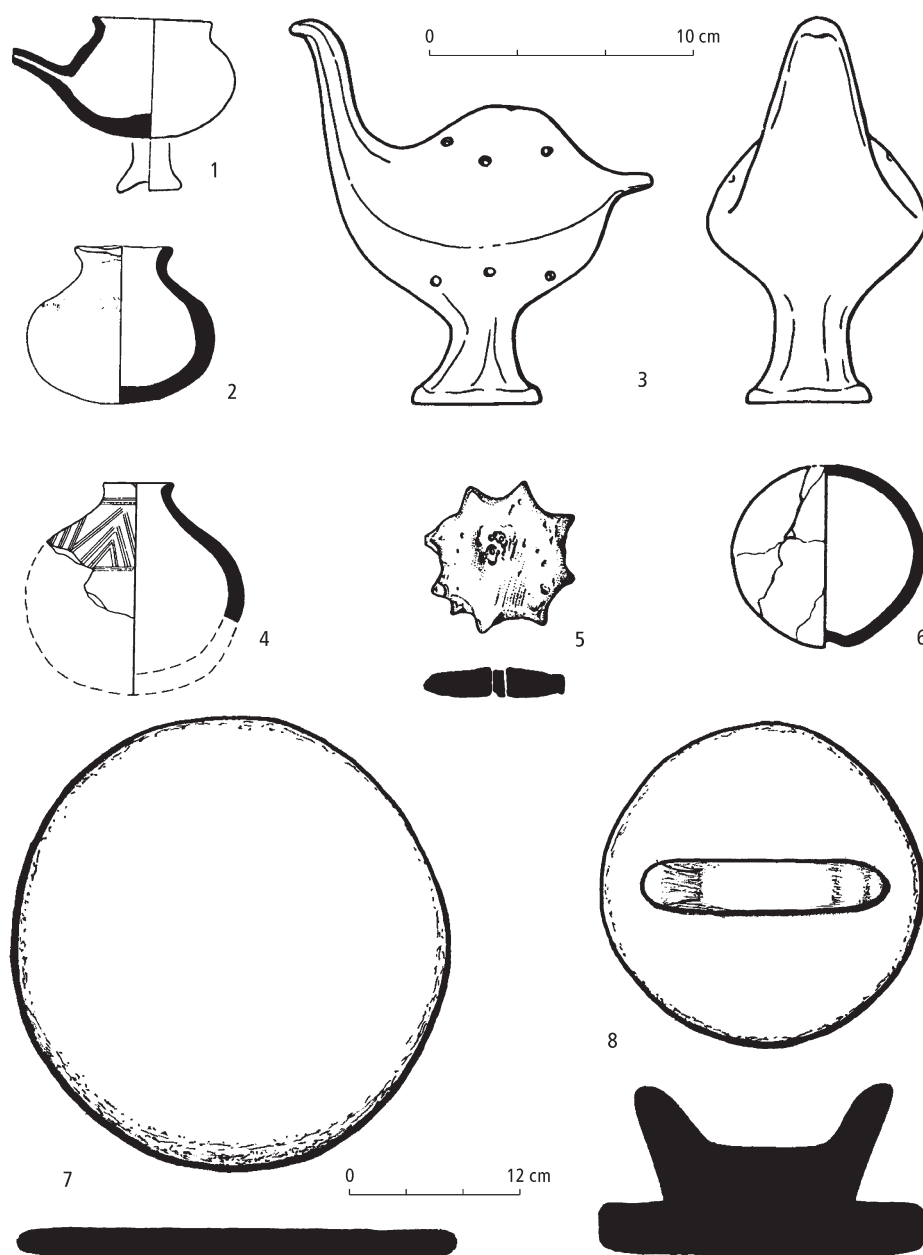


Fig. 17: The Bylany culture. Clay artefacts. 1 vessel with spout; 2–4, 6 rattles; 5 toothed disc; 7 disc; 8 disc with horn-shaped plate (*Mondíol* – “moon idol”). 1 Plaňany (Kolín district); 2, 4 Obříství (Mělník district); 3 Praha-Střešovice; 5 Čelákovice (Praha-východ district); 6 Poláky (Chomutov district); 7 Bylany (Kolín district); 8 Plaňany (Kolín district). After *Fridrichová – Koutecký – Slabina 1999; Koutecký 2003a; Koutecký – Smrž 1991; Koutecký – Spurný 1999; Koutecký – Špaček 2004.*

Characteristic among the small number of fibulae are spectacle fibulae (*Brillenfibel*) with a figure-eight coil typical for Ha C (Fig. 21: 17); harp and saddle fibulae (Fig. 21: 18, 19) appear in graves since the middle phase, boat-shaped fibulae (*Kahnfibel*) in the late middle phase of the Bylany culture, serpentine fibulae (Fig. 21: 20) in Ha D1. Pins, straight or swan-necked, with a globular or vase-shaped head, are relatively rare (Fig. 21: 3–6). Among others, bronze beads were parts of necklaces.

Bronze vessels. All bronze vessels were made of sheet joined by a folded seam and rivets; some vessels were equipped with cast handles. The following forms are known in the Bylany culture:

situla (Fig. 22: 1): tapered lower part, sharp shoulders, a rim folded outward (Rvenice: *Koutecký 1966; Praha-Vinoř: Fridrichová /ed./ et al. 1995, 186, 205*);

ribbed bucket: cylindrical form with horizontal ribs (Nebovidy: *Siegfried-Weiss 1991, 117*);

cauldron with cruciform handle attachments (Fig. 22: 7): concave base, rounded walls slightly in-turned under the rim, two handles with cruciform attachments (Nymburk: *Siegfried-Weiss 1991*);

small bowl (Fig. 22: 3): rounded body, distinct everted rim, vertical ribs and hammered dots (Praha-Střešovice);

ladle (Fig. 22: 4): rounded walls, oval mouth, curved handle with a hammered end (Praha-Střešovice);

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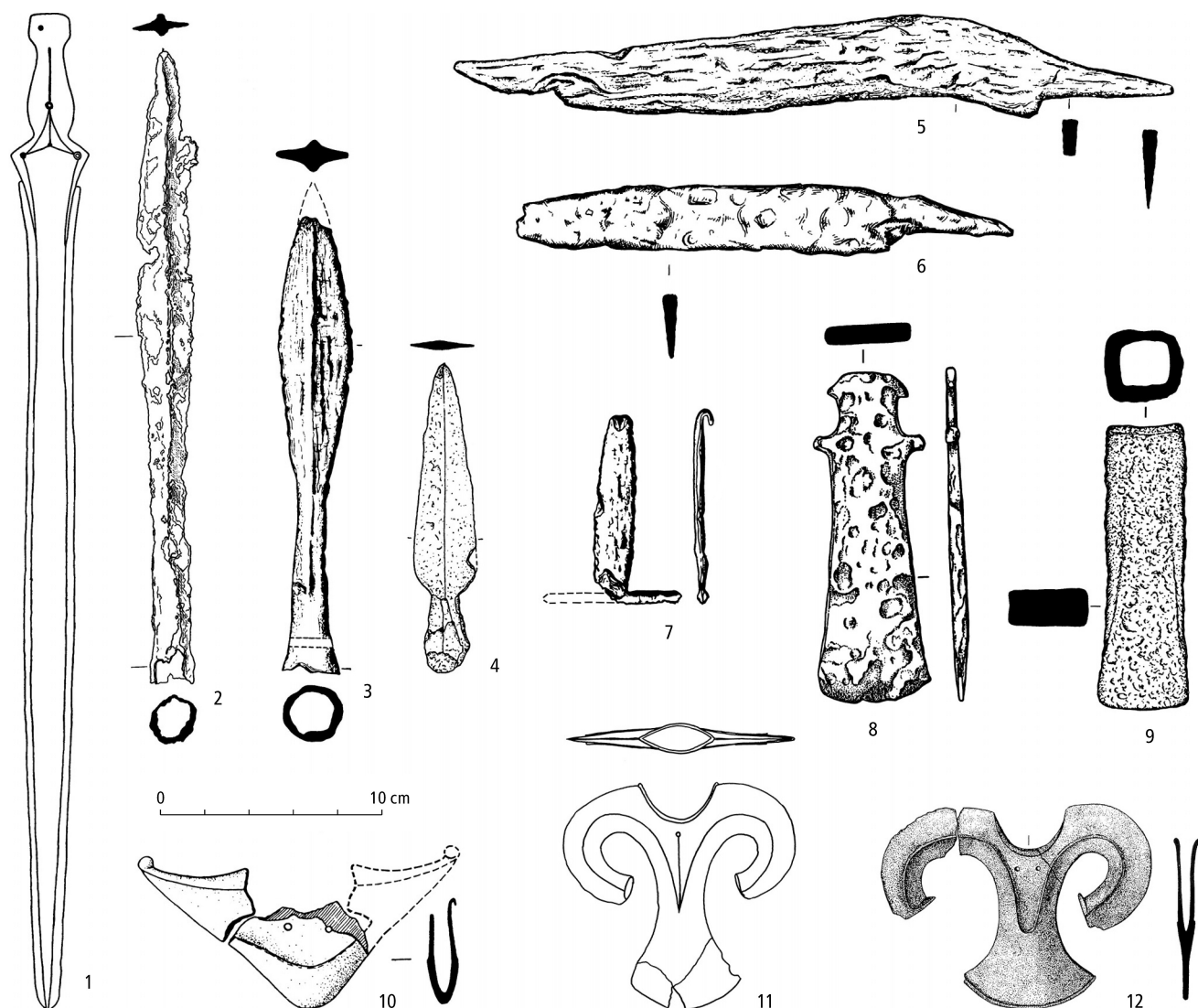


Fig. 18: The Bylany culture. Weapons, belts and tools. 1 sword with tongue-shaped hilt – reconstruction (c. 1 : 5); 2–4 spearheads; 5, 6 knives; 7 belt hook; 8, 9 axes; 10–12 scabbard chapes. 1, 10–12 bronze; others iron. 1, 11, 12 Plaňany (Kolín district); 2, 9 Hradenín (Kolín district); 3, 5, 7 Poláky (Chomutov district); 4 Libochovany (Litoměřice district); 6 Nová Ves I-Ohrada (Kolín district); 8 Březno (Litoměřice district), Ostrý hill; 10 Litoměřice (Litoměřice district). After Koutecký – Smrž 1991; Koutecký – Michálek 1978; Hošek – Smrž – Šilhová 2007; Zápotocký 1964; supplemented by D. Koutecký.

bowl (Fig. 22: 2, 6): low, rounded walls, horizontal beaded rim, Hohmichele type (Hradenín grave 28, Slatina: *Chytráček 2002a*);

plate (Fig. 22: 5): flat base, flat rim pulled outward and decorated with hammered dots, with handles (Slatina: *Chytráček 2002a*).

Other artefacts. Toiletry sets, tweezers (Bylany, Hradenín; Praha-Ďáblice: *Čtverák 2005*, 676; Fig. 21: 21, 22) and needle holders (Fig. 6: 16) appear in the middle phase of the Bylany culture. A bronze figurine perhaps depicting a horse and a dog and tweezers with attached zoomorphic figurine (Hradenín) are unique finds.

7.1.4.3 Gold

The small number of formally identifiable artefacts,

exclusively personal ornaments (see *Michálek – Frána 1997*, 199–200), include a gold torc made of twisted wire (Hradenín grave 40; Fig. 86: 19), a sheet metal band – most probably a torc (Vikletice grave 138/63–4; Fig. 86: 20) and small spirals, perhaps hair ornaments (Praha-Liboc grave 8, Bylany grave 41/1, Lovosice; Fig. 86: 1).

7.1.4.4 Glass

The only glass artefacts in the Bylany context (e.g. a grave from Záhoří, Louny district: *Venclová 1990*, 255; *Koutecký 2003b*, 116) are beads. The small number of finds could be a reflection of the field techniques employed (e.g. the absence of sieving). Smaller and larger rounded monochrome beads

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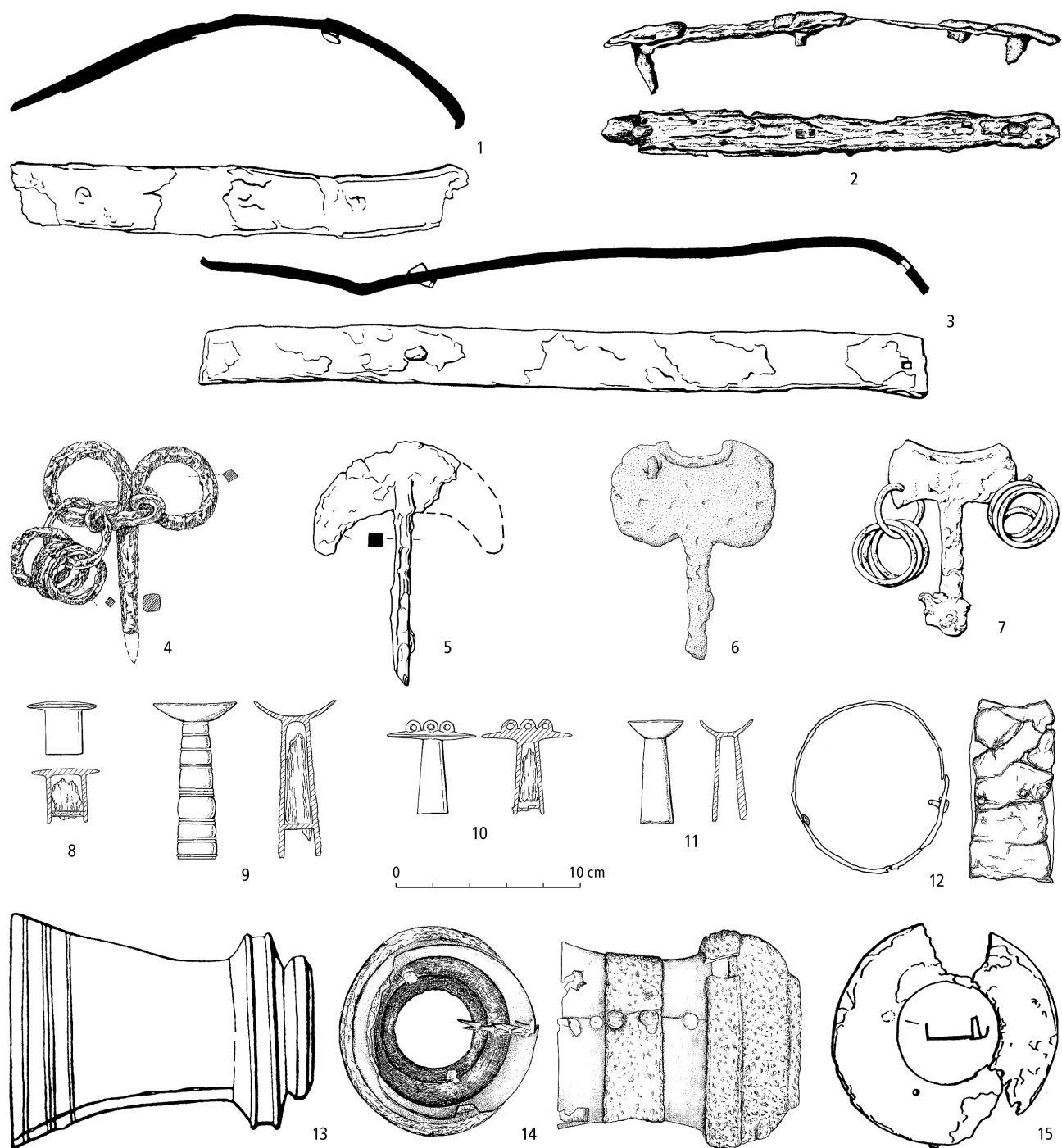


Fig. 19: The Bylany culture. Iron wagon components. 1–3 wheel tyres; 4–7 lynch pins; 8–11 terminals; 12–15 hub forgings. 1, 3, 5 Praha-Bubeneč; 2 Poláky (Chomutov district); 4 Rvenice (Louny district); 6–15 Hradenín (Kolín district). After *Fridrichová – Koutecký – Slabina 1996*; *Chytráček 2000*; *Koutecký – Smrž 1991*; *Koutecký 2003b*; supplemented by D. Koutecký.

made of translucent or opaque blue or light green glass occur (Fig. 21: 24–28), types 126, 130, 132, 134 after *N. Venclová (1990)*. Noteworthy is a spindle-shaped bead made of black glass with white combed decoration (Fig. 21: 25), type 715, first appearing in Ha C (*Venclová 1990*). Glass beads were combined with bronze and amber beads in necklaces. With a

probable origin in the Adriatic, glass beads are not very common finds in the whole of central Europe during the Hallstatt period, a situation that cannot be ascribed only to their poor preservation, for example as a result of the cremation rite, since cremation graves in the following late Hallstatt period contain far greater numbers of beads.

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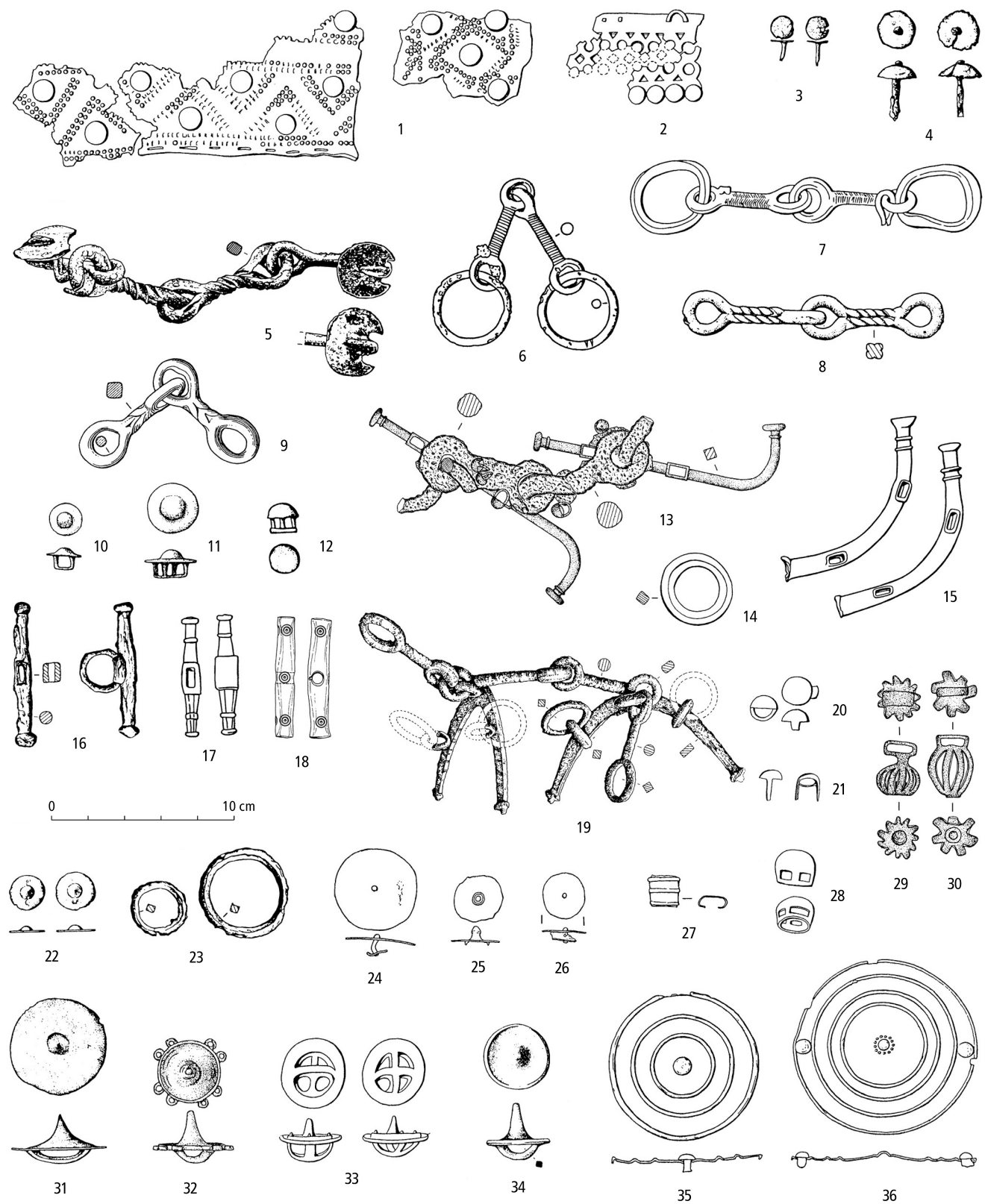


Fig. 20: The Bylany and Hallstatt Tumulus cultures. Horse hitch and harness. 1, 2 yoke fittings; 3, 4 nails (from yoke?); 5–9, 13, 19 bridles and bits; 10–12, 14, 20–34 bosses, slips, rings, harness rivets; 15 bridle cheek-pieces; 16–18 pegs; 35, 36 phalerae. 1–3, 7–12, 14, 15, 17, 20–22, 24–36 bronze; 4, 6, 13 bronze and iron; 5, 16, 19, 23 iron; 18 bone. 1, 2, 15, 17, 20, 21, 28, 33 Dýšina (Plzeň-sever district); 3–5, 8, 12, 16, 22, 23, 31 Poláky (Chomutov district); 6 Račíněves (Litoměřice district); 7, 14 Kyšice (Plzeň-sever district), 9 Poboří (Kolín district), 10, 11 Nehvizdy-Nehvizdky (Praha-východ district); 13, 24–27, 29, 30, 35, 36 Hradenín (Kolín district); 18 Třebovle (Kolín district); 19 Plaňany (Kolín district); 32 Bylany (Kolín district); 34 Praha-Střešovice. After Fridrichová – Koutecký – Slabina 1999; Chytráček 2000; Koutecký 2000a; 2003a; Koutecký – Smrž 1991; Koutecký – Špaček 1982; Šaldová 1968.

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7.1.4.5 Black materials

Plain black bracelets (Bylany grave 41, Hradenín grave 28) were made of Posidonian shale (so-called "lignite") originating in southwest Germany or Alsace

(Rochna 1962, 77; Venclová 2001, 120, 388–89), others (Hradenín hut 8, Praha-Petrovice; Fig. 21: 12) of bituminous shale of an unknown origin (Venclová 2001, 120, 388–89, with refs.). As such, the artefacts were not

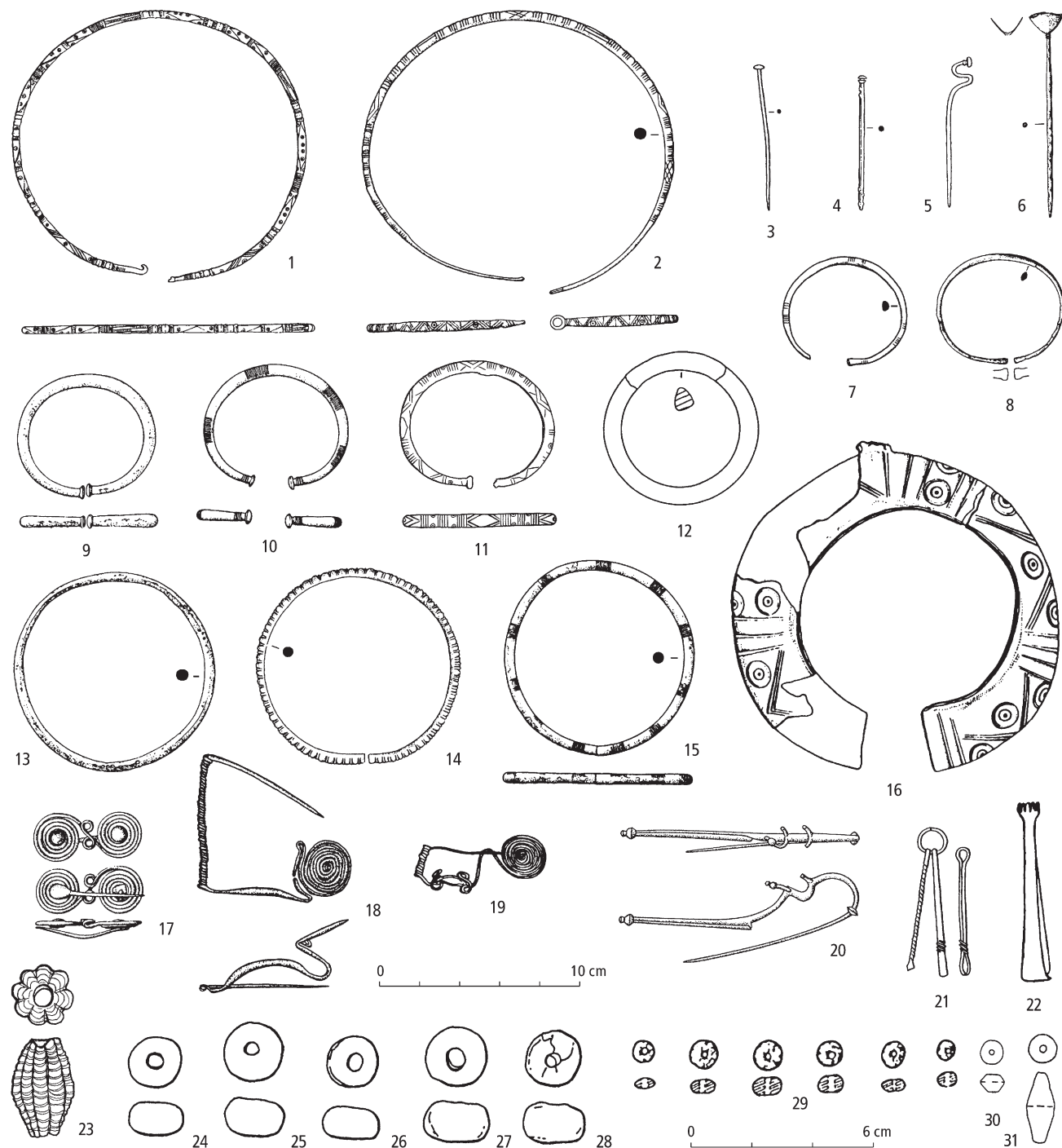


Fig. 21: The Bylany culture. Ornaments, fasteners and toiletry items. 1, 2 torcs; 3–6 pins; 7–12 bracelets; 13–15 anklets; 16 turban-ring; 17–20 fibulae; 21, 22 toiletry items; 23–31 beads. 1–11, 13–22 bronze; 12 bituminous shale; 23–28 glass; 29–31 amber. 1 Vikletice (Chomutov district); 2, 6, 9, 10, 13, 15, 29 Poláky (Chomutov district); 3, 21 Praha-Modřany; 4 Poboří (Kolín district); 5 Třebívlice (Litoměřice district); 7 Praha-Lysolaje; 8, 17 Praha-Střešovice; 11 Sadská (Nymburk district); 12 Hradenín (Kolín district); 14 Nehvizdy-Nehvizdky (Praha-východ district); 16 Praha-Bubeneč; 18 Kutná Hora (Kutná Hora district); 19 Poděbrady (Nymburk district); 20 Mochov (Praha-východ district); 22 Čížkovice (Litoměřice district); 23 Velká Černoc (Louny district); 24–28 Žatec-Záhoří (Louny district); 30–31 Bylany (Kolín district). After Koutecký 1988a; 2003b; Koutecký – Smrž 1991; Fridrichová – Koutecký – Slabina 1999; Zápotocký 1964; Fridrichová – Koutecký – Slabina 1996; 1997; Koutecký – Špaček 1982; Šumberová 1996a; Venclová 1990; supplemented by D. Koutecký, J. Špaček and N. Venclová.

made of the Kounov spropelite used for the much later La Tène rings, and probably were not local products.

7.1.4.6 Stone

Stone was used to make grinding stones and rubbers, which have been found so far only in fragments. Whetstones and stones with traces of crushing are commonly found. A perforated globular object (Poláky grave 8; Fig. 7: 17) with parallels in the Silesian-Platěnice culture is an exceptional find; it could represent a Corded Ware mace that was intentionally collected. A stone cone (Poláky grave 3, Dobroměřice) probably had a symbolic meaning.

7.1.4.7 Organic materials

Amber. Amber was primarily used to make small round or biconical beads worn in necklaces (Fig. 21: 29–31). An unusual flat ring-shaped bead was found in a Ha D1–D2 feature at the enclosed hilltop settlement in Praha-Bohnice - Nad Podhořím (Fridrichová 1974, 11; 1986, 189, Tab. C, E).

Other materials. Bone, horn and antler were used to make the cheek pieces of bits, and gag bits connecting straps on bridles. These materials were also used to make awls, smoothing tools, “skates”, pins, drinking horns, necklace spacers (Hlava 2012, 263–66) and other artefacts. Wooden artefacts have survived on rare occasions, including worked timbers from chamber graves (Praha-Liboc grave 2: the object was previously thought to be a yoke, see Fridrichová – Koutecký – Slabina 1997, 62). The yokes used to hitch horses to wagons can be reconstructed (see *above*). With only a few exceptions, other wooden artefacts can be identified only according to their metal parts, which is also true for leather objects such as the parts of harness and belts. Finds of flax cloth are rare; linen weave was identified (Rvenice: Koutecký 1966; Bylany grave 41: Slabina – Vykouková 2006).

7.1.5 Ritual areas and activities

7.1.5.1 Burial areas

Bylany culture burial areas are situated on elevated locations. In Hradenín the distance between the burial and residential area was 250–400 m. Poláky, in the Chomutov region, is one of the best documented cemeteries (Fig. 23).

The burial rite and forms of graves

Burials were biritual in the Bylany culture – cremation and inhumation were both used and could in fact occur together in a grave. Some types of burials were apparently deposited beneath barrows; however, these have

usually not survived in the area of the Bylany culture and their evidence is only indirect. The existence of barrows could be suggested by a perimeter marked by stones, a gully, etc. (Fig. 24: 1) or the distance between graves. Based on their arrangement, the following forms of graves can be distinguished (Koutecký 1968):

1. Chamber graves: mostly rectangular, oblong, less often of square ground plan, large dimensions of 5–25 m², depth 70–275 cm; wooden chambers have a timber construction, some with posts in the corners (Fig. 25: 1, 2; Plate 2: 5), or with a stone (so-called cist) construction (Fig. 25: 3–5). The chamber was covered by horizontal beams weighted by stones, followed by the mound (Rvenice; Fig. 24). Barrows could be surrounded by a stone ring or gully and marked on the top by a stone stela or a stone block (Poláky). Stone covering over chambers was particularly characteristic for cemeteries in northwest Bohemia.

2. Pit graves: oblong to square ground plan, dimensions 1.5–10 m²; the grave pits could also be covered with stones (Plate 3: 1) and mounds (Fig. 25: 6).

3. Small pit graves: pits of a round or oval shape, diameter 30–100 cm (Fig. 25: 7, 8). It cannot be excluded that certain pit graves were enclosed by a circular gully (assuming that the dating of such graves to the beginning of the Hallstatt period is reliable; cf. Uhy in the Kladno region: Sofaer – Turek 2004).

Based on the burial rite and inventory, D. Koutecký (Koutecký 1968; see also Fridrichová – Koutecký – Slabina 1996) divided these graves into three groups and subgroups:

- I. Inhumation chamber graves: I-1: chamber graves with wagons, yokes and horse harness, I-2: chamber graves with horse harness and weapons, I-3: chamber graves with few grave goods (looted?).
- II. Inhumation and cremation pit graves: II-1: larger pit graves with large inventory including metal artefacts, II-2: smaller pit graves with large numbers of pottery vessels, II-3: smaller pit graves with poor grave goods.
- III. Pit and urn cremation graves: III-1: urn grave (cremation burial in an urn covered by a bowl, potsherd or stone), III-2: combined urn and pit grave (cremation burial in an urn as well as in the pit fill, III-3: pit grave (cremation burial, including potsherds, scattered in the fill and on the bottom of the pit), III-4: undetermined grave (destroyed cremation grave, with only preserved sherds, sometimes burnt bones).

Internal layout and grave goods

The deceased in inhumation graves (Fig. 26; Plate 2: 5; 3: 2) were buried in a supine position (the main burial in the centre of the chamber or grave pit), in

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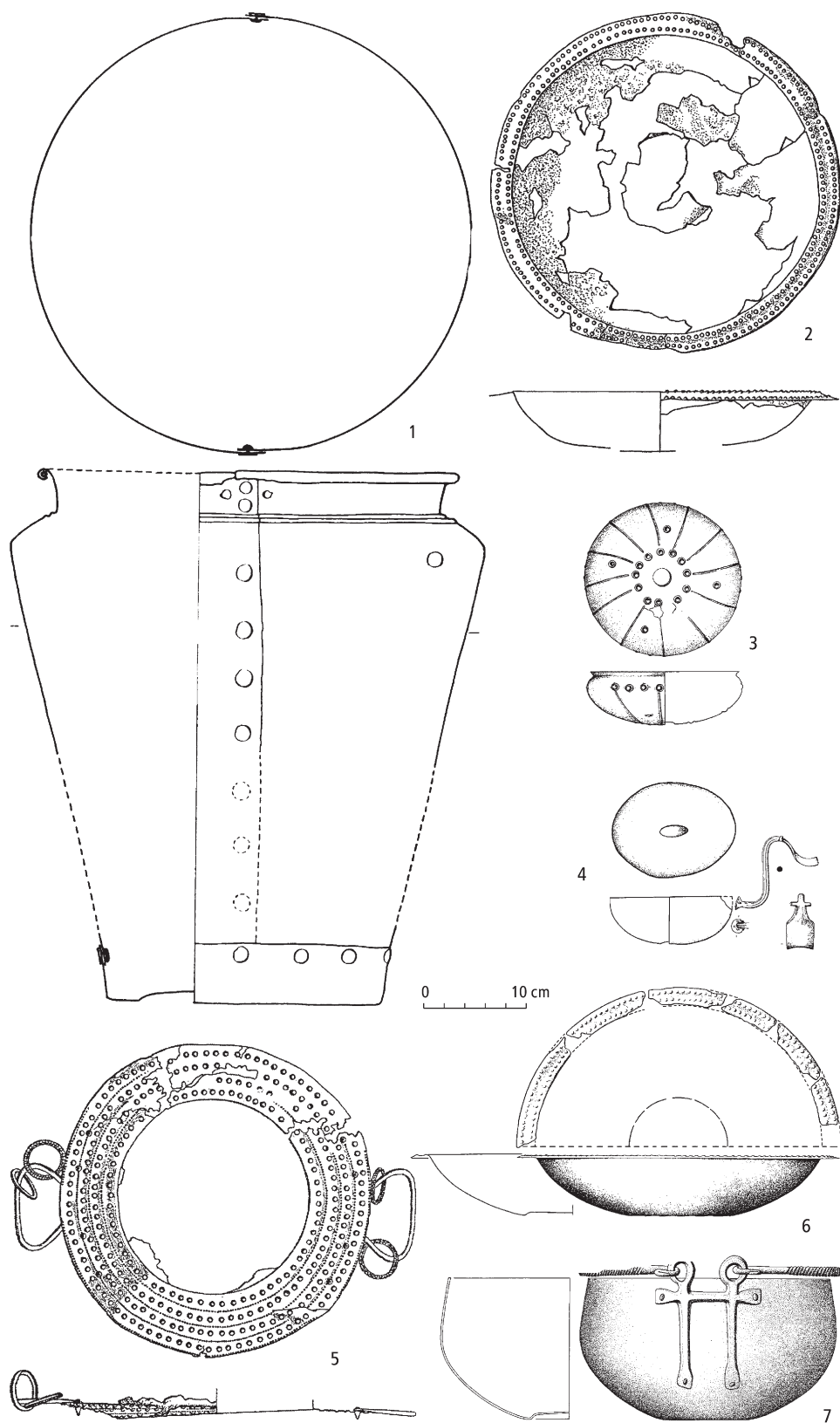


Fig. 22: The Bylany culture. Bronze vessels. 1 situla; 2, 6 Hohmichele-type bowls; 3 small bowl; 4 ladle; 5 plate; 7 cauldron with cruciform handle attachments. 1 Rvenice (Louny district); 2, 5 Slatina (Litoměřice district); 3, 4 Praha-Střešovice; 6 Hradenín (Kolín district); 7 Nymburk (Nymburk district). After Pleinerová 1973; Kouček 2003b; Fridrichová – Kouček – Šlabina 1999; supplemented by D. Kouček.

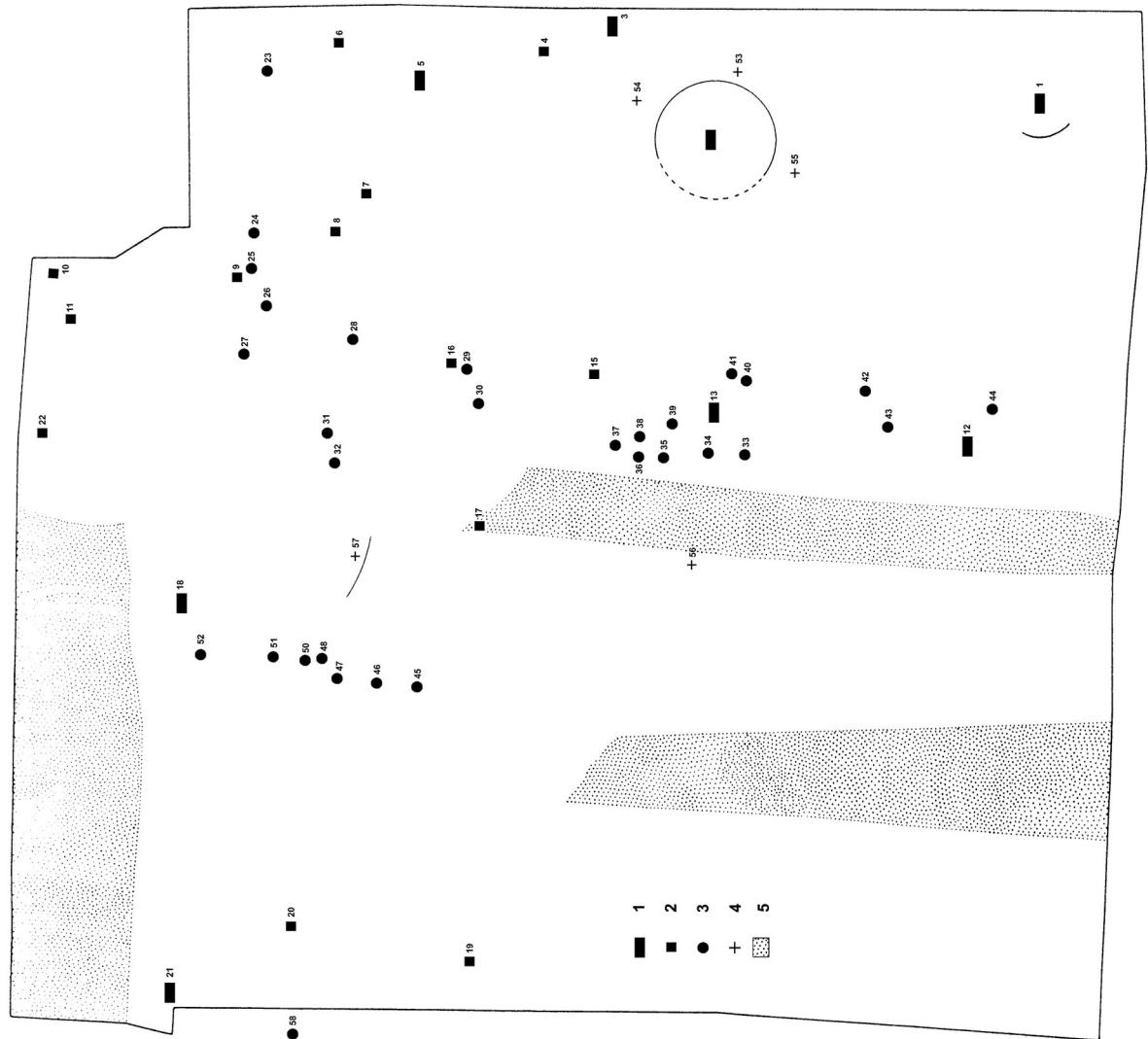
a crouched position or in a heavily crouched “sitting” position (additional burials in the corner of the grave). A N-S orientation is predominant in the central Bohemian and east-central Bohemian group,

while an E-W orientation is characteristic of the northwest Bohemian group, in which N-S graves can also occur (Lovosice). In the case of a N-S orientation, the skeleton was in the northern half of the

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Fig. 23: The Bylany culture. The burial area of Poláky (Chomutov district). 1 chamber grave; 2 pit grave; 3 cremation grave; 4 stone covering; 5 destroyed areas. After Koutecký – Smrž 1997.



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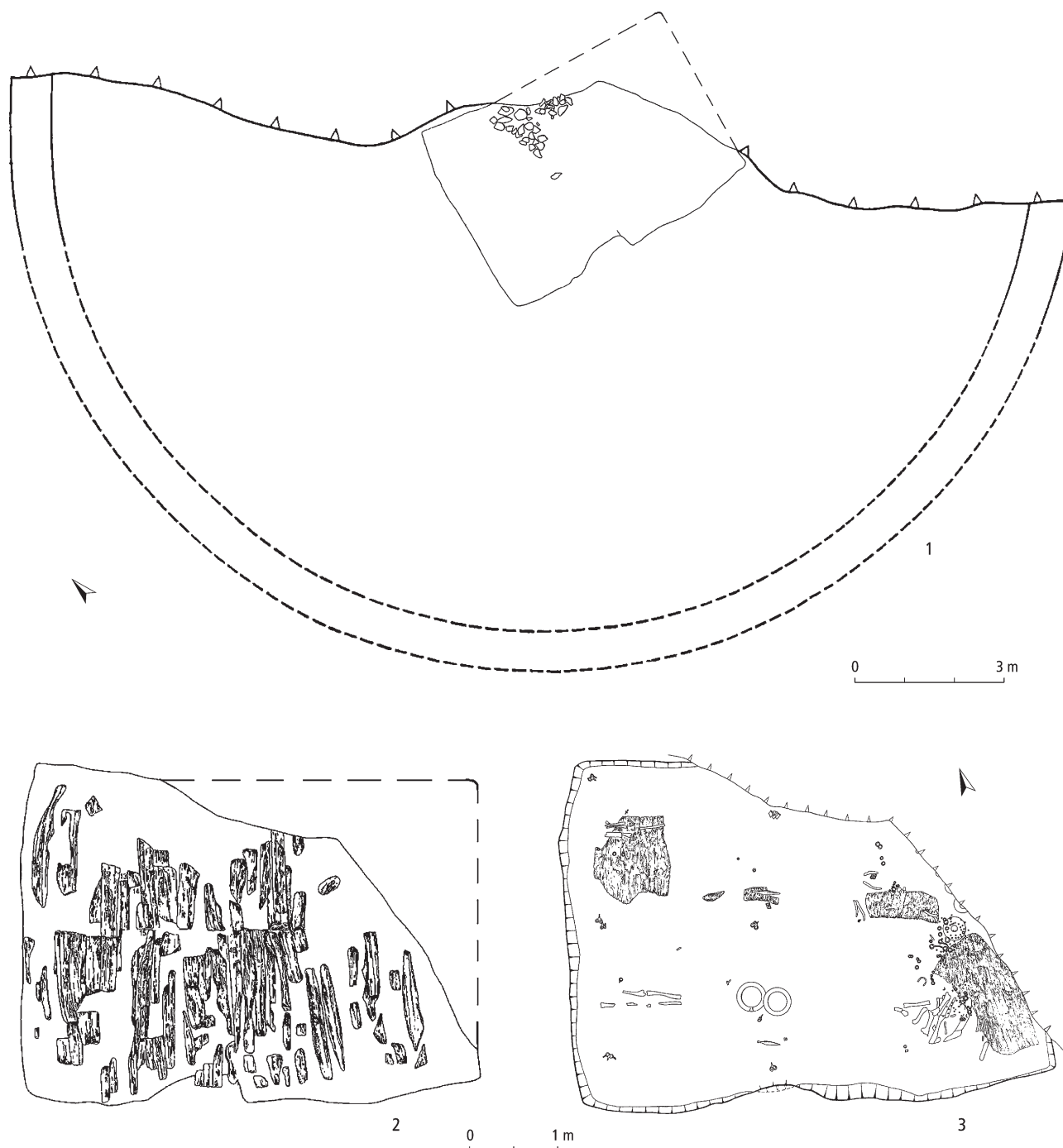


Fig. 24: The Bylany culture. Rvenice (Louny district), chamber grave in a barrow surrounded by a gully. 1 chamber with stone covering; 2 wood beams of the chamber; 3 burial with grave goods. After *Koutecký 2003b*.

grave, the other furnishings in the southern half. When the graves featured an E-W orientation, the skeleton was placed in the western half of the grave, the other furnishings in the eastern half. This applies especially to horse harness and animal bones, both burnt and unburnt (pig, sheep/goat, cattle), which are usually accompanied by a small iron knife.

Graves with four-wheeled wagons and rich additional furnishings form a special category and are typically referred to as “princely” graves. Based on the arrangement of the metal parts of wagons, it is possible to distinguish between graves that actually contained wagons and graves with artefacts symbolically representing wagons with a number of their parts – linch pins, for example. Clay discs are always found in

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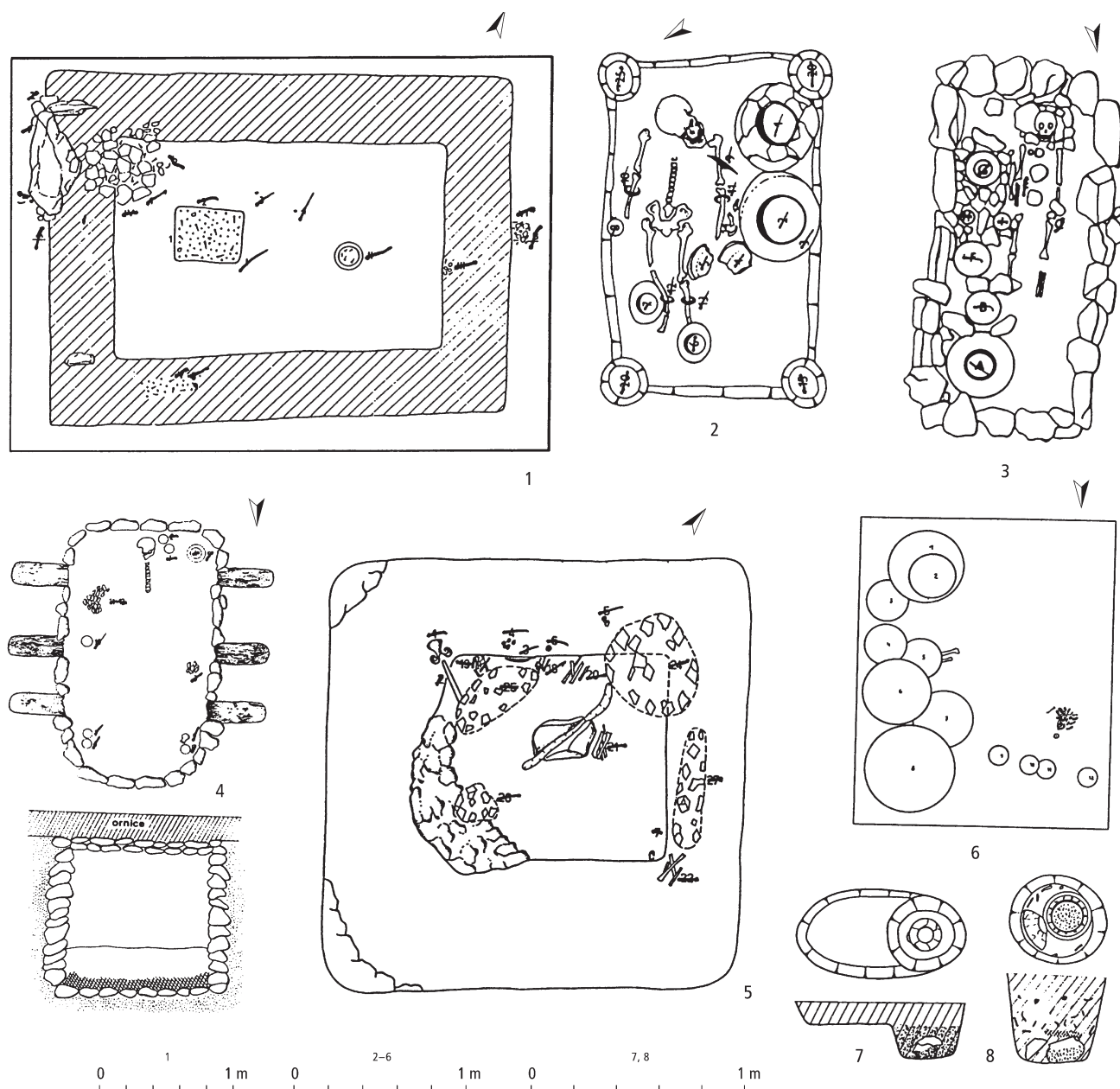


Fig. 25: The Bylany culture. Construction and layout of graves. 1, 2 log chamber graves; 3–5 cist graves; 6 pit grave; 7 small pit cremation grave; 8 small pit urn grave. 1 Praha-Bubeneč, grave 1; 2, 7, 8 Poláky (Chomutov district), graves 6, 29, 39; 3 Lichovy-Zrůbek (Příbram district), grave 2; 4 Dobříčany (Louny district); 5 Žatec-Záhoří (Louny district); 6 Praha-Střešovice, grave V. After *Fridrichová – Koutecký – Slabina 1996; 1999; Koutecký – Smrž 1991; Koutecký 1993a; 2003b; 2003c.*

graves with wagons and horse harness. Vessels are typically placed in rows by the walls, or anywhere where there was space; amphora-shaped storage vessels (one, in rare cases two specimens) were commonly found in the southwestern corner. The number of vessels came to thirty (Ha C1), forty (Ha C2) and up to 70 specimens (Ha C3); over time, however, the number was reduced to a maximum of ten specimens (Ha D1; classification according to Koutecký's chronology). Graves with swords and the parts of horse harness

(with a single bridle bit) are ascribed to the social group of "knights". Fig. 27 shows the layout of the inventory in a grave with a horse harness.

Biritual pit graves could contain one inhumation and one cremation burial or two inhumation and one cremation burials. In rare cases graves contained three inhumation burials (adult and two children).

In inhumation graves personal goods were typically found in their functional position; in other cases certain ornaments were located next to the deceased.

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Bracelets often occur in pairs; in one exceptional case involving the burial of a young woman or child, nine bracelets were found on each arm (Bylany grave 41/1). When the cremation rite was practised, the deceased was cremated along with his/her personal ornaments, or the ornaments were added to the ashes afterwards.

According to *J. Chochol (1991, 228)*, the cremation was not perfect from a technical perspective; only the necessary amount of fuel was used, and in some cases this was not completely adequate. Following cremation, the bones were broken and crushed and only some of the cremated remains were then buried.

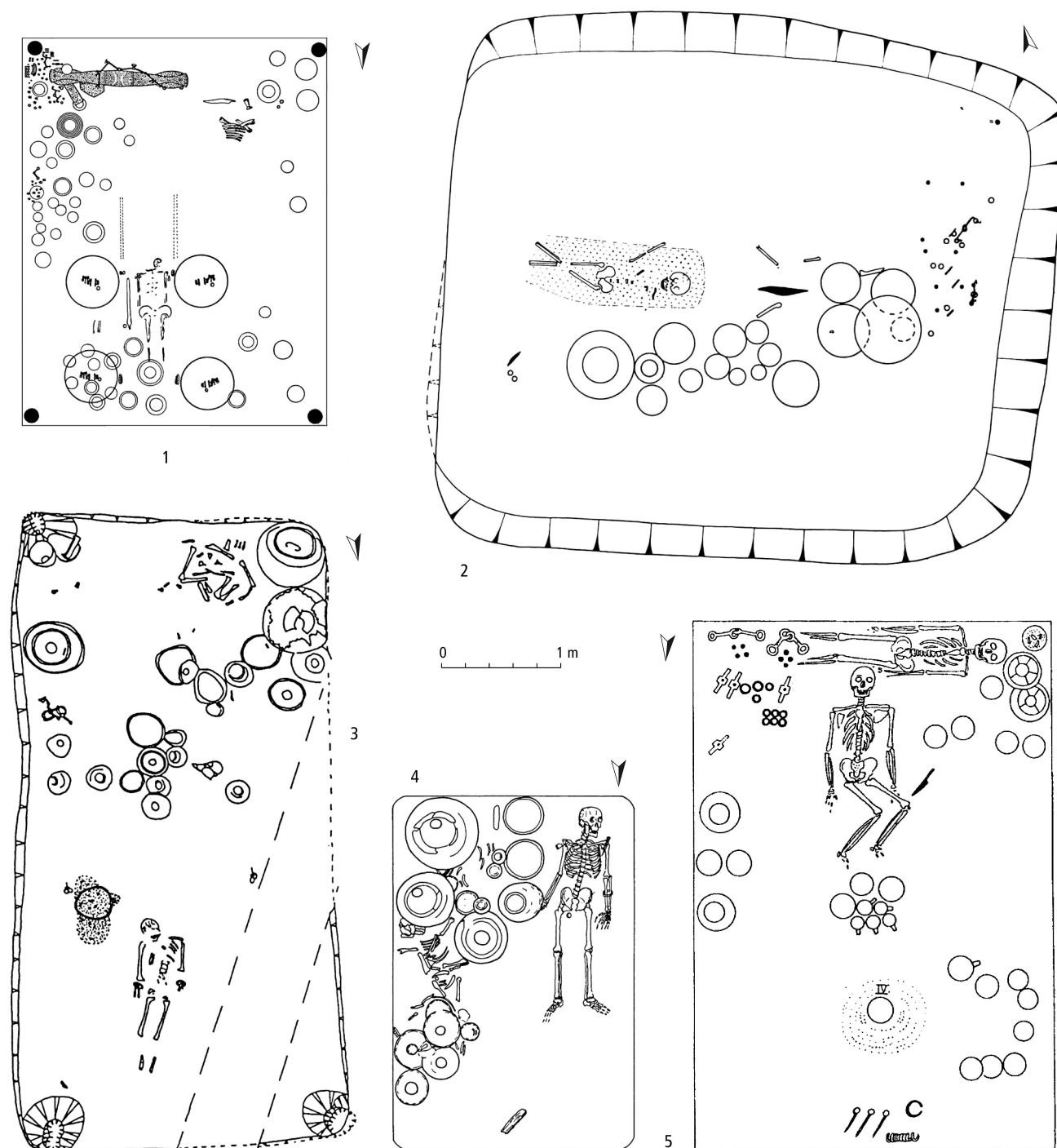
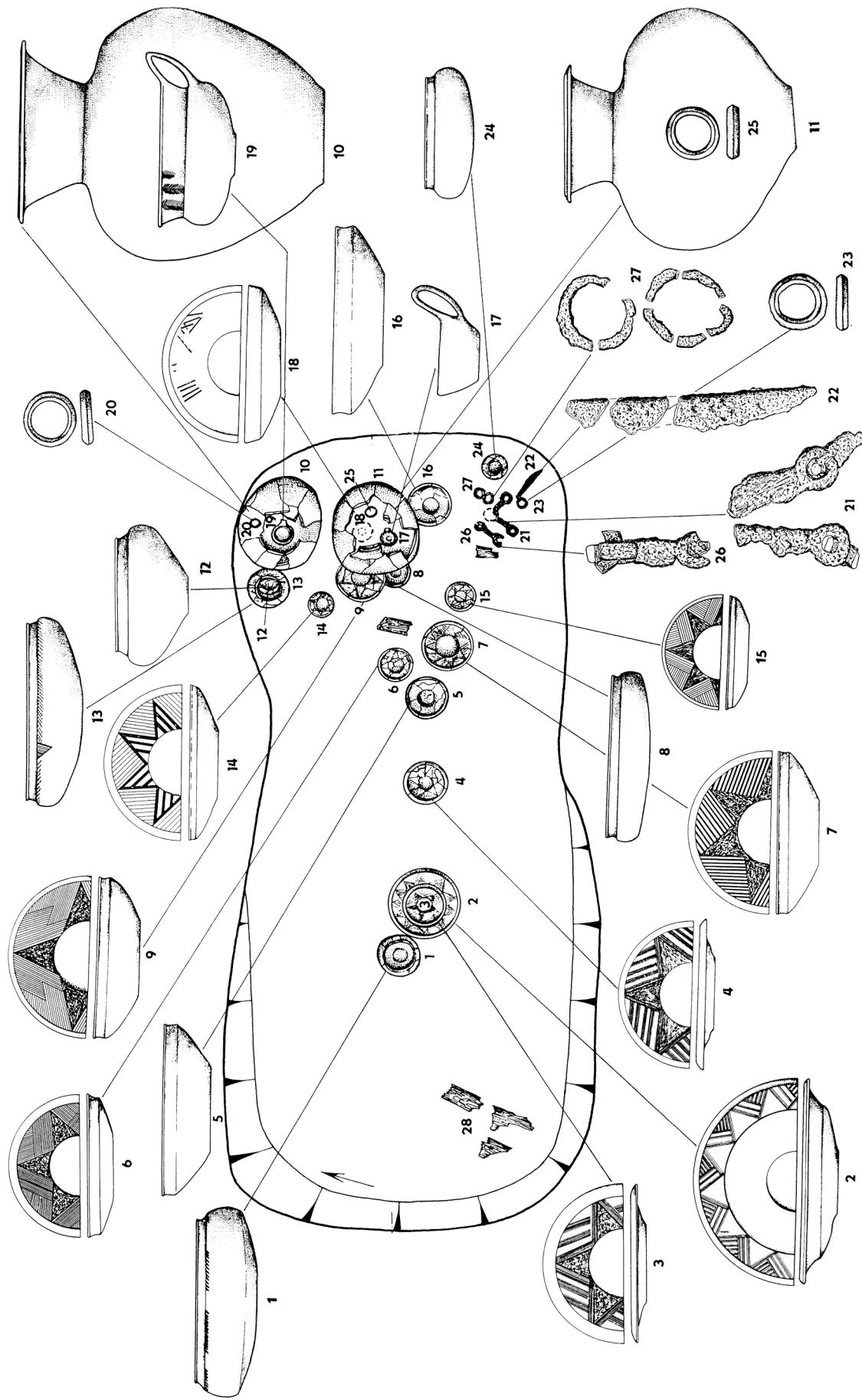


Fig. 26: The Bylany culture. The burial rite and internal layout of graves. 1 wagon grave with inhumation burial; 2 grave with inhumation burial; 3 grave with inhumation and cremation burial and lynch pins; 4 grave with female burial and lynch pin; 5 grave with two inhumation and one cremation burial. 1 Hradenín (Kolín district), grave 24; 2 Vlketice (Chomutov district), grave 2; 3 Kolín (Kolín district), grave 137/96; 4 Kutná Hora (Kutná Hora district), grave 10/89; 5 Bylany (Kolín district), grave 2/2. After *Dvořák 1938; Koutecký 2003a; Koutecký – Smrž 1991; Mazač – Tvrdlík 2000; Šumberová 1996a*.

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The number of the small group III graves increased beginning in Ha C3, and by Ha D1 large inhumation graves are highly rare. Weapons disappear from grave finds in Ha D1, and the number of metal artefacts decreases. Graves were looted fairly regularly, apparently already by the contemporaries of the buried individuals.

The structure of burial areas

An estimate based on data from the cemetery in Praha-Bubeneč suggests that an area covered with graves could reach up to 1.5 km² and that an area of this size could contain up to 500 graves. Other known burial areas contained only several dozen graves. Approximately 10 % of the graves at Praha-Bubeneč belonged to group I and II, the others to group III (which also included Ha D2–3 and LT A graves). The ratio of large to small graves in Poláky was 34 : 40, in Bylany 40 : 11 and in Hradenín 56 : 28. Only one or two graves with four-wheeled wagons beneath barrows are found at a single cemetery; these graves contain the burials of old men around fifty years of age.

Quantitative data from only partially investigated burial areas are naturally not conclusive since, for example, small cremation graves perhaps remain undiscovered or were destroyed by ploughing. Small pit cremation graves are often located near or between large chamber graves, sometimes forming groups. Graves with multiple burials are found at all cemeteries with a larger number of graves.

Anthropology of the Bylany culture population

J. Chochol conducted an anthropological analysis of the population (*Chochol 1980*), including that buried at the cemetery in Poláky (*Chochol 1991*). He investigated forty-two individuals and studied thirty-six burials (twenty-eight adults and eight non-adults) in detail. Males and females were almost equally represented, while the percentage of children was around 25 %. Men died between the age of forty and fifty years, women approximately ten years earlier; average life expectancy for men and women was 41.2 and 34.5 years respectively. Chochol attempted to identify anthropologically the possible domestic and foreign component in the given group. He characterised the domestic component of adult individuals as having a gracile and small body structure. The foreign component was supposed to be represented by males – individuals from graves 6 and 10, who were characterised by a tall and robust body structure. Nevertheless, this interpretation has not been generally accepted.

7.1.5.2 Non-burial ritual areas

Bylany culture ritual areas other than cemeteries have been identified only recently. An exceptional case is the peak of the Bacín hill in the Bohemian Karst, where the skeleton of a child accompanied by the parts of two vessels was found in a crevice. The entire area is interpreted as a ritual site, the crevice as a sacrificial pit (*Sklenář – Matoušek 1994*, 12–13; *Matoušek 2005*). Various interpretations, including ritual, are possible in the case of unique enclosed areas such as the oval area with a nine-post structure inside, found at the Bylany culture settlement in Praha-Miškovice, with parallels at another three sites in central Europe (*Trebsche 2011*; see *above*).

Bronze drinking sets were undoubtedly used for ceremonial purposes, and bronze and clay figurines, miniature vessels, rattles and clay discs are in general assigned to the ritual sphere.

7.2. THE HALLSTATT TUMULUS CULTURE

Jan Michálek and Miloslav Chytráček

7.2.1 Settled regions, density and continuity of settlement areas

The continuity of settlement is apparent in west and south Bohemia since the transition from the Early to the Middle Bronze Age. However, it is not possible to speak of the uninterrupted occupation of settlements between subsequent cultures. Continual development can be seen especially in the burial rite or in the adoption of pottery forms and decoration up until LT A. Fig. 9 shows the settled areas with finds of Hallstatt Tumulus culture components in just under one-hundred cadastrals (one cadastre may contain several sites).

Stage Ha C in west Bohemia shows a markedly lower density of sites and a smaller number of settlement and grave finds compared to the Final Bronze Age (*Chytráček – Metlička 2003*, 105, Abb. 1). The end of Ha B3 and the beginning of Ha C brought about significant changes, including, for example, the abandonment of hilltop settlements. This development (*Šaldová 1981a*, 83; *1981b*, 141, Fig. 21; *Griegl 1997*, 107) is explained as change in the settlement structure during the Ha B/Ha C transition (*Torbrügge 1991*, 352, 367). Finds from graves suggest a gradual transformation into the nascent Ha C Hallstatt Tumulus culture. Continual development did not occur across the whole of west Bohemia, but only in locations where favourable natural and other conditions permitted the continuation of earlier social structures (*Chytráček 2007a*, Abb. 2).

◀ Fig. 27. The Bylany culture. Plan of grave goods from a grave with horse harness. Račíněves (Litoměřice district), grave 2/2006. After D. Koutecký.

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In contrast to the concentration of Bronze Age sites in the topographically higher elevations of the south-western part of west Bohemia, the centre of settlement in Ha C shifted further north and northeast to lower lying regions (Šaldová 1968, 388; Chytráček 1999, 20, Abb. 1). Newly discovered Ha C1–C2 lowland settlements (Bdeněves, Vochov, Křimice, Malesice: Chytráček – Metlička 2003, 97, Abb. 1, 5, 6; 2011) are located in the most fertile and climatically favourable part of the Plzeň basin, where numerous contemporary barrow cemeteries with the earliest graves from the beginning of Ha C1 are found at the confluence and along the lower stretches of the Mže, Radbuza, Úhlava and Úslava rivers (Chytráček – Metlička 2004, 123, Karte 8, 9). A fifth lowland settlement was discovered in the similar climatically favourable location on the middle course of the River Radbuza near Stod (Čechura 2002). Hallstatt Tumulus culture finds known so far in west Bohemia do not cross the Berounka river basin. Barrow burial areas as well as earlier isolated Ha C graves are concentrated mostly along the upper Berounka river from the confluence of four rivers in the Plzeň basin up to the mouths of the rivers Třemošná and Sřela. A conspicuous concentration of barrow cemeteries is also located on the lower Klabava, Úslava and Mže rivers. Settlement extends northward all the way to the middle Sřela river, with the cemetery in Manětín-Hrádek. In the south, barrow cemeteries

occur only on the middle course of the River Úhlava and at the watershed of the Úhlava and Radbuza rivers. Evidence of burial is also sparsely spread along the Radbuza, with barrow cemeteries near Mírkovice and with the nearby contemporary farmstead of Štítary nad Radbuzou-Hostětice. Settlement also extended to the middle stretches of the River Mže, where barrow graves were investigated in Kšice. An example from the relatively well-investigated region of the lower Mže demonstrates a spatial relationship between Ha C and late Hallstatt components (Fig. 28).

Geographically, the area of Hallstatt Tumulus culture in south Bohemia does not differ greatly from the area settled during the Middle and Late Bronze Age. Although the transition between Ha B and Ha C has not been completely clarified thus far, there is no evidence against the continuity of settlement.

South Bohemian Hallstatt Tumulus culture settlement is concentrated mainly on the middle Otava down to the area around its confluence with the Vltava near Zvíkov, in the watershed of the River Volyňka (north of Lčovice), the Vltava (mainly south of the confluence with the River Lužnice), the Lužnice (south and west of Tábor) and its northern tributary – the Smutná stream (from Milevsko to Bechyně), to the south and even further west from Český Krumlov in area of the Kájovský stream. Settlement did not extend to the actual mountain region of Šumava. The south-

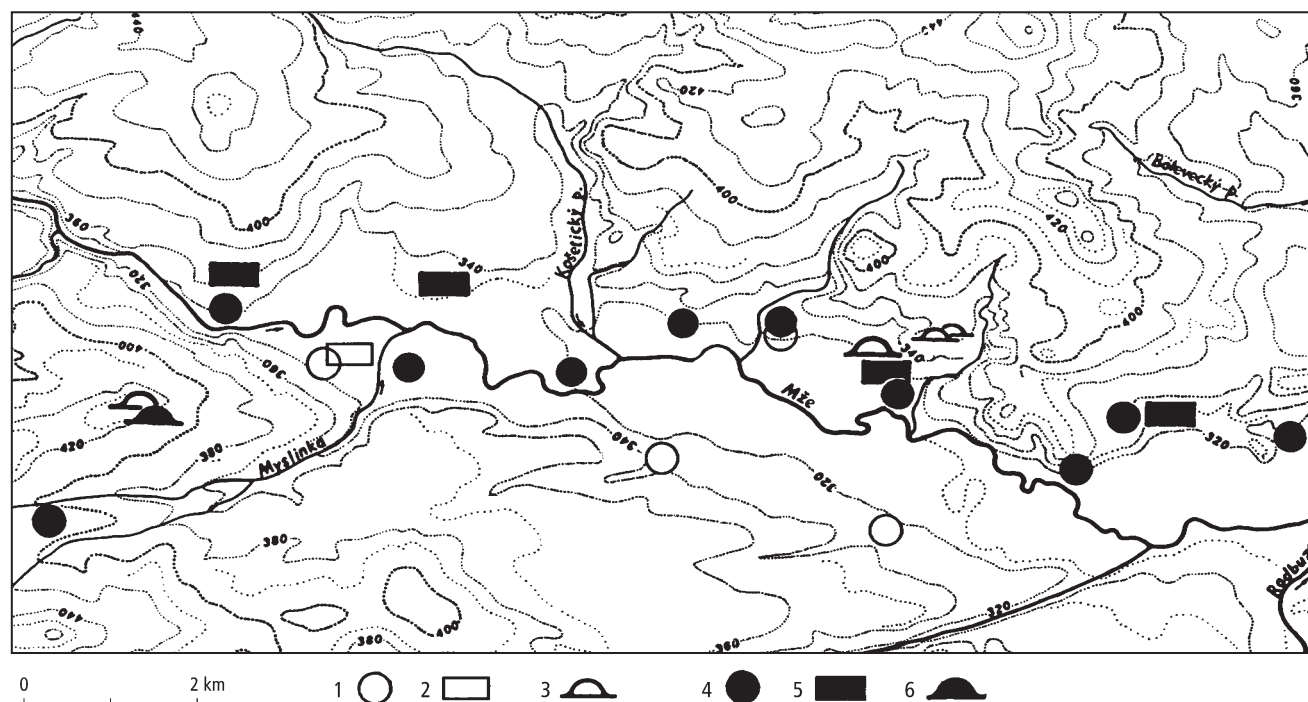


Fig. 28: Lower Mže region. 1 Ha C lowland settlement; 2 Ha C, Ha C/D flat graves; 3 Ha C, Ha C/D barrow cemetery; 4 Ha D – LT A lowland settlement; 5 Ha D – LT A flat grave; 6 Ha D – LT A barrow cemetery. After Chytráček – Metlička 2004.

eastern part of the south Bohemian macro-region, i.e. the entire Třeboň and Jindřichův Hradec regions, and the land between Horažďovice and Nepomuk, remained unsettled. The northern border of the settled area ran south of Břežnice (*Michálek 2003a*, Fig. 4–5). Two graves in Líchovy-Zrůbek near Sedlčany lie on the border between the south Bohemian Hallstatt Tumulus culture and the central Bohemian Bylany culture (*Koutecký 1993a*, 466–473).

7.2.2 Forms of settlements

7.2.2.1 Unenclosed lowland settlements

Hallstatt Tumulus culture has so far only produced sporadic settlement finds. Only five Ha C lowland settlements are known from west Bohemia (*Chytráček – Metlička 2003*, 97, Abb. 3; 2011), of which three are situated on river terraces, one directly on the river bank (Bdeněves). The sole settlement find in south Bohemia is the house in Hradiště near Písek, perhaps part of a small homestead (enclosed by a palisade?) occupied by a single family.

7.2.2.2 Hilltop settlements

Settlement began again at hilltop sites at the end of Ha C and in Ha D1. All five known west Bohemian hilltop settlements were situated on promontories with an elevation of 26–60 m above the surrounding land (Fig. 29); there is no evidence for the fortification using stone, timber and earth in this period (*Chytráček – Metlička 2004*; *Chytráček 2006*), and the enclosures discovered thus far are wooden in all cases.

One possible example is the settlement on a slightly elevated promontory (29 m above ground level) in Štítary nad Radbuzou–Hostětice, where an enclosed farmstead – part of a larger enclosed residential area – was discovered (Fig. 30; Plate 8: 1). The enclosure of a 0.64 ha, rectangular with rounded corners, divides the space into an inner and outer part. The rectangular inner part with an area of 0.18 ha has a simple fence and was enclosed by two lines of foundation trenches for a palisade. The double peripheral trenches were interrupted at the entrance. Although the residential area was situated within the inner space, settlement pits and portable finds outside the outer enclosure also document contemporary settlement, waste, storage and manufacturing activities on the neck of the promontory, mainly in a zone parallel to the enclosure. Storage installations were also located in the zone between the two outer palisades. Two additional lines of wooden enclosures ran across the neck of the promontory, closing off the entire settlement area (*Chytráček 2006*, Fig. 2–3; 2007a; 2009, 125–127, Abb. 9, 10; *Chytráček – Metlička 2004*, 257–271, Abb. 138–152). It is possible that, at the beginning of Ha D, another residential area located at a distance of 15 km from Štítary nad Radbuzou–Hostětice on the promontory near Horšovský Týn was also enclosed by a double palisade (*Chytráček – Metlička 2004*, 94, 170–172).

No hilltop settlement from this period is known thus far in south Bohemia, perhaps due to the lack of targeted investigations.

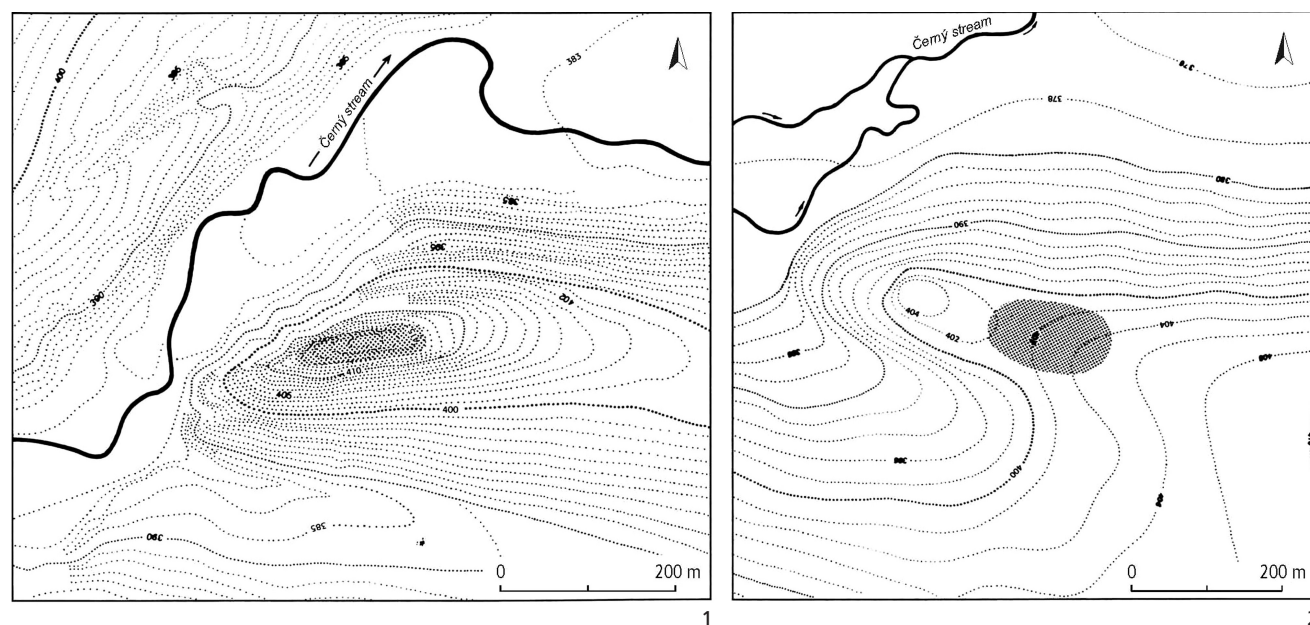


Fig. 29: The Hallstatt Tumulus culture. Enclosed (?) hilltop settlements. 1 Meclov-Mašovice (Domažlice district); 2 Horšovský Týn-sv. Anna (Domažlice district). After *Chytráček – Metlička 2004*.

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Fig. 30: The Hallstatt Tumulus culture. The enclosed farmstead in Štítary nad Radbuzou-Hostětice (Domažlice district). After Chytráček – Metlička 2004.



7.2.3 Features in settlements

Post-built houses. Ground plans of structures with eight, nine and, less often, six posts arranged in two or three rows were found in Křimice (Fig. 31: 2; Chytráček – Metlička 2011). The ground plans from Bdeněves were composed of two rows of three or four posts, in some cases with smaller posts in the middle of the shorter walls. House dimensions were approximately 10 x 4 m. A house in Hradiště near Písek, with a rectangular ground plan with three rows of posts and, evidently, a gabled roof, had dimensions of 8.4 x 4.7 m (Fig. 31: 1). The house was divided into two parts, the northern half of which contained a sunken hearth lined with stones. The construction of the house is linked to the tradition of the Late and Final Bronze Age.

Other above-ground structures. The square ground plan of a small post-built structure in Štítary nad Radbuzou-Hostětice, with a length of around 3 m and three posts on the sides, was interpreted as a hayloft. The function or assignment of individual post holes found in residential areas to the ground plans of structures usually cannot be determined.

Pits. Pits of various sizes have mostly not been interpreted. Small pits with a burnt bottom are regarded as sunken hearths, others perhaps as manufacturing features (pottery firing pits? – see Chapter 6.2.1). Pits containing storage vessels or post holes along the walls perhaps served as storage spaces (Štítary nad Radbuzou-Hostětice, features 185 and 187).

7.2.4 Portable artefacts

7.2.4.1 Pottery Vessels

As in the Bylany culture, differences between settlement and funerary pottery also occur in the Hallstatt Tumulus culture. The early Ha C settlement pottery has far stronger ties to the Urnfield tradition than grave finds from this period. The single reliable diagnostic decorative element of this pottery is an incised meander on the inner side of large bowls (Chytráček – Metlička 2003, 97, Abb. 5). The majority of pottery forms are based on models from preceding stage Ha B and continue without substantial formal changes until Ha D1. Multiple identical elements linking grave and settlement pottery can be observed at the turn of Ha C/D1 (Chytráček –

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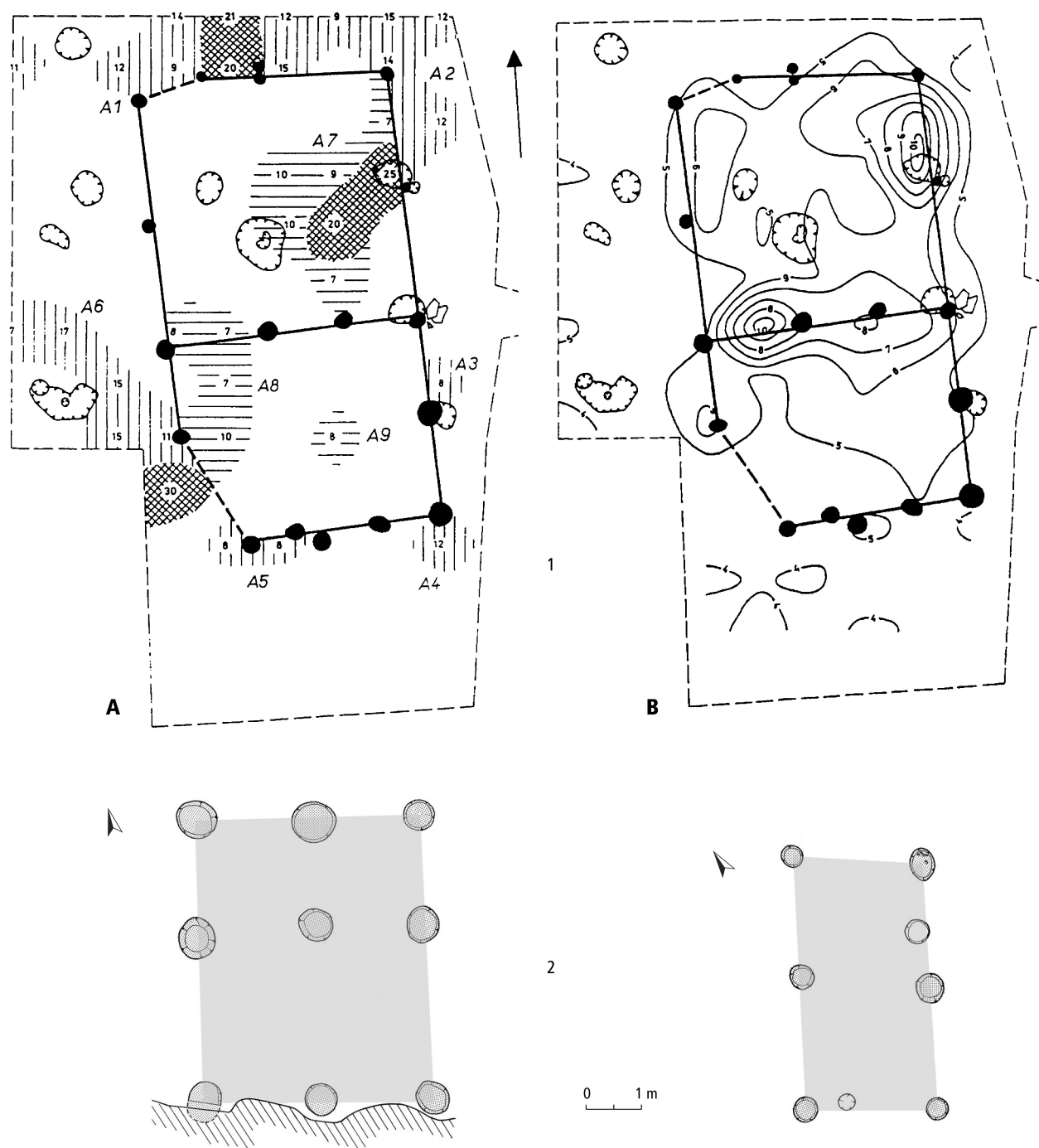


Fig. 31: The Hallstatt Tumulus culture. Post-built structures in settlements. 1 Hradiště near Písek (Písek district): results of phosphate analysis (A) and magnetic susceptibility (B); 2 Křimice (Plzeň-město district). After A. Majer and M. Metlička.

Metlička 2003, 87). Pottery from the end of Ha C and from Ha D1 is very difficult to distinguish – almost impossible in small settlement assemblages.

The formal and decorative assortment is better represented by funerary pottery. Forms and decoration of vessels continuing from the Final Bronze Age (Ha B) appear in the initial phases of the Hallstatt Tumulus culture (at the beginning of Ha C): vessels resembling

the storeyed vessel forms (Fig. 32: 2) and deep bowls decorated with garlands (Fig. 32: 12, 13).

Based on grave finds, the following basic forms of vessels are distinguished:

1. Amphora-shaped storage vessels with a curved or conical neck (Fig. 32: 19; 33: 4, 6).
2. Amphora-shaped storage vessels with a curved or conical fluted neck (Fig. 32: 4; 33: 1).

3. Amphorae (Fig. 33: 5).
4. Pot-shaped vessels (Fig. 32: 6).
5. Smaller and larger pots with one or two handles on the rim (Fig. 32: 17; 33: 15).
6. Situlae and situla-shaped vessels (Fig. 32: 15).
7. Deeper bowls with a short conical neck (Fig. 32: 5).
8. Various bowls and small bowls: a) with an everted rim; b) with an inverted rim; c) with an S-shaped profile; d) carinated; e) conical with a pointed base (Fig. 32: 9–13; 33: 7, 10, 11, 13–14).
9. Plates: a) with straight walls; b) carinated (Fig. 32: 7, 8, 11).
10. Cups with handles extending above the rim: a) with a pointed base; b) with slightly curved walls; c) with an S-shaped profile; d) carinated (Fig. 32: 16, 18; 33: 2, 3, 8, 9). Cups were used as ladles and were placed inside storage vessels.
11. Miniature vessels.
12. Special forms: vessels on feet, oval bowls, triple vessels (Fig. 34: 3; 33: 12).

Conforming to the artistic expression of the West Hallstatt cultural sphere, the decorative elements and motifs are highly geometric. New decorative techniques include incised and fine hatched bands, dimples, occasional painted ornamentation (especially in Ha C) and graphite coating. Certain differences can be observed in pottery decoration in west and south Bohemia.

The west Bohemian group. Incision and fine hatching is used to create groups of horizontal and oblique bands which, along with graphite coated areas, create motifs of zigzags and triangles on the shoulders of storage vessels and on the shoulders of deep bowls; intricate star patterns appear on the inner walls of bowls and plates. This decoration can be combined with fine impressed dots. Decoration applied with a toothed wheel is documented from the transition of Ha C to Ha D1 (e.g. Radčice grave 129: Šaldová 1992, Fig. 4: 49). Painted ornamentation composed of vertical or oblique stripes, smaller round points and even triangles in a few cases, zigzags and diamonds (Radčice grave 129: Šaldová 1992, Fig. 2: 2; 3: 24; 4: 45, 54) is usually applied with black lacquer paint; a combination of carmine and light red, black and light yellow paint appeared only once (Mírkovice barrow III: Chytráček 1990, 81, Fig. 6). Circular and oblique bands and arches with spiral ends painted in black are documented on settlement pottery - bowls, cups, vase-shaped vessels (Štítary nad Radbuzou-Hostětice: Chytráček 1997, Abb. 2: 14, 15, 17); black hanging triangles with rings on their tips on a brownish-red background appear sporadically (Milínov-Lopata: Šaldová 1968, 356).

The south Bohemian group. Groups of incised lines form a rounded or, less often, angular meander motif;

dense, finely hatched bands in a wide variety of patterns appear later, both on the outer surface and, especially, on the inner walls of bowls and plates. A rosette motif made of small dots – so-called “suns” – frequently appears on the inner and outer sides of vessels. Red, black and sometimes even white colour is used for painted decoration in a variety of patterns, the most common of which are bands, triangles and arches (Michálek 2003a, Fig. 6–14).

Compared to Bylany culture pottery, Hallstatt Tumulus culture ceramics have less frequent and less ornate decoration, which is especially true for painted decoration (Koutecký 2001b).

Other clay artefacts

Standing apart from the standard assortment of vessels is a small footed zoomorphic vessel (Radčice grave 29, Fig. 34: 3). Rattles are represented by several specimens featuring either a pear-shaped form, a barrel-shaped form or the shape of a bird (Fig. 34: 2); less common artefacts include a clay ring (Nynice grave 130) and a horse figurine (Fig. 34: 1). All of these artefacts, along with a large collection of small clay objects from Burkovák Hill near Nemějice and a clay toothed wheel with two perforations from Štítary nad Radbuzou-Hostětice undoubtedly belong to the category of symbolic artefacts (see Chapter 7.2.5.2).

Loom weights are of pyramidal form with a horizontal perforation commonly used in this period. A weight with an incised circle comes from the Milínov - Lopata hill (Chytráček – Metlička 2004, 193, Abb. 67: 27). Clay spindle whorls are usually biconical to pear-shaped, in some cases loaf-shaped or spherical.

7.2.4.2 Iron and bronze

Iron and bronze were used to make weapons and tools, wagon components and harness parts; personal ornaments and fasteners, vessels and, in rare cases, other artefacts were made mainly of bronze.

Weapons and tools. A long iron sword (Fig. 35: 5, 6) can be equipped with a tang or a tongue-shaped hilt. A sword from Protivín belongs to the Ha C Mindelheim type. Probably also belonging to the same stage are other south Bohemian iron swords which, due to unclear find context or fragmentary condition, cannot be safely classified and dated. In addition to iron specimens, long bronze swords (Fig. 35: 1) also appear, usually with a tongue-shaped hilt with a trapezoidal ending (Horní Metelsko, Dolany). A bronze sword from Týn nad Vltavou-Jarošovice belongs to the Bubesheim type, part of a sword from Skály near Protivín to the Mindelheim, the Ha C Wels-Pernau variant (Michálek forthcoming). Bronze winged scabbard chapes also occur (Fig. 35: 1, 5).

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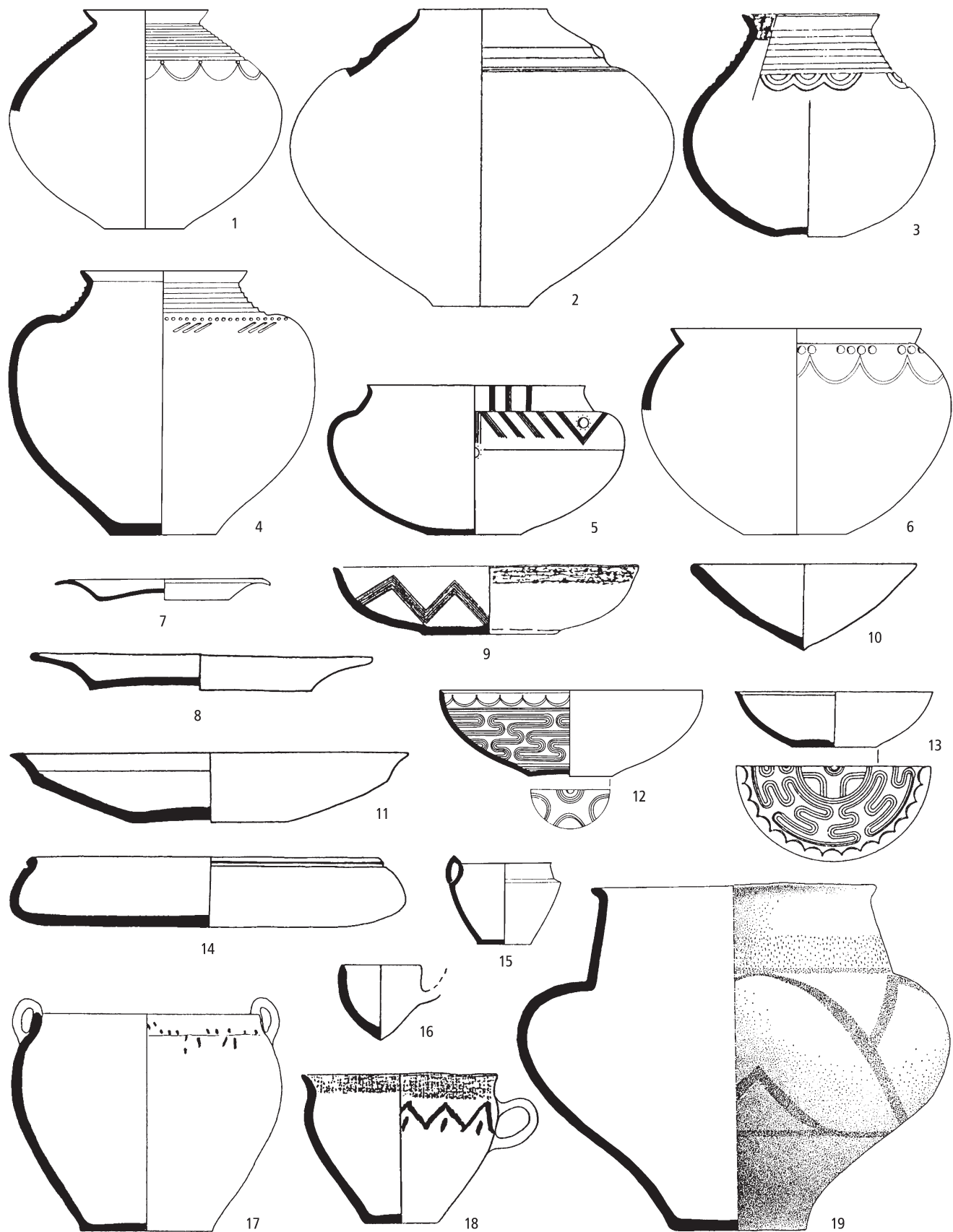


Fig. 32: The Hallstatt Tumulus culture. Basic pottery forms of the west Bohemian group. After M. Chytráček.

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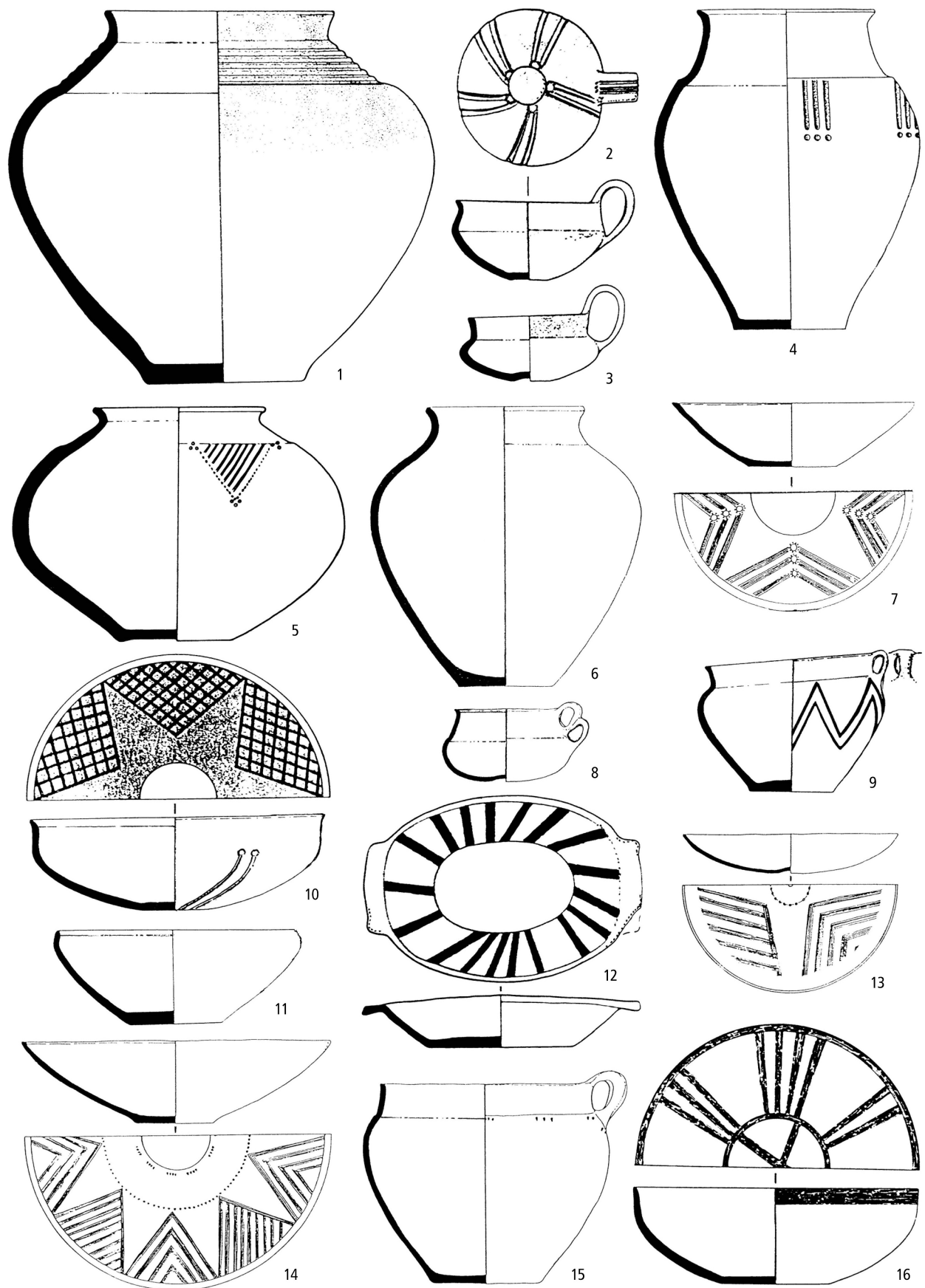


Fig. 33: The Hallstatt Tumulus culture. Basic pottery forms of the south Bohemian group. After J. Michálek.

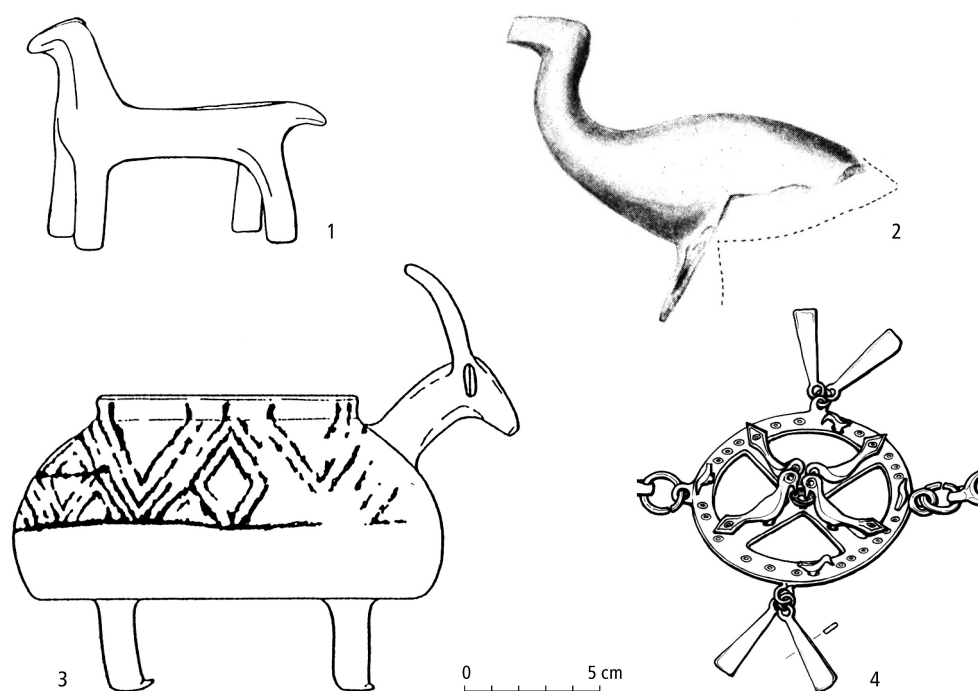


Fig. 34: The Hallstatt Tumulus culture. Zoomorphic objects. 1 figurine; 2 rattle; 3 zoomorphic vessel; 4 ornamental object. 1–3 clay; 4 bronze. 1 Nynice (Plzeň-sever district); 2 Litiče (Plzeň-město district); 3 Radčice (Plzeň-město district); 4 Nemějice (Písek district). After Franc 1988; Šaldová 1968; 1992; supplemented by J. Michálek.

Other weapons include iron spearheads (Fig. 35: 2, 3). Rectangular or oblong iron belt-hooks have forked ends (Fig. 35: 4). Winged axes or socketed axes were used as both weapons and tools. Small iron knives are the most common tools. An iron fork was a unique find (Manětín-Hrádek grave 188).

Wagons. Surviving from four-wheeled wagons, typical for the Hallstatt Tumulus and Bylany culture alike (Fig. 19), are the iron tyres of the wooden wheels (Dolany, Radětice, etc.), in some cases with nails for fastening (Pašovice – a wheel with four spokes), iron wheel hubs and linch pins with rings and a perforated pin to secure the peg (Chytráček 2000, 359, Fig. 1: 13, 14; Pare 1992, 153, Pl. 107–108; Michálek forthcoming). Additional wagon components include bronze sockets with a discoid head (Újezd near Radnice barrows 1 and 4: Hralová 1993, Tab. XXXII: 6, 12).

Horse harness. Fragments of wooden yokes coated with leather and decorated with bronze studs come from Dýšina (barrow 2: Franc 1988, Tab. 28–30; Šaldová 1968; Fig. 20: 2). Sheet bronze yoke decoration (Zbislav) and various bronze open-work fittings are unusual finds. One of the main parts of horse harness was a relatively simple, most often two-piece bronze bit (a twisted specimen comes from Dýšina: Šaldová 1968, 364, Fig. 26: 2) or an iron bit (Fig. 20: 7) connected with eyelets and with other rings on the ends for strap attachment, which occur in pairs, sometimes decorated with incisions on the body, type F in Pare's classification (Pare 1999), also found with bridle cheek-pieces (Fig. 20: 15). Other related objects are iron but-

ton-like and other slips with one or two eyelets on the bottom, square fittings with open-work rhomboid openings and eyelets, and bronze or iron rings for fastening straps (Fig. 20: 20, 21, 24–28, 33, 35, 36). Small bronze sheet phalerae begin to appear in Ha D1, in some cases with engraved geometric decoration.

Personal ornaments and fasteners. Bronze pins with a ribbed head (Fig. 36: 7) and swan-necked pins with bowl-shaped or a nail-shaped head (Fig. 36: 9, 10) are rare finds. Fibulae are represented by the Schrotzhofen-type spectacle fibula (Fig. 2, 3) with a figure-eight coil, a serpentine fibula, bow (Fig. 36: 5) and harp (Fig. 36: 1) fibulae. Four-spiral fibulae come from south Bohemia, including variants made of bronze wire (Fig. 36: 4) belonging to the Maiersch and Býčí skála type and those made of sheet metal (Michálek 1981, 149–155).

Ring ornaments were popular. Simple wire torcs were worn, as were hollow sheet variants, often with engraved geometric decoration (Fig. 37: 1, 4, 6). A large group of ornaments consists of various types of closed or open bracelets made of sheet metal coiled into tubes (Fig. 37: 8, 11) or solid bars; other types include stirrup-shaped and cuff-shaped bracelets made of decorated sheet bronze (Fig. 37: 3), cast melon-shaped bracelets with crosswise ribs, a south German-Bohemian variant (Fig. 37: 7), and narrow bracelets with crosswise ribs. Stirrup-shaped bar anklets also feature geometric decoration (Fig. 37: 2, 5).

Special ornaments in this period were bronze hollow sheet, richly engraved turban-rings (Fig. 37: 10, 12;

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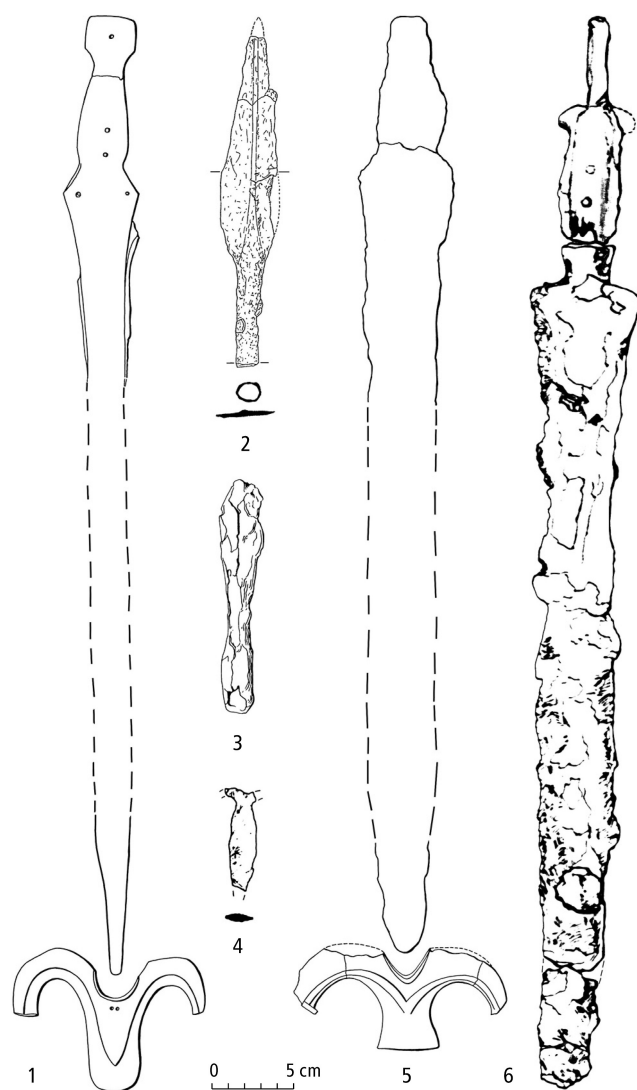


Fig. 35: The Hallstatt Tumulus culture. Weapons and belt accessories. 1, 5, 6 swords and scabbard chapes; 2, 3 spearheads; 4 belt-hook. 1, 5 bronze; others iron. 1, 5 Dolany (Plzeň-sever district); 2 Řepeč (Tábor district); 3 Manětín-Hrádek (Plzeň-sever district); 4, 6 Protivín (Písek district). After Michálek 1972; forthcoming; Soudská 1994; Šaldová 1968.

Plate 7: 1) appearing in two sizes: those with a diameter of 9–13 cm and larger forms with a diameter of 17–26 cm. Engraved decoration combines linear elements with concentric circles. The turban-rings appear in large numbers especially in the south Bohemian area and are also found in west Bohemia; while their appearance is rare in the Sedlčany region, the artefacts extend to the southern edge of the Bylany culture region. Although the turban-rings are first documented in Ha C to Ha D1, they appear in greater numbers in the subsequent late Hallstatt period. An explanation for the use of certain very large hammered turban-rings is not simple, as their over-sized form rules out practical use and daily wear. Smaller turban-rings served as

ankle rings; narrower specimens could have been used as torcs, and the position of the turban-rings in graves also confirms a function as armbands or bracelets (Chytráček 2007c). In addition to sheet metal forms, small cast turban-rings also occur (Fig. 37: 9) in the west Bohemian group. Although the latter rings are regarded as components of horse harness, finds in female graves suggest the more likely alternative of personal ornaments (Šaldová 1957; Michálek forthcoming).

Hanging ornaments include rings with eyelets and a pendant with an inner ring to which additional smaller rings are attached (Fig. 36: 6), remotely reminiscent of Thalling-type pendants found in Austria and Bavaria (Kossack 1954, 99, Tab. 17: 1). Necklaces were worn, as were belts, composed of thousands of small cast bronze rings (Kyšice-Dýšina: Franc 1988, 225, Tab. 29; Fig. 36: 8).

Decorative elements of a leather belt in the form of small bronze bosses and sheet metal discs (Fig. 36: 12), and a small bronze spiral also occur.

Bronze vessels. The following types of sheet bronze vessels have been found:

situla (Fig. 38: 6): conical lower part, ribs on the shoulder, cast handle (Dobřany, Ha D: Šaldová 1968; Siegfried-Weiss 1991, 116, Tab. 19: 82);

ribbed bucket: ribbed cylindrical vessel with two movable handles (Švihov-Červené Poříčí, Hanov, Střel-ské Hoštice: Siegfried-Weiss 1991, Tab. 21: 86, 88, 22: 90–95);

bucket with sickle-shaped handle attachments (Fig. 38: 4): tall vessel with a conical body and low rounded shoulders with a movable handle (Kříše barrow 5, Ha C: Chytráček 2012);

bucket of the Kurd-type (Fig. 38: 3): low cylindrical neck, slanted shoulders, conical body, strap handle with a rectangular attachment (Kyšice-Dýšina);

cauldron with a cruciform handle attachment (Fig. 38: 5): rounded walls and a movable handle (Švihov-Červené Poříčí, Putim?: Šaldová 1968, 366; 1974b, 45);

cup (Fig. 38: 1): vessel with a rounded bottom and a high strap handle, in some cases with engraved decoration (Kyšice-Dýšina, Švihov-Červené Poříčí; Siegfried-Weiss 1991, Tab. 15);

plate (Fig. 38: 2): shallow vessel with a decorated flat rim, with hammered decoration in the form of birds, rosettes and dots (Kyšice-Dýšina).

A set of bronze twisted bars from Švihov-Červené Poříčí (Fig. 38: 7) was interpreted as parts of a tripod, i.e. a vessel on tall bar feet (Drda – Rybová 1998, 33), or as parts of a wagon (Pare 1992); one of the bars is thought to be the handle of a bronze ribbed bucket (Siegfried-Weiss 1991, 118, Tab. 22).

Other artefacts. Bronze tweezers and a needle holder comprised of a cast handle and thin sheet tubes

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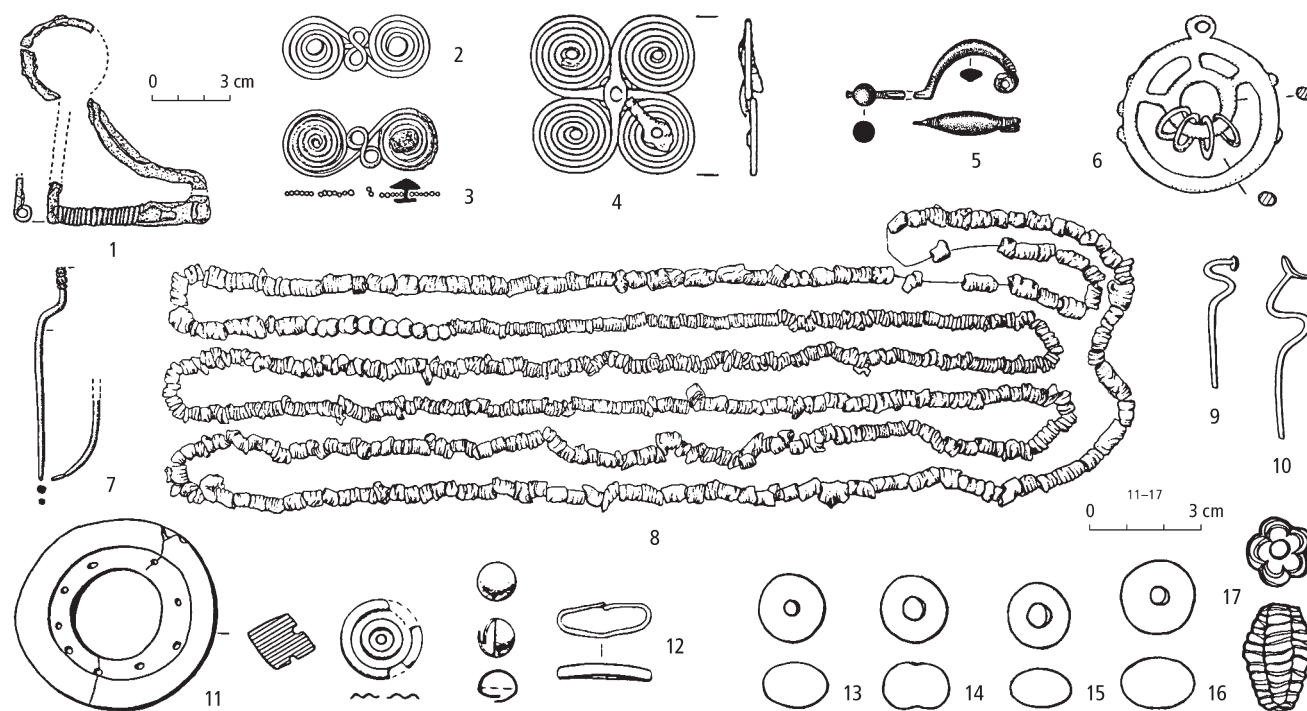


Fig. 36: The Hallstatt Tumulus culture. Dress fasteners and small ornaments. 1 harp fibula; 2, 3 spectacle fibulae with figure-eight coil; 4 four-spiral fibula; 5 bow fibula; 6, 11 pendants; 7, 9, 10 pins; 8, 13-17 beads; 12 belt parts. 1 iron; 2-10, 12 bronze; 11 amber; 13-17 glass. 1 Roupov (Plzeň-jih district); 2 Dýšina (Plzeň-sever district); 3 Meclov-Mašovice (Domažlice district); 4, 12 Protivín (Písek district); 5, 7 Němětice (Strakonice district); 6 Újezd near Vodňany (Strakonice district); 8 Sedlec-Hůrka (Plzeň-jih district); 9, 10, 11 Kyšice (Plzeň-sever district); 13-16 Plzeň-Kostelík (Plzeň-město district); 17 Protivín region. After Chytráček - Metlička 2004; Michálek - Lutovský 2000; Soudská 1976; Šaldová 1968; Venclová 1990; Michálek forthcoming; supplemented by J. Michálek.

are known. An entirely unique find is a bronze object in the shape of a wheel with a diameter of approximately 10 cm, and four spokes; arranged around a small bowl in the middle of the wheel are four water birds, and another four smaller birds around the perimeter of the wheel. Chains composed of three rings were attached to two opposing places on the wheel, with a pair of trapezoidal pendants connected by a clasp and a ring (Nemějice, Na Hůrce barrow: Fig. 34:4).

7.2.4.3 Gold

Gold artefacts are documented by only a few specimens. Decorated sheet gold (head ornament or part of a belt-hook; Fig. 86: 30) and spirals or rings, perhaps hair ornaments, occurred (Kříše: Michálek - Frána 1997, 202).

7.2.4.4 Glass

Glass is represented exclusively by beads - smaller and larger rounded light blue beads, one in a honey brown colour (Fig. 36: 13-16). One black spindle-formed bead with white combed decoration (Fig. 36: 17), type 713 according to N. Venclová (1990, 91-94), was found. Characteristic of Ha C, these types were

also popular in the late Hallstatt period. The small number of glass beads in the Hallstatt Tumulus culture context corresponds to the other contemporary cultures in Bohemia (see Chapter 7.1.4.4).

7.2.4.5 Stone

Saddle querns have a rectangular or irregular form, while grinders were often made of cobblestones. Triangular, rectangular and peg-shaped whetstones, typically with concave sides, are regular finds.

7.2.4.6 Organic materials

Amber. Amber beads are only known from a single grave find in west Bohemia, where they were accompanied by a trapezoidal amber spacer (Kříše barrow 19: Píč 1900, Tab. XXIX: 9; Sklenář 1987, 9, 15, Fig. 7: 19h). A large ring (Fig. 36: 11) is a unique artefact. Amber beads are somewhat more common in south Bohemia.

Other materials. Antler and bone artefacts are relatively rare. The function of a solid cylindrical antler object from Dobešice could not be determined. Antler and bone necklace spacers are known (Hlava 2012, with refs.). The use of leather and wood is documented by a wooden yoke coated with leather (see above);

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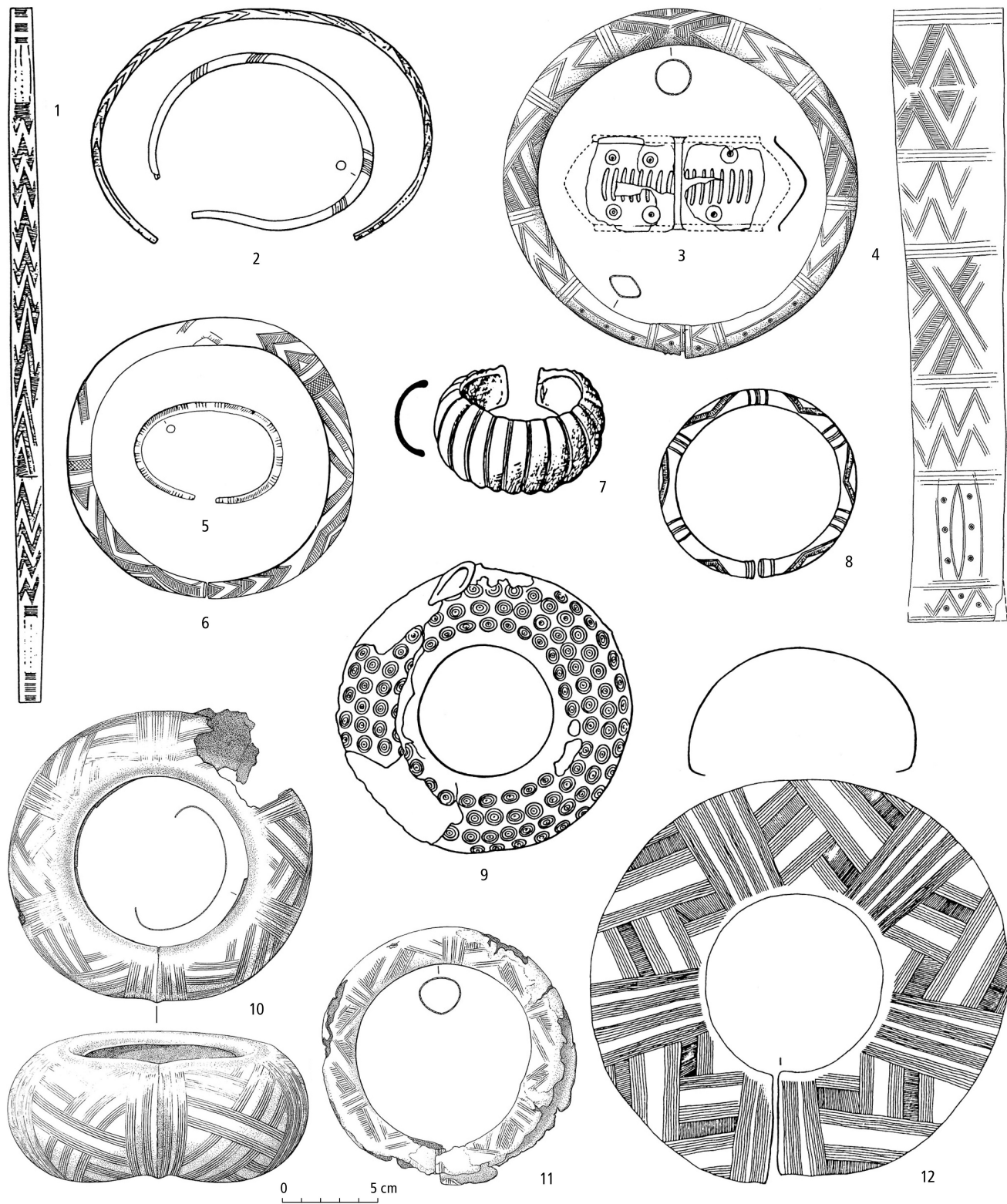


Fig. 37: The Hallstatt Tumulus culture. Bronze ring ornaments. 1, 4, 6 torcs; 2, 5, 11 anklets; 3, 7, 8 bracelets; 9, 10, 12 turban-rings. 1, 7 Protivín (Písek district); 2, 5 Manětín-Hrádek (Plzeň-sever district); 3 Paseky (Písek district); 4, 11 Lučice (Klatovy district); 6, 8, 9 Kyšice (Plzeň-sever district); 10 Bolešiny (Klatovy district); 12 Křtěnov (České Budějovice district). After Chytráček 2007c; Soudská 1994; Šaldová 1968; Michálek forthcoming; supplemented by J. Michálek and M. Chytráček.

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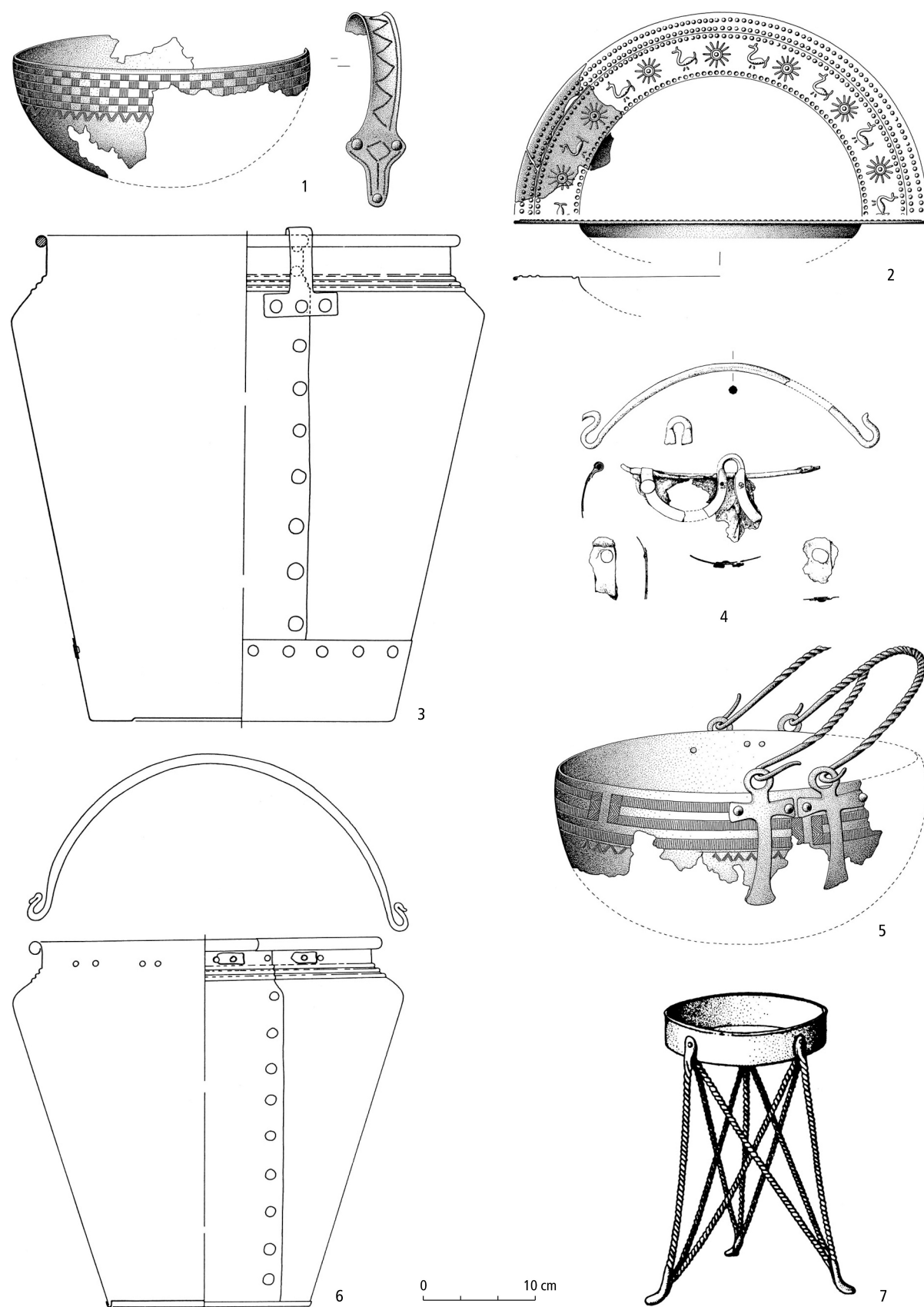


Fig. 38: The Hallstatt Tumulus culture. Bronze vessels. 1 cup; 2 plate; 3 Kurd-type bucket; 4 bucket with sickle-shaped handle attachment; 5 cauldron with cruciform handle attachment; 6 situla; 7 reconstruction of a tripod. 1, 5, 7 Švihov-Červené Poříčí (Klatovy district); 2, 3 Dýšina (Plzeň-sever district); 4 Břasy-Kříše (Rokycany district); 6 Dobřany (Plzeň-jih). After *Siegfried-Weiss 1991; Chytráček 2012; Drda – Rybová 1998.*

otherwise, only indirect evidence in the form of metal parts (wagon fittings, horse harness, belt-hooks) is available.

7.2.5 Ritual areas and activities

7.2.5.1 Burial areas

Burial areas are probably all barrow cemeteries. Even graves from this period at the cemetery of Nynice, which appeared to be flat graves without signs of mounds during excavation (Fig. 39: 1; Plate 8: 3), can be interpreted as originally having been covered with barrows, as the sparse distribution of graves suggests (*Šaldová 1968, 378; John 2004*). The custom of piling a large mound continued in both west and south Bohemia for centuries, perhaps with only a temporary (and questionable) interruption in the Final Bronze Age (the Nynice culture). The general revival of barrow burials had already occurred in west Bohemia at the transition of Ha B to Ha C. Apparent ties, or perhaps a fluid transition between the late Ha B Nynice culture and the Ha C Hallstatt Tumulus culture are seen in Ha C1 barrow graves in Újezd-Kostelík, Štáhlavice-Beztehov and Horní Kamenice (*Šaldová 1965, 74–83, 96, Fig. 53–62; 1968, 389; 1994, 304; Chytráček – Metlička 2003, 89, Abb. 3: 6–9; 2004, 106, Abb. 1*). Also frequently used are earlier burial areas typically situated on slightly elevated terrain – rises or their slopes (*Chytráček 1999, 20, Abb. 1: 10, 32, 40, 72; 2; Chytráček – Metlička 2011*).

Although burial areas can contain up to forty barrows (Fig. 39: 2; Plate 8: 2), they most commonly comprise between two and five. The largest documented barrow cemetery in south Bohemia in the Hroby Forest near Křtěnov was originally composed of 300–400 barrows, of which only ninety-six still exist; however, as was the case at other cemeteries, burials were deposited there from the Early and Middle Bronze Age and up to the late Hallstatt period. A lack of data makes it impossible to determine how many barrows belonged to Ha C–D1. Several dozen barrow cemeteries with burials from this period are known in west and south Bohemia.

Barrows have a circular to slightly oval ground plan. Those in west Bohemia are smaller, with a diameter of 5–14 m, and lower, while barrows in south Bohemia have a diameter of up to 20 m and are usually up to 2 m high (in rare cases up to 3–4 m). Their internal construction is composed of earth, stone and in some cases even wood. The barrows most often have 1–2 stone rings (Fig. 40), stone paving or a stone cairn or just an earth mound. Certain earlier graves (Ha C1) had a round cover made of stones.

Large graves on the ground surface are interpreted as evidence of contacts with northeastern Bavaria (*Šaldová 1968, 385*). Sunken chambers are relatively rare in west Bohemia (Újezd near Radnice: *Hralová 1993*) and could reflect a Bylany culture influence from central Bohemia; they are absent in south Bohemia.

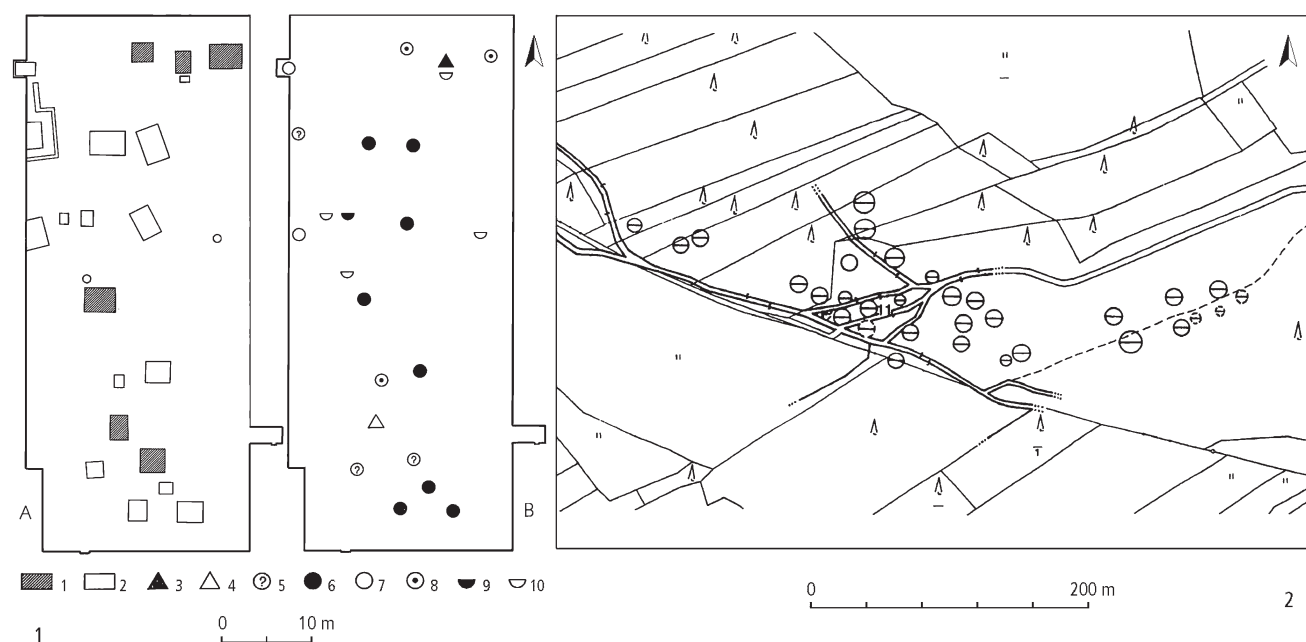


Fig. 39: The Hallstatt Tumulus culture. Plans of cemeteries. 1 Nynice (Plzeň-sever district), Ha C graves: A – 1 early phase, 2 late phase; B – 3–4 chamber graves, 5–8 large ground level graves, 9–10 sunken pit graves; 2 Plav (České Budějovice district), barrow cemetery. After *Šaldová 1968*; supplemented by J. Michálek.



Fig. 40: The Hallstatt Tumulus culture. Barrow with stone chamber and stone ring. Dobřejovice (České Budějovice district), excavations in 1973. Photo by A. Beneš.

Although biritual burial is characteristic, there are far fewer inhumation burials than cremation burials. The cremation rite is generally regarded as a legacy of the Urnfield cultures. Inhumation or cremation burial can be deposited in either the central part of the mound or at its perimeter.

Cremation graves are constructed with the same detail as those intended for inhumation burials. Burnt remains are often deposited in places where the head would be found in an inhumation grave. Based on finds from Nynice, it is thought that the differences in the deposition of burnt remains could be related, among others, to divergent ritual customs between male and female burials. Differences are also observed in grave goods: an iron sword and knife appear in male graves, a small iron knife in female graves, glass beads and unidentifiable iron objects in the graves of non-adult individuals (Šaldová 1969, 646).

Many Hallstatt cremation burials in south and west Bohemia were also deposited in earlier mounds, i.e. in shallow pits below the surface in the central part, or on various sides at the perimeter of the mound (Michálek 1999). Late La Tène, early Roman period and early medieval burials were then sometimes placed in the barrows originally built during the Hallstatt period.

Types of graves

Graves can be divided into the following groups according to the layout of graves and the placement of the burial.

1. Chamber graves. Chambers have a square or irregular rectangular ground plan (for example, the dimensions at the cemetery in Nynice were 260 x 180 cm, 170 x 150 cm) and are covered by several layers of stone. The construction of wood or stone could extend to the surface of the barrow. The chambers were built on the old ground surface (Fig. 41: 4) or were sunken in rare cases (Fig. 41: 3). They were typically orientated along the cardinal directions. Cremation burials were placed in a vessel in the southern or southwestern part of the grave or scattered on a layer of ash (in some cases interpreted as a hearth: Nynice). Burnt bones are also often scattered outside of the urn. The remains of a funeral pyre in the form of charred wooden timbers (Fig. 41: 2) are sometimes found along the walls of the grave chamber. Finds from south Bohemia indicate that inhumation burials are deposited along the west wall of the chamber with the head orientated toward the north. Grave inventories, especially a large amount of pottery (up to fifty vessels), the parts of horse harness and other artefacts are found along the eastern and southern wall of the chamber but also elsewhere (Fig. 42). If a wagon (or parts thereof) has been deposited in a grave (e.g. Zbislav), it is found along the west wall, with the drawbar and yoke facing south; the buried person was placed on the wagon. Other goods in wagon graves were placed along the east wall of the chamber. Sunken chamber graves occur only in the west Bohemian group of the Hallstatt Tumulus culture.

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In south Bohemia, only above-ground wooden and stone grave chambers are represented (e.g. Protivín, barrows 1 and 2; Beneš 1972; Michálek forthcoming).

2. Large graves with square, rectangular or oval ground plans (length of long axis 200–400 cm, up to 700 cm in rare cases) built on the ground surface (Fig. 41: 1). The grave is often found on the remains of the burnt pyre, which is larger than the actual grave. The

grave is usually surrounded by burnt logs from the pyre and even by a simple stone wall. A cremation burial can be placed in an urn in the southwest corner or on a pile. In rare cases an urn containing a cremation burial stood in the southeast or northeast corner or in the middle of the grave. Piles of carefully collected burnt bones, perhaps originally placed in a container made of organic material, are also found in the corners.

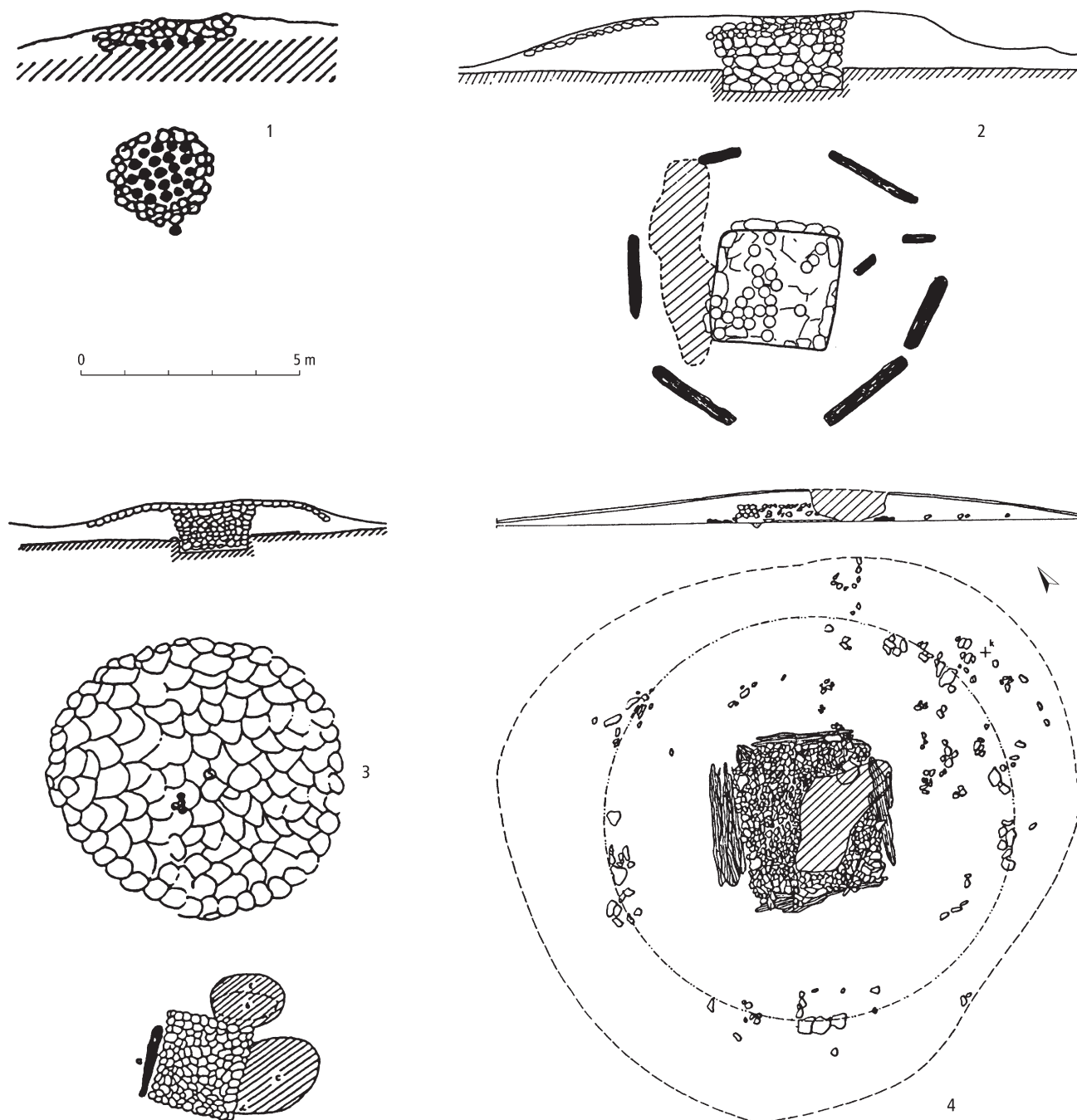


Fig. 41: The Hallstatt Tumulus culture. Construction and layout of graves. 1 large ground-level grave; 2, 3 sunken chamber graves; 4 ground-level chamber grave. 1 Štáhlavice-Beztehov (Plzeň-jih district), barrow 1; 2 Újezd u Sv. Kříže (Rokycany district), barrow 4; 3 Újezd u Sv. Kříže (Rokycany district), barrow 7; 4 Kšice (Tachov district), barrow 21. After Franc 1988; Chytráček 1999; Šaldová 1974a; Hralová 1993.

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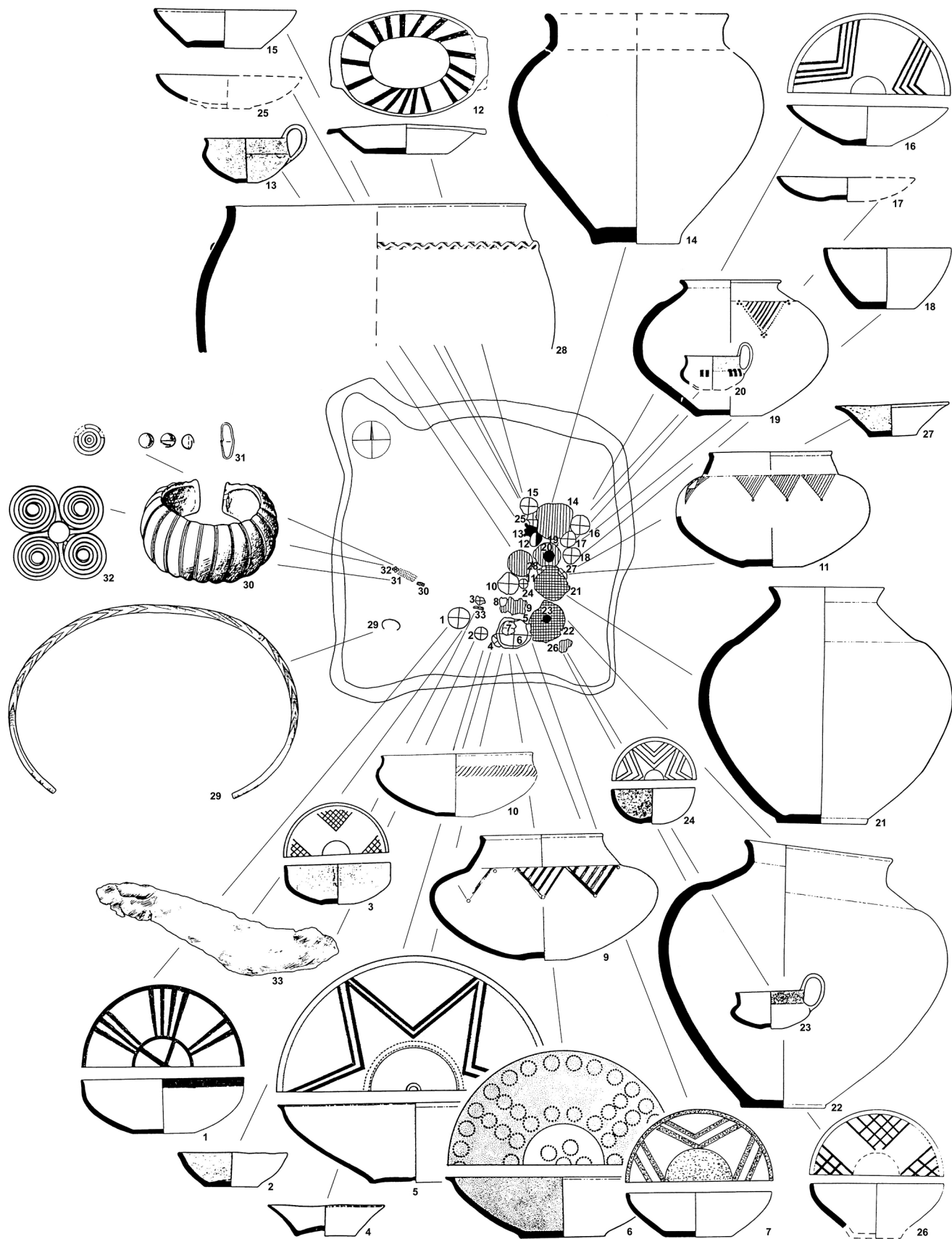


Fig. 42: The Hallstatt Tumulus culture. Plan of grave goods in a chamber grave. Protivín (Písek district), barrow 1/1970. After Michálek forthcoming.

The presence of animal bones in the fill near vessels is rare. The number of vessels ranges from nine to thirty. In these cases it is possible that the bodies were cremated at the site of the grave.

5. Small sunken graves (Nynice) feature a shallow oval pit with a diameter of 80–200 cm, covered with several layers of stones. The graves contain a smaller number of vessels (two to eight), and the burnt bones are mostly scattered among ashes and cinders in the pit, only rarely are they placed in an urn. Related to burials in vessels is the practice of placing vessels with a hole in the bottom into graves, a custom that is interpreted as a demonstration of faith in the posthumous life of the soul (*Šaldová 1968*, 380).

Anthropological analyses are only available from Nynice and Manětín-Hrádek. The cremated remains from the graves in Nynice belonged to nineteen individuals, of which fifteen were identified as adults, four as children (*Chochol 1969*, 630–32). One of the adults could be identified as a male, two as females. The average lifespan reached the border line between the adultus and maurus stages; living to an old age was rare. The group is characterised as having a medium robust to thinner physical constitution. A grave containing both a male and female was documented in only a single case. Two of the four children's burials were deposited in small sunken graves; one large grave on the ground level surrounded by logs from the funeral pyre contained the burial of a small child in a vessel.

The anthropological analysis of the poorly preserved remains from the Ha C cremation graves at the cemetery in Manětín-Hrádek (phase I and II) documents the gracile body construction of the buried individuals; two cases identified the graves of females, and one case the burial of an adult individual and child in the same grave (*Soudská 1994*, 61).

Hallstatt Tumulus culture graves are consistent with the overall image of the burial rite of contemporary central European cultures. Sunken chambers and graves constructed on the surface are “houses of the dead”, the building and covering of which with barrows can be regarded as an expression of religious notions connected with the social standing of the deceased who, if they had achieved a sufficiently high status, were accompanied into the next world by a horse-drawn four-wheeled wagon. Bronze vessels were part of drinking sets and were linked to ritual activities during burials (*Šaldová 1968*, 367) or other ceremonies. The consistent orientation of graves and the traditionalised grave sets are undoubtedly based on a uniform worldview (*Vosteen 1999*, 174).

7.2.5.2 Non-burial ritual areas

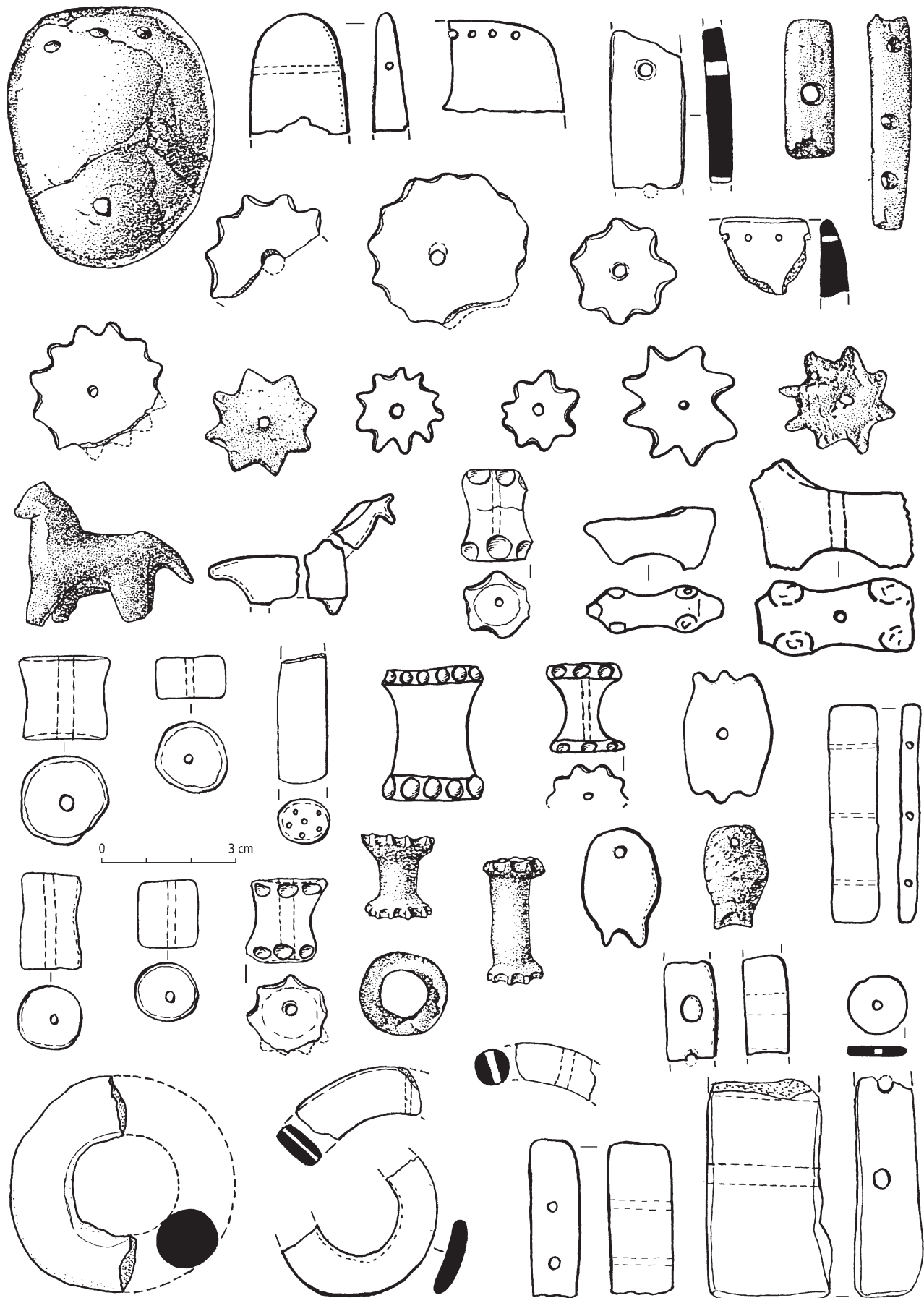
Distinct changes in the field of ritual activities connected to the emergence of the Hallstatt period include the disappearance of formerly common hoards of bronze artefacts.

The only known non-burial ritual area, which existed as early as Ha C (and continued until Ha D), was located on the Burkovák Hill near Nemějice in the Písek region. Over 6,000 small perforated clay figurines and sherds (Fig. 43) were found on the upland plateau. A total of 1,855 artefacts have been studied thus far (*Chytráček et al. 2009*, 194, Tab. 1). Shallow pits and a post-built structure (or grouping of posts) were also found. The clay objects depict horses (a total of fifteen specimens preserved today), yokes (16) and a bird. The majority of the pieces are geometric shapes, toothed wheels (136), spools with a toothed edge (59), small cylinders (404), rings (82), discs (4), prisms with side perforations (100), some with horns (4), rectangular and oval plates, trapezoidal, oval and bowl-shaped pendants and funnels (25) and their fragments (150), and vessel fragments. The perforation of the clay objects suggests their use as pendants (*Chytráček – Chvojka – Michálek 2008*, Abb. 4–5; *Chytráček et al. 2008*). An interpretation of this dominant hill as a type of essentially natural ritual area with perhaps a wooden structure or a group of posts seems to be more acceptable than that of a shrine of the type commonly seen in the classical world, or of a sacrificial area with pyres, as were found in the area from the central Alps and the northern foothills of the Alps to the Swabian Jura in Germany (*Parzinger – Nekvasil – Barth 1995*, 179–232). Female (spools, four-sided objects) and male (horse) elements can be distinguished in the assemblage of clay artefacts, and symbols of deities are also represented (toothed wheels, perhaps even clay rings). The objects are probably votive offerings with a magical significance, which were deposited at the site during religious ceremonies. Clay funnels and fragments of functional pottery vessels make it possible to consider libation rituals and perhaps food offerings in the central shrine which, located in the immediate proximity of barrow cemeteries, apparently served a large group of people. According to the current state of knowledge, the nearest similar sites are found in the sacred areas in the Venetian region in northeast Italy.

Other clay artefacts also belong to the category of symbolic artefacts (see Chapter 7.2.4.1). Prestigious bronze vessels were related to ritual behaviour as well – with the ceremonial consumption of beverages, probably alcoholic.

Fig. 43. The Hallstatt Tumulus culture. Clay votive objects. Nemějice (Písek district), Burkovák Hill. After J. Michálek (graphic scale) and *Drda – Rybová 1998* (shaded drawings, scale 1 : 2). ➤

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7.3 THE SILESIA-PLATĚNICE CULTURE

Vít Vokolek

7.3.1 Settled regions, density and continuity of settlement areas

Despite the general assumption that the beginning of Ha C was characterised by a reduction in the population as a result of climate change or other developments, this is not reflected in any way in the number and size of east Bohemian Silesian-Platěnice culture cemeteries and settlements (*Vokolek 1999, Fig. 1*).

Stage III Silesian-Platěnice culture of the Ha C–D1 period is tied to east Bohemia. Part of the Urnfield circuit, the Silesian-Platěnice culture has counterparts in northern Moravia and Silesia (*Nekvasil 1993; Gedl 1973*). The number of cadasters with Silesian-Platěnice culture finds is approximately one hundred (*Fig. 9*); however, more than one site may be found in one cadastre. Concentrations of sites have been

recorded in the Hradec Králové, Pardubice, Rychnov, Chrudim, Jičín and Turnov regions. The Silesian-Platěnice culture also extends to Prachovské skály and Český Ráj areas, with settlements also established in outlying areas such as the Ústí nad Orlicí region. The border at the western edge, i.e. between the Bylany and Silesian-Platěnice cultures, is not as distinct as previously assumed. A new evaluation of Hallstatt finds in the Poděbrady and Nymburk regions and partially also in the Čáslav and Kolín regions indicates that it was precisely in these areas where the influences of the two cultures collide, creating – as was the case with preceding cultures – a mixed contact zone. Nevertheless, Silesian-Platěnice influence here was probably predominant. Finds from this contact zone, especially settlement pottery, are so mixed that it is not possible to positively identify the culture to which they belong. Aware of this fact, scholars from the previous generation labelled such finds as “Bylany-Platěnice”. Connections with Moravia were

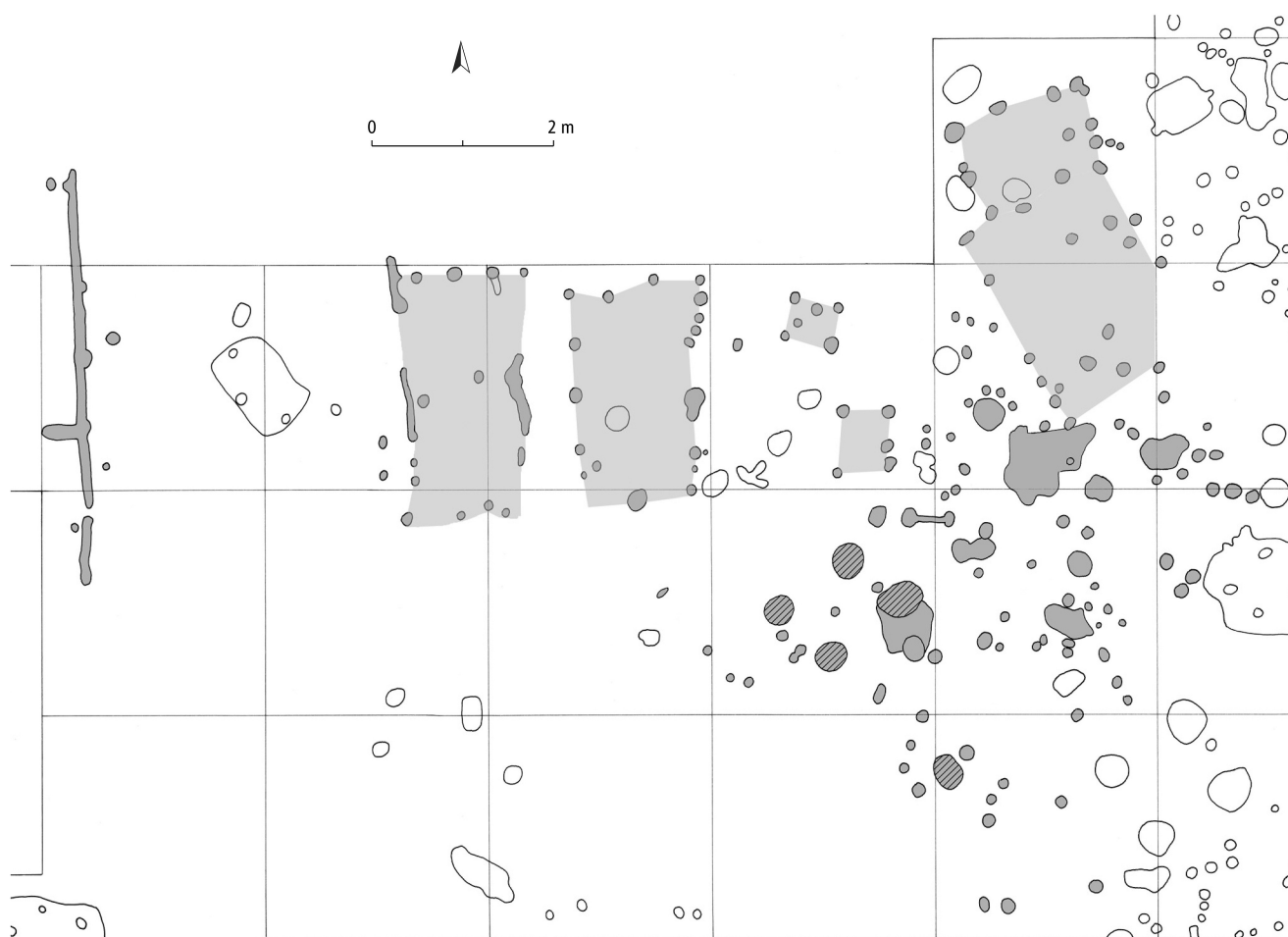


Fig. 44: The Silesian-Platěnice culture. Plan of the settlement site in Slepotice (Pardubice district). Dark grey: Ha C features; light grey: reconstructed ground plans of post-built structures; hatched: storage pits. After V. Vokolek.

apparently facilitated by a route along the River Loučná, documented by finds in the Vysoké Mýto region (Vich 2005).

Ha C settlements were usually built at different locations from those of the immediately preceding period, if this observation can be generalised from the small number of sites discovered thus far. The thick occupation layers found at some of these locations need not be evidence of long-term settlement at the site; instead, the creation of the layers could have been influenced by natural events such as floods, as was documented in Opatovice nad Labem.

7.3.2 Forms of settlements

Settlement forms include unenclosed lowland settlements and enclosed hilltop settlements, and rock shelters and plateaux were also settled. Although they have not been documented, it is assumed that enclosed lowland settlements also existed.

7.3.2.1 Unenclosed lowland settlements

Settlements were founded in close proximity to water sources – usually rivers or streams. The residential area in Opatovice nad Labem is situated at a slightly elevated location within the Elbe floodplain, in Slepotic on the edge of the Loučná river terrace. Settlements are located on both loess and sand-gravel terraces, in some cases even on sand dunes. The sites are mostly not geomorphologically conspicuous; critical factors were more or less flat terrain (sand dunes could be easily flattened) and the proximity of a water source. Certain parts of residential areas were probably enclosed by a light palisade or fence, which divided them from fields and pastures. The latest excavations indicate that the settlements, rather small in size (Fig. 44), consisted of several units – homesteads with post-built structures (houses and granaries), storage pits and, less commonly, sunken huts (discovered thus far only in Milovice and Opatovice nad Labem). The structures were built in a specific layout, e.g. around an open space in Slepotic. Fences sometimes discovered around the houses appear in the form of an arched row of posts. Settlements were composed of five or six homesteads. What appear to be larger settlements are in fact conglomerates of non-contemporary residential areas from a longer period of time.

7.3.2.2 Enclosed hilltop settlements

The Ha C Silesian-Platěnice culture hillforts, discovered so far, were built on hills offering long views over the surrounding area (Konecchlumí, Habřina: Vokolek 1985). Some of the hillforts are located near the border with the Bylany culture (Lišice). Since none of the hillforts have been subjected to excavation, little is known

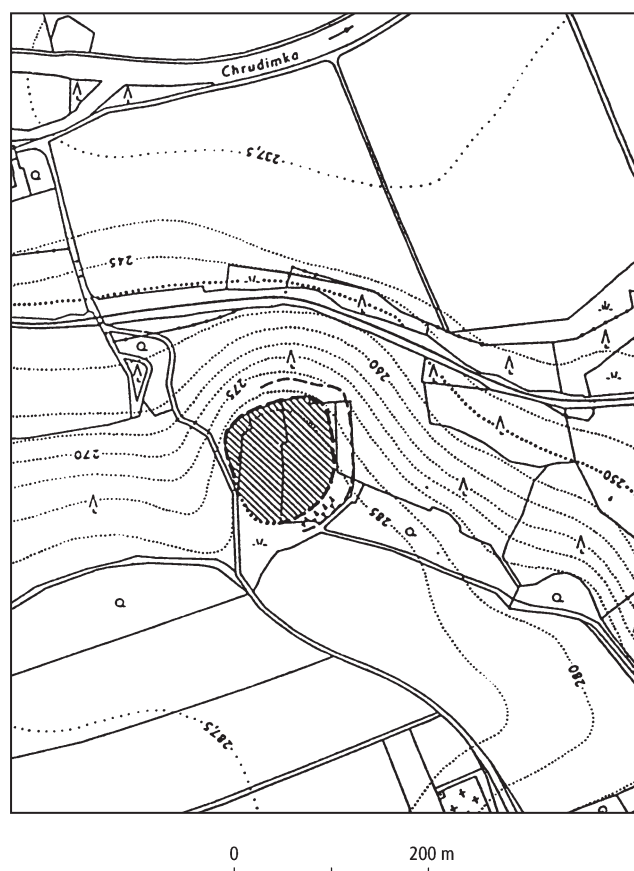


Fig. 45: The Silesian-Platěnice culture. Enclosed hilltop settlement at Topol (Chrudim district). After Vokolek 1993b.

about their interior layout or technique of fortification. Based on their survey, fortifications could have involved a stone wall (Konecchlumí), elsewhere only an earthen bank with a wooden construction and a palisade (Lišice). The two adjacent fortified areas in Konecchlumí cannot be described in greater detail without an excavation. Only ditches have survived at other hillforts (Chrudim-město and the nearby hillfort in Chrudim-Pumberka: Vokolek 1986). The size of the hillforts reached a maximum of several hectares.

Situated on a promontory above the Chrudimka river, overlooking the Pardubice basin, the hillfort of Topol near Chrudim (Fig. 45) is the only one from stage Ha D1 to have been investigated. The hillfort with an area of more than 1 ha was fortified by an earthen bank strengthened by a wooden construction and topped by a palisade, with a shallow ditch on the outside. The palisade was composed of massive posts with a wall of planks built between them. The hillfort was destroyed by fire, perhaps during a violent event. Groups of large vessels and storage vessels (for water?) with cups, and piles of stone (ammunition?) were found at the inner side of the bank.

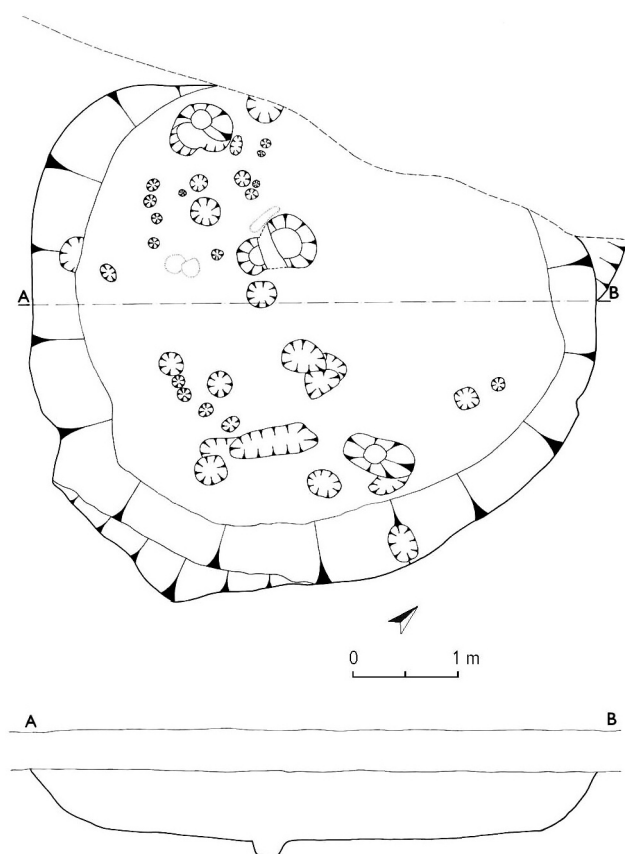


Fig. 46: The Silesian-Platěnice culture. Sunken house. Lišice (Hradec Králové district). After V. Vokolek.

Silesian-Platěnice hillforts in east Bohemia disappeared during the sixth century BC and were no more built in the late Hallstatt period.

7.3.2.3 Other hilltop areas

Although it was far weaker than in the preceding period, traces of activity beneath rock shelters, in caves or on a rocky plateau were discovered in the Český Ráj region. One example is the Čertova Ruka rock massif (Filip 1947, 223–224). These activities did not last long and instead probably involved a short-term use of the sites, which could also have had a ritual character.

7.3.3 Features in settlements

Sunken huts. Sunken huts first appear in Ha C and are represented thus far only in small numbers. They have an irregular rectangular ground plan with a length of around 4–5 m and a width of 3 m. The posts supporting the roof are not set regularly; they can be placed in the middle of the shorter sides or around the perimeter (Opatovice nad Labem). A sunken feature with a round ground plan, a diameter of 5 m and post holes around the perimeter (Fig. 46) was discovered at the hillfort of

Lišice. Neither ovens nor hearths were found in these sunken features, and it is assumed that they were probably used as manufacturing spaces. The sunken features did not form part of above-ground structures.

Post-built houses. The relatively small number of houses known so far features a rectangular ground plan and a construction composed of rows of posts (Fig. 44). The 8.2 x 5.3 m ground plan discovered in Milovice was composed of three rows of post holes. The ground plans of houses built on sandy or gravel-sand surfaces are not entirely regular; peripheral rows and postholes from irregularly placed interior posts supporting the roof are usually found. The houses in Slepotice were up to 13–14 m long and 8–10 m wide. Larger structures were divided into two or more rooms. In some cases the rows of posts were replaced by gullies; however, they never surround the entire wall. Hearths or other types of heating structures have not been found inside the houses (ploughing destroys the original bottoms of the features; perhaps with the exception of deeper support posts, the preserved depth of posts today reaches max. 20–30 cm).

Other post-built structures. The ground plans of smaller structures with sides 2–4 m in length, with regular groupings of four, five or six post holes are typically regarded as granaries (Fig. 44).

Storage pits. The majority of storage pits are conical in shape; roofs have not been recorded. Mouth diameters are 1.5–2 m, and depth can extend to 2 m in the loess. The pits were situated in groups outside houses.

Other pits. Shallow bowl-shaped pits could have various functions. Larger irregular complexes of pits, perhaps for the extraction of loess as clay for covering the walls of huts or for the production of pottery, were found in Opatovice nad Labem.

Vessels buried in the ground. Large storage amphorae for storing grain and other materials were buried in the ground, away from other structures.

7.3.4 Portable artefacts

7.3.4.1 Pottery

Vessels

As was typical for the Urnfields from the Late Bronze Age (and for Hallstatt cultures beginning in Ha C), vessels were made for both utility and funerary purposes.

Settlement pottery. There was a predominance of rather coarse, thick-walled pottery in the following forms:

1. Amphora-shaped storage vessels with a widely opened rim, lugs on the shoulders and with tongue-shaped knobs (usually three) on the lower part. In rare cases these vessels could also be decorated with finely incised gridded bands on the neck.

2. Amphora-shaped vessels in various sizes, without handles and in some cases with grid decoration.
3. So-called “flowerpots” – jar-like forms, mostly with a barrel-shaped body, inverted rim, with horizontal projections or a cordon, or both, on the shoulders. The range of forms and sizes is great – from smaller vessels up to the size of storage vessels.
4. Cups, thick-walled and undecorated, have a rounded body and a handle extending above the rim. Forms with a distinct neck appear in the category of fine tableware.
5. Bowls and small bowls are the most common pottery form. They are either rounded with an inverted or vertical rim, or have a highly distinct neck. Their size scale is wide.
6. Other forms. Also occurring are strainers with a round body, and fumigators with a large opening in the bottom; the mouth can be equipped with lugs that served as handles.

Finer “tableware” is almost unknown and is virtually absent at the investigated settlements. If, for example, fragments of plates decorated on the inner side are present in the settlement context, it is possible that they were artefacts of a symbolic nature rather than those for everyday use.

Funerary pottery. Thin-walled Silesian-Platěnice culture grave pottery was very badly fired, but often richly decorated. Gridded bands and impressed decoration, often on a graphite coated surface, are typical (Plate 5: 7–9). The inner sides of bowls have burnished or incised decoration. The basic funerary pottery forms are as follows:

1. Large amphora-shaped storage vessels (Fig. 47: 1–6; Plate 6: 1). The basic type is a slim vessel with a high neck and everted rim. Decoration involves lugs on the lower part of the body and pointed knobs on the shoulders, often surrounded by circular or semicircular grooves, dots surrounded by points, vertical relief ribs, sometimes in a crescent shape. Painting sometimes appears, mainly on the inner sides of rims, black on a brick-red or reddish-brown base, in the form of short stripes or zigzags. Rare painting on the body of vessels appears in the form of stripes, triangles and small circles.
2. Amphora-shaped vessels (Fig. 47: 7–16; Plate 6: 2) imitate either larger storage vessels or are lower, with a distinct neck, sometimes with a small handle or lug extending above the rim. Decoration involves gridded bands combined with pointed knobs, incised zigzags and circles surrounded by points. The surface is usually graphite coated with a silvery appearance, and burnished.
3. Small amphora-shaped vessels (Fig. 47: 17–21) vary to a large degree and can even have a flask-shaped form or appear as a jug with a handle at the rim or on the maximum diameter. The body is typically decorated with oblique grooves and cross-hatched bands, sometimes with black paint in the form of short lines on the inner side of the rim.
4. Bowls and small bowls appear in five main forms: a) bowls with a vertical or inverted rim, often pulled up in a small lobe (Fig. 48: 2, 12); b) bowls with an S-shaped profile (Fig. 48: 1, 6, 8); c) mostly larger bowls with a distinct neck (Fig. 48: 4); d) low bowls with a curved neck, decorated with oblique incisions or grooves; a small handle in the form of a knob is sometimes present at the rim (Fig. 48: 7, 9–11); e) bowls on a mostly hollow pedestal, richly decorated inside (Fig. 48: 5).
5. Cups occur in two basic forms: a) cups with a distinct neck, small lenticular depressions on the shoulders; neck decorated with groups of incisions, small hatched triangles or arches, sometimes burnished or incised inside, most often in the form of triangles (Fig. 48: 13, 14, 16–19, 22, 23; Plate 6: 5); b) cups with a rounded body and a handle extending above the rim, undecorated (Fig. 48: 15, 20, 21).
6. So-called “flowerpots”, i.e. coarse barrel-shaped vessels, usually with four knobs, a cordon or a row of incisions on the shoulders, in rare cases with a handle extending above the rim (Fig. 48: 28–38).
7. Plates, thin-walled and poorly fired (Plate 6: 6), smaller with a widely opened and pulled out rim and a conical body (Fig. 48: 5) or larger carinated with an out-folded rim. The inner sides are often decorated with intricate ornamentation of gridded bands, incised or burnished hatched triangles and black paint.
8. Situlae of higher and lower forms feature a distinct, narrow neck and a tall body, sometimes decorated with incisions on the shoulders; the neck can be painted black or even red (Fig. 48: 24–27; Plate 6: 7).
9. Small vessels, mostly flask-shaped forms, sometimes with pointed knobs on the body, can be classified as hanging vessels. The majority are graphite coated and decorated with incised zigzags or triangles with dots on their peaks (Fig. 48: 44–51).
10. Lids of two types have been identified: a) flat discoid lids or those with a rim that is lifted at one point for better handling (Fig. 48: 39), in some cases with a central opening (unfired specimens have also been found: Opatovice nad Labem); b) with a conical body and a cylindrical or a fan-shaped grip with an opening in the middle, in rare cases replaced by a handle or a solid conical projection (Fig. 48: 40–43).
11. Special vessels. Small vessels of zoomorphic and other forms feature three or four feet and a drinking spout (Fig. 49: 3, 5, 7, 9; Plate 6: 5). In rare cases the

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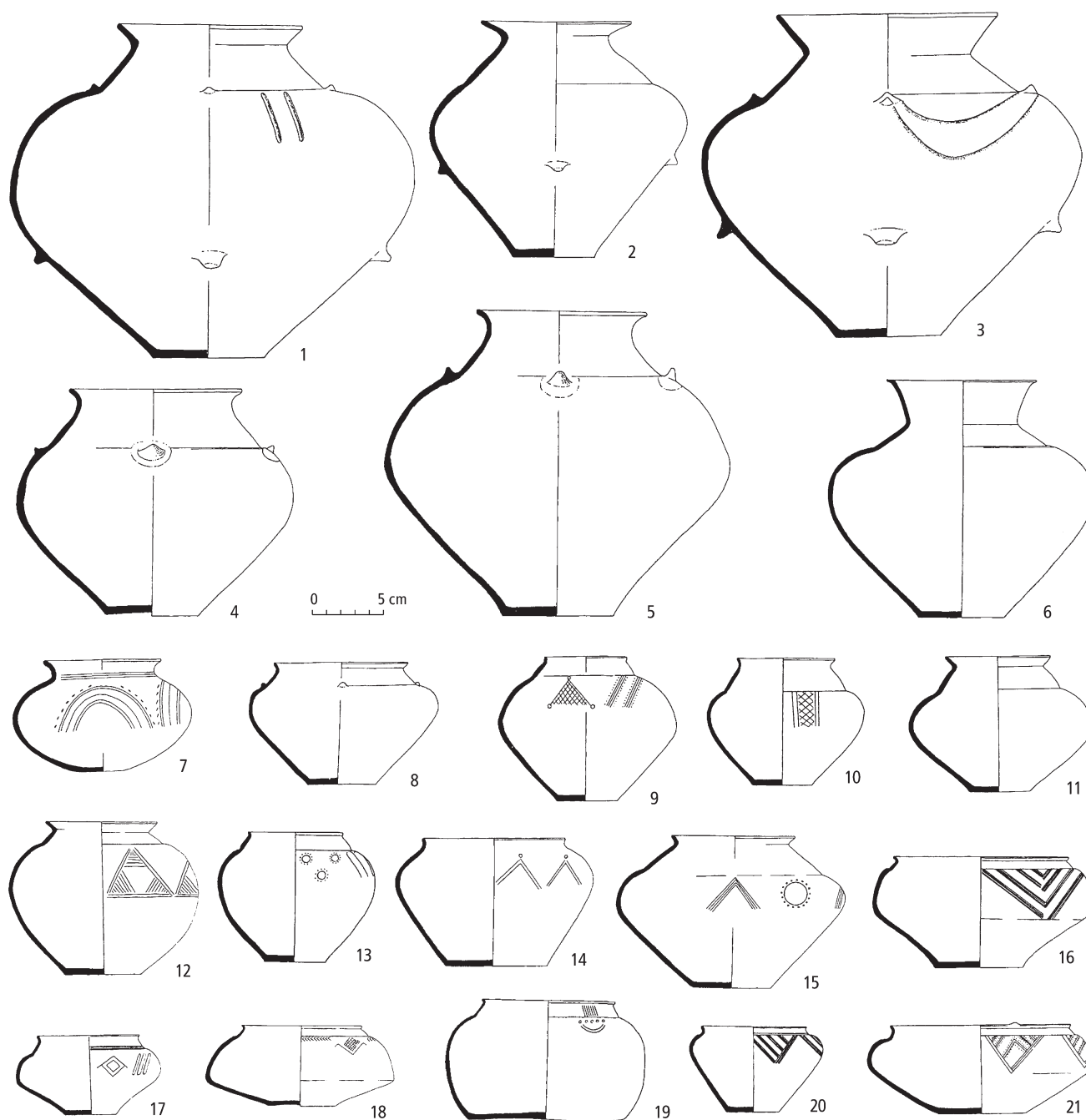


Fig. 47: The Silesian-Platěnice culture. Basic pottery forms. 1–6 amphora-shaped storage vessels; 7–16 amphora-shaped vessels; 17–21 small amphora-shaped vessels. After V. Vokolek.

vessels are double or triple (e.g. Kunětice, Platěnice, Fig. 49: 6, 10; Plate 6: 4). Clay drinking horns (Fig. 49: 11–14, 18) and other drinking (?) vessels (Fig. 49: 8) are known. Also occurring are small clay artefacts (with a diameter of up to 4 cm), rounded or biconical, in some cases decorated with incisions on the shoulder and equipped with a small opening for hanging (Fig. 49: 16); when hollow, they can be regarded as vessels, e.g. for holding essences, etc.

Other clay artefacts

Objects of a symbolic value include clay plates with horn-like ends (Fig. 49: 2), sometimes attached to a round clay base that can be decorated with a semicircular groove (Fig. 49: 1, 4). These “moon” symbols (commonly known as *Mondidol*) often form part of grave inventories. Finds from settlement contexts are larger, with length up to 40 cm (Libišany: Vokolek 1998). Clay rattles, i.e. hollow objects filled with small

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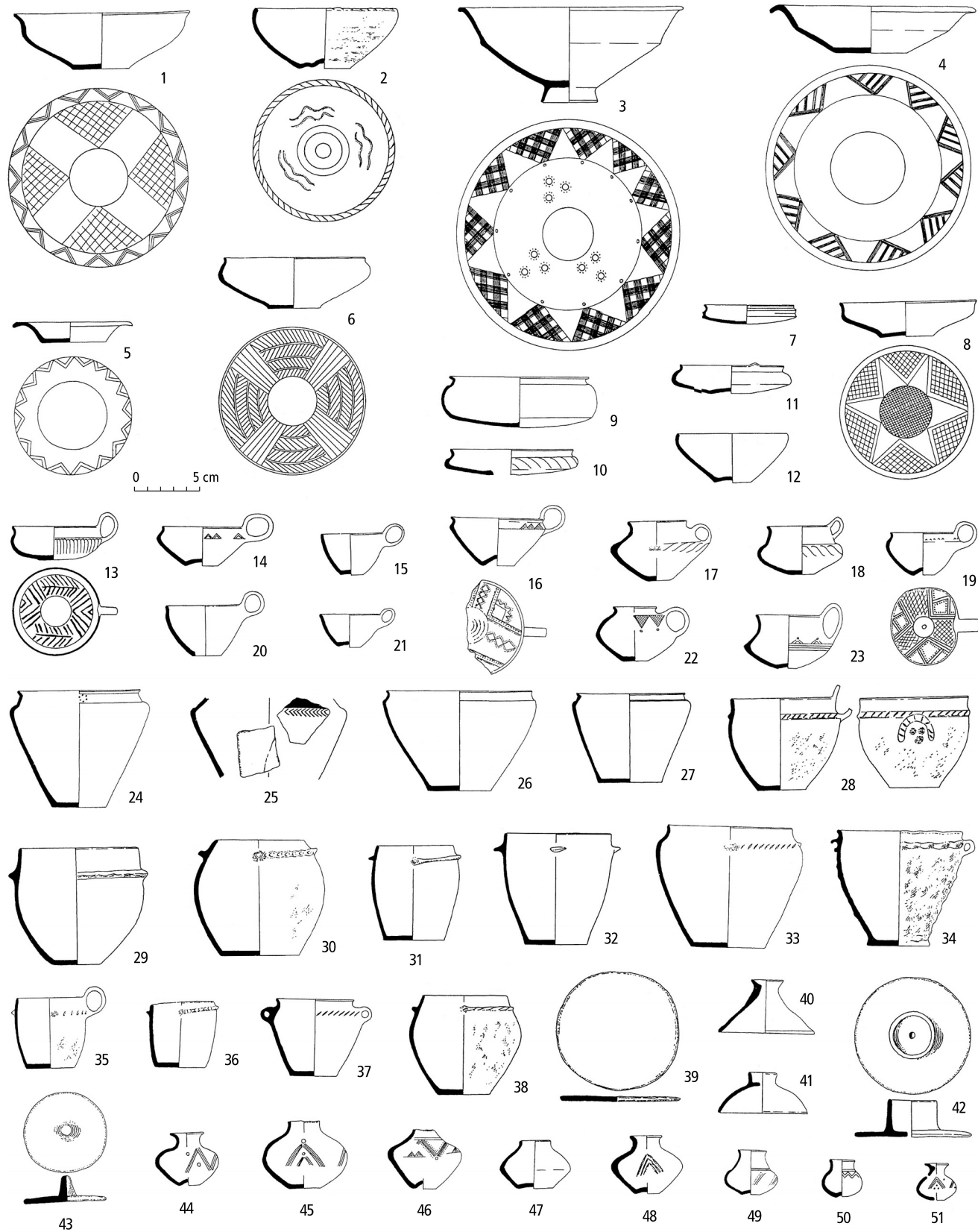


Fig. 48: The Silesian-Platěnice culture. Basic pottery forms. 1–4, 6–12 bowls; 5 plate; 13–23 cups; 24–27 situlae; 28–38 “flowerpots”; 39–43 lids; 44–51 small vessels. After V. Vokolek.

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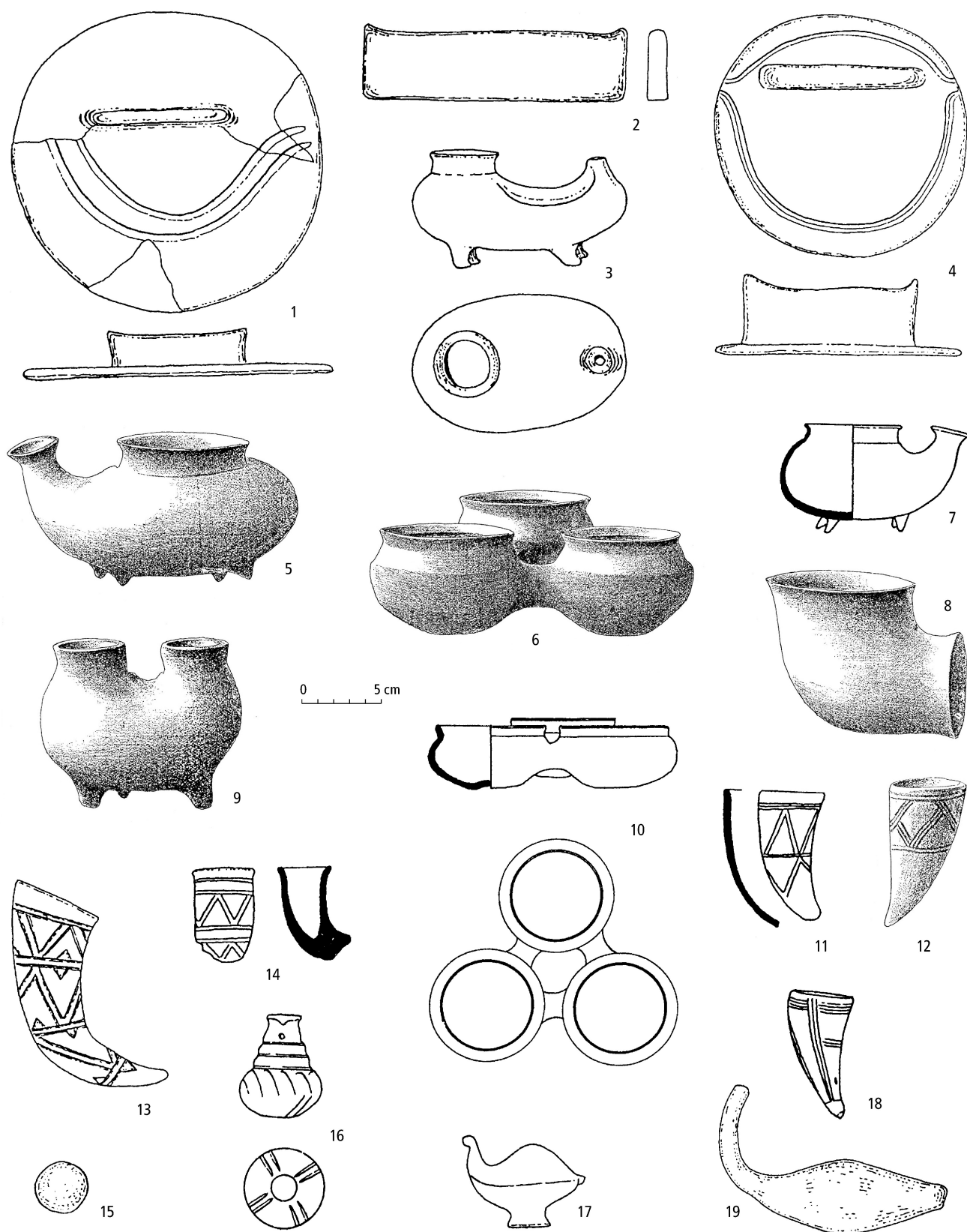


Fig. 49: The Silesian-Platěnice culture. Special vessels and other clay artefacts. 1, 2, 4 discs with horn-shaped plates ("moon idols"); 3, 5, 7, 9 zoomorphic vessels; 6, 10 triple vessels; 8, 11–14, 18 drinking horns and similar forms; 15, 17, 19 rattles; 16 hanging vessel. 1, 13, 18 Dobřenice (Hradec Králové district); 2, 5, 6, 8, 9, 11, 12 Platěnice (Pardubice district); 3 Opatovice nad Labem (Pardubice district); 4 Rosice nad Labem (Pardubice district); 7 Pardubice-Hůrka (Pardubice district); 10, 15 Kuněčice (Pardubice district); 14, 17, 19 Předměřice nad Labem (Hradec Králové district); 16 Ředice (Pardubice district). After Vokolek 1999; supplemented by V. Vokolek.

clay balls, have a spherical, less often pear-shaped, form (Fig. 49: 15). In some cases rattles are shaped like birds – ducks or swans (Fig. 49: 17, 19). Regarded earlier as Bylany culture finds, unusual clay artefacts – an oval shield, wagon wheel, oak leaves and a triquetrum – from a grave in Poděbrady (Plate 7: 2; *Hellich 1923*) are attributed today to the Silesian-Platěnice culture.

Prismatic or conical loom weights, the horizontal holes of which sometimes bear traces of tying, are found in residential areas. A specimen in the shape of a rectangular plate is unique (Opatovice nad Labem). Spindle whorls have a loaf-shaped or biconical form and sometimes are decorated with a zigzag.

7.3.4.2 Iron and bronze

Iron and bronze were used to make weapons and tools, wagon components, horse harness, personal ornaments and fasteners, vessels and other artefacts.

Weapons. Relatively rare, weapons are represented mainly by a bronze or iron sword. Bronze swords have a length of around 70 cm and a flat, tongue-shaped hilt with holes for rivets (Gündlingen type; Fig. 50: 1, 8). This type is found in both the East and West Hallstatt zones in Ha C. Iron swords apparently had the same length, were reinforced in the middle of the blade and featured a flat hilt (Fig. 50: 2). At least ten swords (six bronze and four iron) have been found to date in east Bohemia, a figure that is only somewhat lower than is known from the Bylany culture which, however, occupied a larger geographic area. The bronze swords are accompanied by boat-shaped chapes (Fig. 50: 1) from scabbards made of organic material. The swords were worn on a belt with a simple, tongue-shaped bronze belt-hook (Fig. 50: 19). Spearheads and lanceheads have not been recorded in east Bohemia. A barbed iron arrowhead was found in the cemetery in Nová Ves near Bakov nad Jizerou, which is situated in the contact zone with the Bylany culture. Also classified as weapons are iron axes with a long body and a transverse rectangular shaft hole (Fig. 50: 27). A remarkable axe decorated with gold inlay (Platěnice, Fig. 50: 26) was probably an insignia rather than a weapon. Iron knives with a tang (Fig. 50: 16, 17, 20) and of various lengths up to the size of a dagger (25–30 cm), sometimes with a sickle-like blade, were apparently used as both weapons and tools. A large knife from Kostelec nad Orlicí was inserted in a sheet iron scabbard.

Tools. Knives were a common tool. Small bronze and iron chisels as well as needles and awls, mostly made of bronze, also occur.

Wagon and horse harness. Newly identified among unpublished finds from the cemetery in Platěnice are solid iron rings, wheel fittings and parts of linch pins, which are undoubtedly components of wagons. The

wagons were possibly burned on the funeral pyre with the body, as the small size of Silesian-Platěnice graves and strict adherence to the burial rite probably did not permit the deposition of an intact wagon in the grave.

Horse harness components are represented mainly by bronze bits in the form of a bar, in some cases decorated with ribs or twisted (ABC types, see *Pare 1999*), with rings at the ends (Fig. 50: 4–6); cheek pieces of bridles made of bars with caps on the end and holes for the leather straps (Fig. 50: 3, 7) also occur. This category also includes button-shaped slips and various bronze and iron rings.

Ornaments and fasteners. Pins, fibulae, bracelets and torcs were commonly worn.

Typical forms of pins include bronze and iron swan-neck pins with a globular or vase-shaped head (Fig. 50: 9, 10), sometimes with a rib on the neck, which are regarded as a West Hallstatt type, but are also found in Moravia and Silesia (*Gedl 1973*). Also occurring are pins with a ribbed head (Fig. 50: 12), which were already popular in the preceding period, and pins with a small discoid head and a decorated neck. Pins with a spherical head, mainly made of iron, are common (Fig. 50: 15). In some instances these pins have an elongated eyelet and look more like needles (Fig. 50: 11).

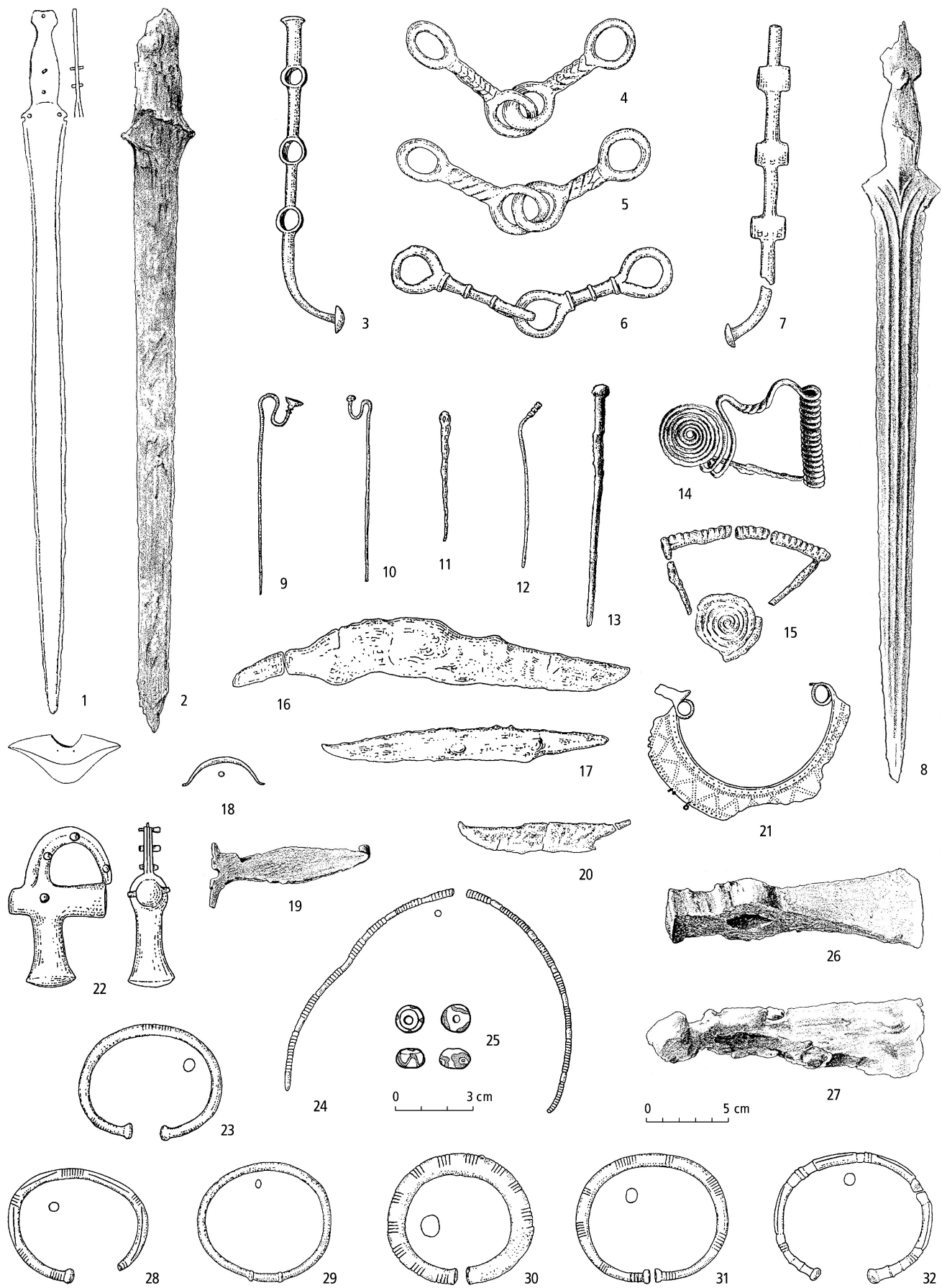
Fibulae appear only in a limited range of types. The characteristic and predominant form in east Bohemia was the harp fibula (Fig. 50: 14, 15), most often made of iron and characteristic for the East Hallstatt zone (*Nebelsick 1997*). Another product of the same origin is a sheet bronze lunular fibula with loops for pendants (Fig. 50: 21); there is also a cast fibula, probably with an ornamental foot (Fig. 50: 18). Usually only the rosettes have survived from bronze spectacle fibulae (*Brillenfibel*) in graves.

Bronze or (more frequently) iron bracelets have open terminals that widen like a pestle; a seal terminal is more common for the bronze versions (Fig. 50: 23, 28, 31, 32). Closed cast bronze bracelets with ribs also appear (Fig. 50: 29). Apart from being bracelets or ankle rings (unknown thus far in the Silesian-Platěnice culture), larger iron rings could also be parts of wagons or horse harness. Bronze bracelets are decorated with groups of engraved lines, sometimes creating a relief effect, and ring-and-dot motifs. Broad sheet bracelets with crosswise ribs are less common (Fig. 50: 30).

Bronze torcs have one end that is hammered flat and coiled into a loop; the other end is pointed. The torcs can be decorated with engraved lines (Fig. 50: 24). Although similar ornaments were also made of iron, their fragments are difficult to distinguish from utility rings or bracelets.

Bronze vessels. Bronze sheet vessels are only documented by several fragments. The following types occur:

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cup (?) with a handle ending with horns, with hammered decoration (Úhřetice grave 43: *Hralová 1981*; *Siegfried-Weiss 1991*, Tab. 14: 74; *Vokolek 1999*, Tab. 134: 3, 4);

plate: flat with a rim folded outward (Platěnice).

Other artefacts. Toiletry items include bronze tweezers (Platěnice) and a needle holder (Kostelec nad Orlicí). A bronze terminal in the shape of a horse's head from Předměřice nad Labem (Fig. 50: 22) was identified as a fitting of a chieftain's staff (*Werner 1961*, 383, Abb. 1, 3; *Bouzek 1997*, 197–198). Some objects originally described as wagon fittings were recently interpreted as drinking horn accessories (*Chytráček 2013*, 309–310). A bronze anthropomorphic object from the barrow cemetery in Jaroměř, depicting male and female figures (Plate 7: 5), is a unique artefact. Although Hallstatt parallels are known (*Lippert 1993–1994*, 152–157), without further discussion, V. Kruta and M. Lička et al. (2004, 155), date the pendant to the late La Tène period; naturally, a longer usage until LT B cannot be ruled out (*Čížmář 2012*, 147).

7.3.4.3 Gold and silver

Artefacts made of precious metals have not been found in east Bohemia. In several rare cases only a gold or silver decorative element has survived on artefacts made of a different metal. The aforementioned iron axe from Platěnice had inlay decoration in the form of gold bands (*Hralová 1965*). An iron ring from Opatovice nad Labem was silver plated, with hammered decoration.

7.3.4.4 Glass

Glass products are represented by only a small number of beads, a situation typically regarded as a consequence of glass melting during cremation; in reality, the low number of finds is probably the result of the fact that sieving has not been used in grave fill investigations. In addition to monochrome rounded or annular beads made of blue or bluish-green glass, larger than in previous periods, dark blue beads with yellow linear or circular decoration characteristic for Ha C are also found in the Silesian-Platěnice culture (Fig. 50: 25), i.e. types 544, 710 and 715 (*Venclová 1990*). The largest assemblage of beads is the recently rediscovered find from Platěnice grave 60–Daněk, composed of twelve dark blue beads with yellow “eyes” – points in a circle (Plate 7: 5), which are a typical product of the Adriatic glassmaking area (type 552: *Venclová 2006*).

7.3.4.5 Stone

Made of soft stone, the perforated round stone *bulava* maces probably served as insignia rather than weapons. Hammer stones, mainly made of cobblestones, had numerous applications in cases when finer metal tools would have proved to be of inadequate strength; they are found in both residential and burial areas (see Chapter 7.3.5.1). Grinding stones for cereals are rare finds so far. Like other stone artefacts from graves, a perforated slab could have served as a pendant or whetstone.

7.3.4.6 Organic materials

Amber. Despite the assumption that one branch of the Amber Route ran through east Bohemia, finds of amber beads are, surprisingly, not documented in Silesian-Platěnice culture graves. It can be presumed that the beads were destroyed by fire or were missed when the grave fill was not subjected to sieving.

Other materials. The decalcification of the soils on which Silesian-Platěnice settlements were established has resulted in a total lack of animal bone finds and, hence, bone artefacts. Bone tips (awls?) and smoothing tools with a chisel-like end are represented by only a small number of finds; carved deer antler which, in some cases, is perforated and was perhaps used as a pickaxe, is a more common artefact. Other organic artefacts included wooden biers and coffins in graves; however, as is the case with other wooden products (e.g. wagons), only traces and indirect evidence remain of these objects. Charcoal from the fill of grave pits (bows could be made from yew, wooden vessels from lime) suggests that wooden objects were probably also burned. Leather straps are indirectly documented by belt-hooks and the metal components of horse harness.

7.3.5 Ritual areas and activities

7.3.5.1 Burial areas

Knowledge of burial practices comes mainly from cemeteries investigated at the beginning of the twentieth century (Platěnice, Předměřice nad Labem, Kunětice). The most recent excavations were rescue activities (Opatovice nad Labem, Kostelec nad Orlicí) that demonstrated that cemeteries have been heavily damaged or are mostly destroyed by farming, particularly by deep ploughing. No burial area or its Hallstatt part have been investigated in full.

◀ **Fig. 50.** The Silesian-Platěnice culture. Weapons, tools and ornaments. 1, 2, 8 swords and a scabbard chape; 3–7 bits and bridle cheek-pieces; 9–13 pins; 14–15 harp fibulae; 16, 17, 20 knives; 18 fibula with ornamental foot (?); 19 belt hook; 21 sheet metal lunular fibula with pendants; 22 end piece; 23, 28–32 bracelets; 24 torc; 25 beads; 26, 27 axes. 1, 3–7, 8, 9, 10, 12, 14, 18, 19, 21, 24, 28–32 bronze; 25 glass; 26 iron and gold; others iron. 1 Chudonice (Hradec Králové district); 2, 8, 13, 14, 19, 25–27 Platěnice (Pardubice district); 3, 6, 7, 16–18, 20–24, 28–32 Předměřice nad Labem (Hradec Králové district); 4, 5, 12 Dobřenice (Hradec Králové district); 9 Rosice nad Labem (Pardubice district); 10 Pardubice-Hůrka (Pardubice district); 11 Opatovice nad Labem (Pardubice district); 15 Kostelec nad Orlicí (Rychnov nad Kněžnou district). After *Vokolek 1999*; supplemented by V. Vokolek.

The location and internal layout of burial areas

Graves from the period of Ha C–D1 are to be found mostly in large cemeteries where burial began in the Late Bronze Age (from Ha B1, or at least Ha B3) and where they form one or several integral groups (e.g. at the northwestern edge of the Skalice cemetery: *Vokolek 2002a*). As was the case in the earlier period, cemeteries were located near contemporary settlements. In Opatovice nad Labem the distance between the burial and settlement area is 150 m, which is similar to that of Předměřice nad Labem. In general, burial areas were located within 400 m of settlements and were built mostly on elevated land, sand dunes or loess drifts.

The largest cemetery known to date is the eponymous Platěnice site with more than 300 graves in an area of 2,000 m². A larger space was left between graves than was the case in the preceding period, i.e. 2–10 m (Fig. 51). The systematic arrangement (e.g. in rows) seen earlier has not been observed. A large amount of indirect evidence suggests the existence of

barrows (Fig. 52: 1), but since the mounds have not survived, it is impossible to determine the ratio of barrow graves to flat burials.

The post-built 7 x 3 m structure with a storage vessel sunk in the middle of the floor, discovered at the cemetery in Kostelec nad Orlicí, is interpreted by V. Vokolek as a burial shrine, the only one found thus far in the Urnfield culture.

Burial rite

The exclusive burial rite was cremation. Although the burnt human remains were typically deposited in urns, pit graves in which the bones are heaped in a pile outside of a vessel also appear. Graves in which both types of deposition are found – bones inside and outside of urns – occur; however, without anthropological analyses it is impossible to say whether this involved the burial of a single individual or the cremated remains of several people. This practice could also be an imitation of Bylany culture burials, in which an inhumation

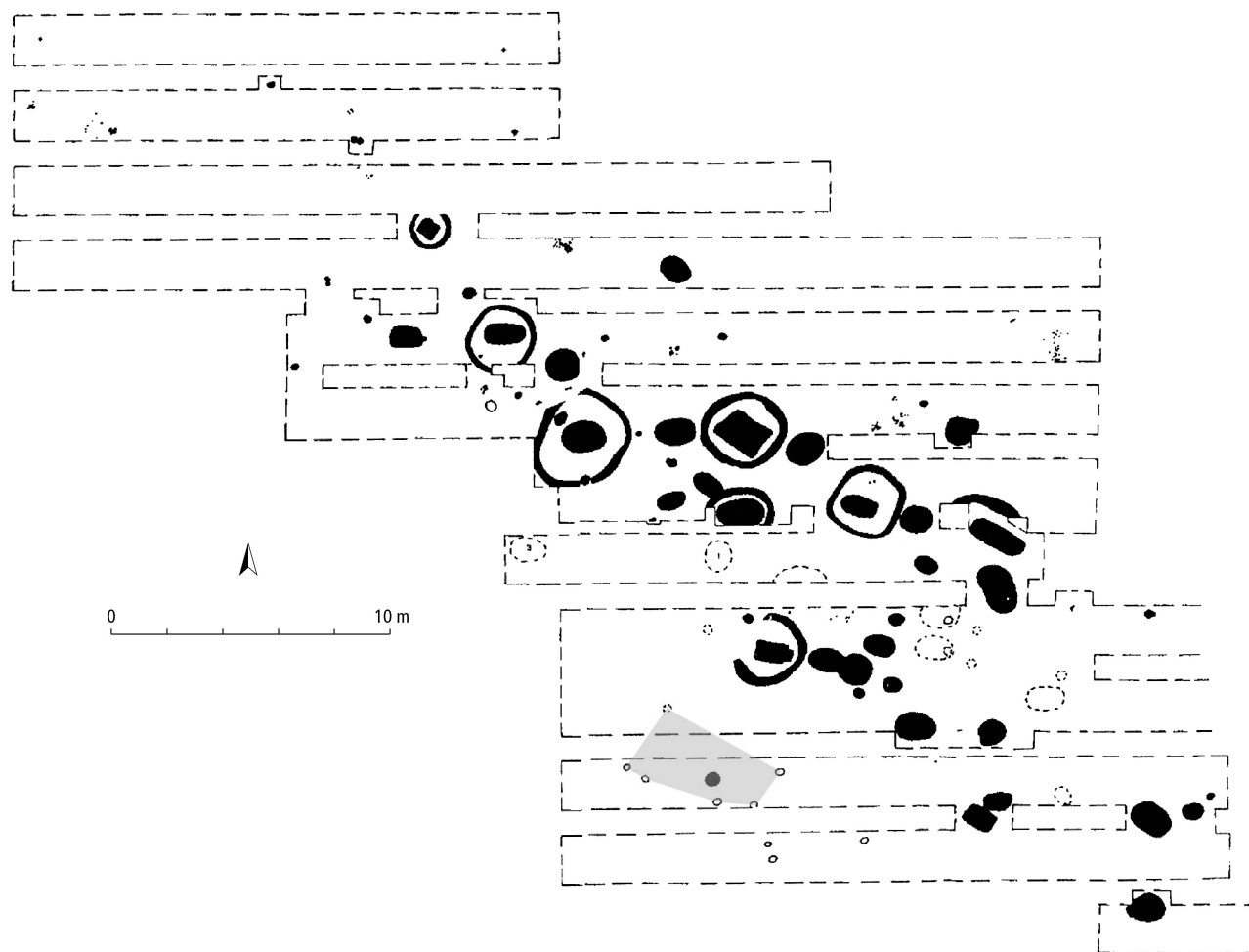


Fig. 51: The Silesian-Platěnice culture. Plan of the cemetery in Kostelec nad Orlicí (Rychnov nad Kněžnou district). Grey: ground plan of an assumed shrine. After *Vokolek 1999*.

burial sometimes accompanies cremated remains. It is probable that not all of the cremated remains were deposited in urns, since grave fills contain, along with burnt sherds, isolated burnt bones, in some instances in clusters.

Grave arrangement

Grave pits mainly had ground plans that were oval or rectangular with rounded corners. Characteristic of east Bohemia, this shape is considered an influence from the West Hallstatt sphere. Grave pits in Moravia and Silesia are mostly square. The pits have an E-W orientation, and the minor deviations that occur could be the result of burials taking place at various times of the year. Unlike the preceding Urnfield period, grave pits mostly have a fill composed of remains from the funeral pyre. Small post holes from a wooden construction are sometimes found in the grave pit around the urn and other vessels (Skalice in the Hradec Králové region). A pair or trio of pits in two rows, discovered under the vessels are interpreted as an evidence for biers on which the vessels were placed; later they fell to the bottom of the grave, creating the impression that it had been looted or disturbed (Kostelec nad Orlicí). The regular distribution of vessels in a rectangle suggests the existence of wooden chests (Fig. 52: 2, 5), which were actually discovered at Kostelec nad Orlicí (Fig. 52: 1: 3). The chests were made of boards in the manner of coffins. Empty today, a demarcated space in one of the chests perhaps held artefacts from organic materials.

Flat graves were apparently marked by some kind of grave marker. Post holes located nearby suggest that an upright post not only marked the position of the grave but perhaps also a location where additional grave goods could be added.

Some graves were surrounded by a gully whose narrow width or thin slot at the bottom as well as posts in the corners (Fig. 52: 2) suggest a wooden construction – perhaps a palisade or a fence made of planks, which replaces the large wooden chamber of Bylany culture graves. It is assumed that these graves were covered by barrows. Barrows apparently had a small diameter – between 2 and 7 m, according to the excavated gullies. Cremation graves in Chýšť in the Pardubice region (Fig. 52: 4) were deposited in actual rectangular chambers with posts in the corners; hence, their construction was highly similar to the Bylany culture graves (Sigl – Vokolek 2004). These graves were also covered by barrows, and the distance of more than 20 m between them suggests that they were possibly quite large. It is probable that large “princely” barrows also existed (České Lhotice – a barrow, not fully excavated, with stone covering containing a bronze sword chape:

Princ 1974, 617; or a barrow outside the ramparts of the hillfort in Konecchlumí, uninvestigated to date: Vencl – Vokolek 1974, 344).

The rich graves were apparently looted by contemporaries, since the recorded intrusions were only aimed at the urn with grave goods; other vessels remained virtually untouched. It is also possible that the subject of the looters’ interest was actually the urn, especially if it was made of bronze. Evidence of the fact that the graves (barrows) were visible for many years was their looting in the Middle Ages (Kostelec nad Orlicí).

Grave goods

Grave finds are composed mainly of pottery, the forms of which are highly variable. The number of vessels ranges from one or two (urns, covered by a bowl in some instances) up to more than fifty (Fig. 53); the most common grave assemblages contain between ten and twenty vessels. The vessels were placed closely together in a row, sometimes in multiple rows; bowls, cups and plates are often stacked. Large amphora-shaped storage vessels (one or two specimens) usually stand at the edge of the grave, in other cases in the middle; storage vessels identical with respect to both size and decoration appear. The placement of urns is not uniform: they are found on the edge, in the corner or in the middle of the grave. The deposition of cremated bones is not tied to any single pottery type; they can be placed in amphorae, “flowerpots” or even in bowls. However, cremated remains are never found in large amphora-shaped storage vessels. Individual vessels were apparently also additionally placed outside of graves, in their fill or in the barrows, which would explain finds of single vessels without burials.

Metal grave goods were deposited both in and outside of urns (a practice which applies mostly to iron knives, swords and horse harness). Although the parts of horse harness are linked to graves with swords, this association is not a rule. Grave goods were burnt to varying degrees during the cremation, complicating a precise identification of the original inventory, which could be relatively impressive in the case of important individuals. The iron components of wagons (Platěnice) also suggest the possibility that the wagons were burnt during the burial ceremony. Unburnt animal bones are found in certain graves; cattle bones are documented along with hollow bones, perhaps from birds (Úhřetice). “Moon” symbols – clay crescent-shaped forms – were also placed in graves outside of vessels; although their location is not tied to a specific place in the grave, they are mostly found in the centre of a cluster of vessels. Grave goods can also include Neolithic or Eneolithic polished stone tools.

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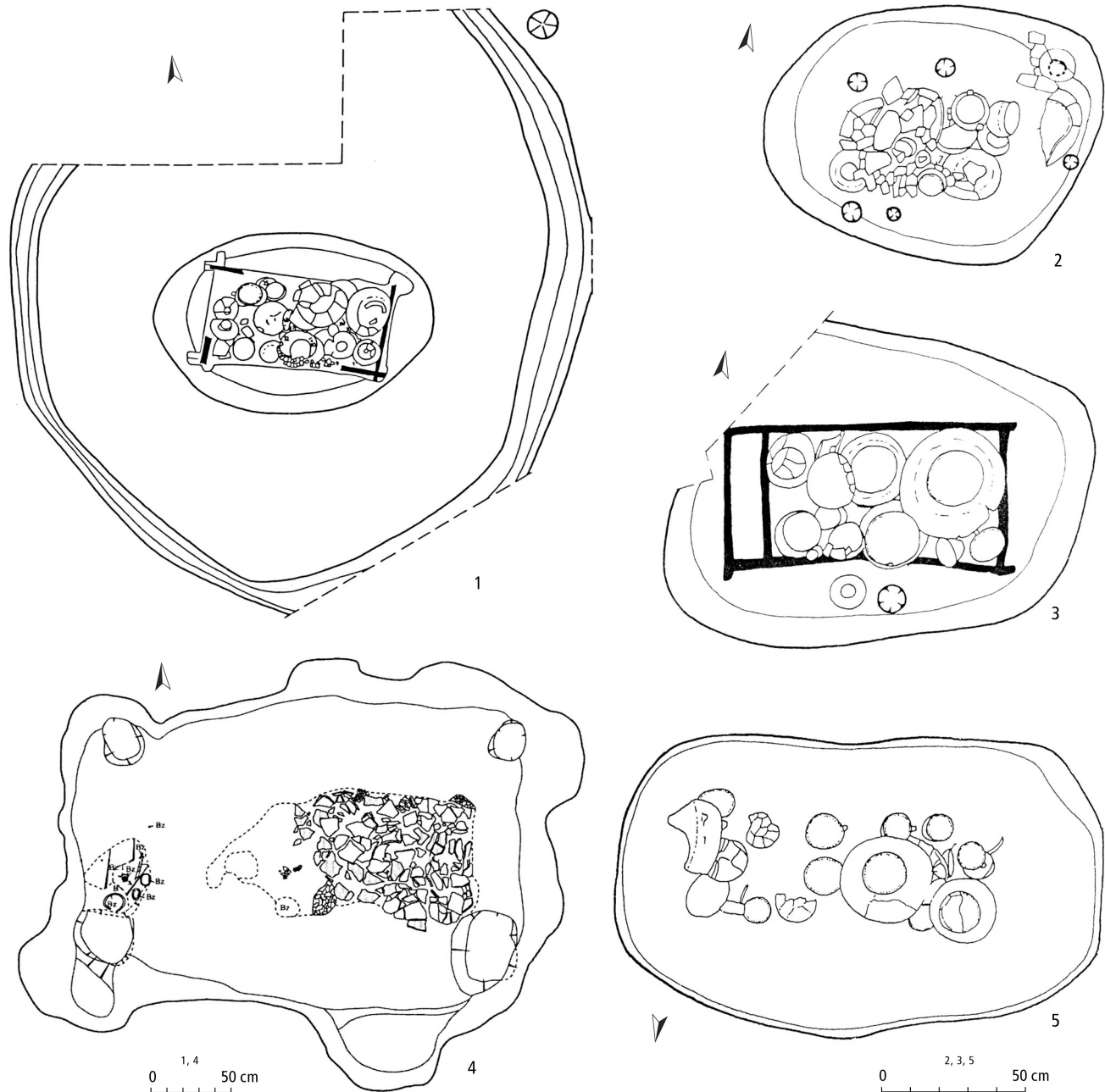


Fig. 52: The Silesian-Platěnice culture. Burials deposited in wooden or other chests, sometimes surrounded by a gully. 1–3 Kostelec nad Orlicí (Rychnov nad Kněžnou district); 4 Chýšť (Pardubice district); 5 Pardubice-Hůrka (Pardubice district). After Vokolek 1999; Sigl – Vokolek 2004.

Hammer stones, made mostly from quartz pebbles, are found in grave fills or, more commonly, scattered in the area of cemeteries; the tools were used to grind bones from the funeral pyre that were not fully cremated prior to the deposition in the urn.

7.3.5.2 Non-burial ritual areas

Separate non-burial ritual areas from the Ha C–D1

Silesian-Platěnice culture are not known. Small clay artefacts of a symbolic character were discussed above.

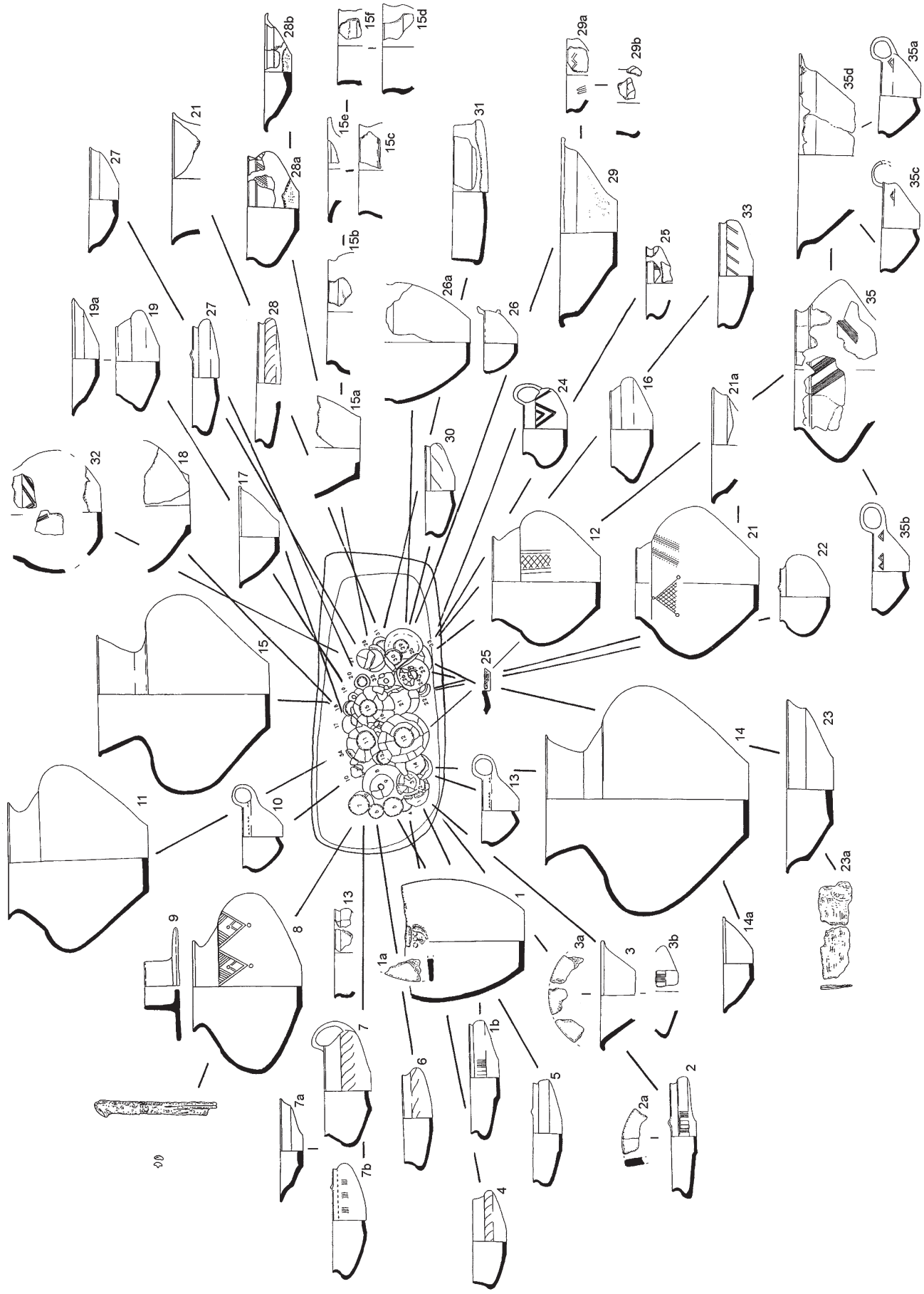
7.4 THE BILLENDORF CULTURE

Drahomír Koutecký and Vít Vokolek

Part of the Urnfield circuit, the Billendorf culture was present in Saxony and Lusatia, perhaps in adjacent Sile-

Fig. 53. The Silesian-Platěnice culture. Plan of grave goods in grave. Kostelec nad Orlicí (Rychnov nad Kněžnou district), grave 6/1981. After V. Vokolek. ➤

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sia, and its finds extend into Bohemia (Fig. 9). No separate Billendorf culture cemetery has been investigated in Bohemia, and settlement finds are difficult to distinguish from those from the Lusatian and Bylany cultures. Although the existence of a separate Billendorf enclave in the Děčín and Duchcov regions is assumed, finds from these areas lack a more detailed find context. Further finds, mainly from graves, attributed to the Billendorf culture have been made in the northwest part of Bohemia between Ústí nad Labem and Chomutov (Jenišův Újezd, Dolní Jiřetín, Droužkovice, Přezetice). They further occur along the Elbe through the Lito-měřice region (Libochovany, Lovosice) to the Mělník region (Hořín). Finds from the Turnov region (*Filip 1947*) are disputable (according to V. Vokolek, the pot-

tery discovered at Čertova Ruka belongs to the Silesian-Platěnice culture, while a small vessel allegedly from Frýdštejn could come from a castle collection of unclear origin). New excavations in Český Ráj did not confirm Billendorf culture finds. It is thought that the Billendorf culture formed only islands of settlement in Bohemia. Artefacts ascribed to this culture appear in the Bylany culture find contexts in central Bohemia.

Almost all of the known Billendorf culture artefacts in Bohemia are pottery. The basic vessel forms are amphorae, jugs, bowls, pots and cups; jar-like vessels also appear in the latest phase.

1. Amphorae (Fig. 54: 1–6, 9) feature a high conical neck and handles on the shoulders; vessels without handles also occur. The amphorae are usually un-

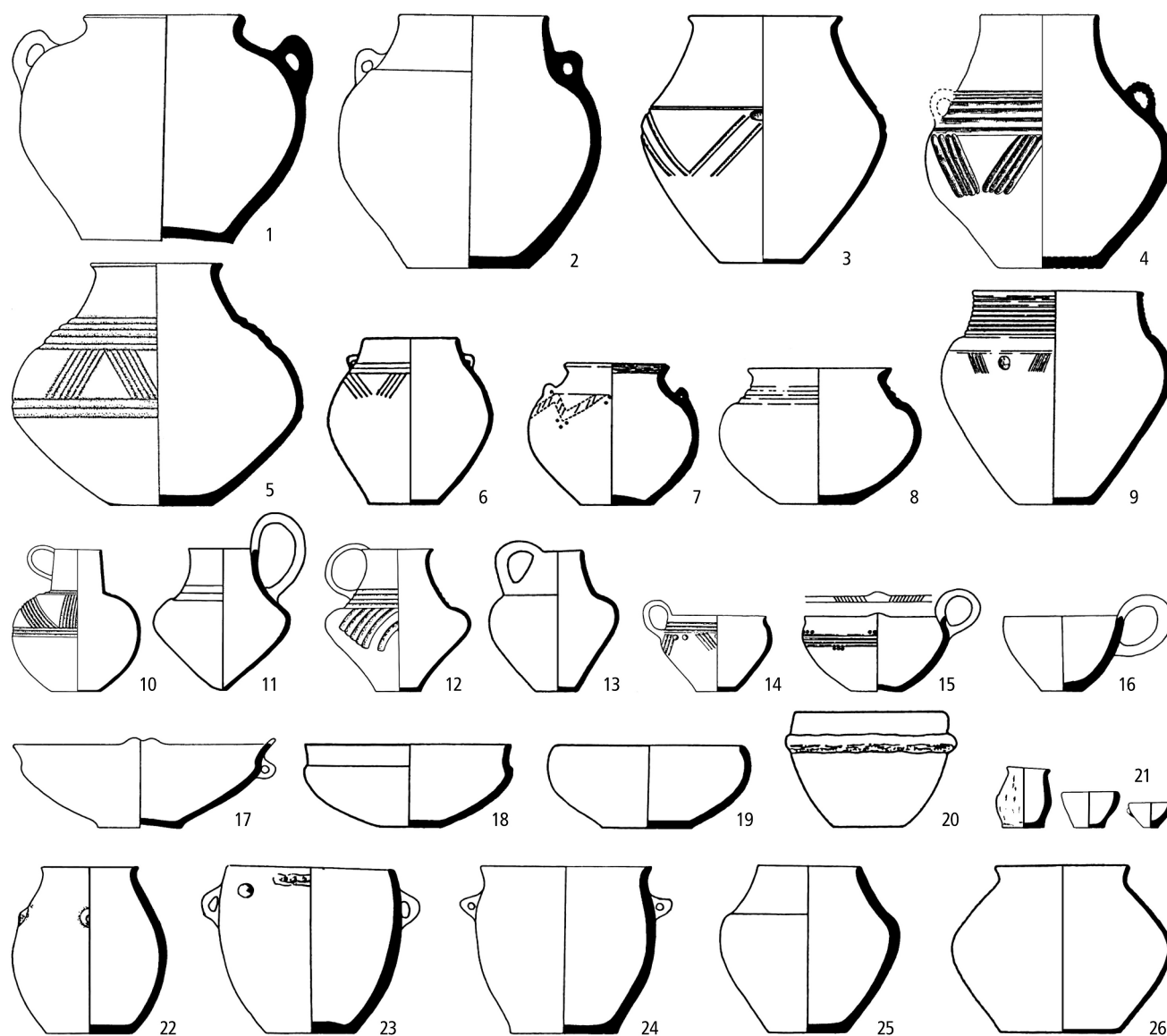


Fig. 54: The Billendorf culture. Basic pottery forms. 1–9 amphorae; 10–13 jugs; 14–16 cups; 17–20 bowls; 21 miniature vessels; 22–26 pots. After D. Koutecký.

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decorated, or decorated on the body with flutes or dots. Amphora-shaped vessels with a low neck are regarded as later forms (Fig. 54: 7, 8).

2. Jugs, slender or bulbous, with a high neck and a handle (Fig. 54: 10–13), are often decorated with oblique groups of flutes. They represent the most characteristic form of the Billendorf culture.
3. Bowls have an S-shaped profile (Fig. 54: 18) or are rounded with an inverted rim, sometimes with a cordon below the rim (Fig. 54: 19, 20), in other cases with an everted rim and knobs (Fig. 54: 17).
4. Pots are low, bulging or slender (Fig. 54: 22–26), with or without handles. Dots, a cordon or knobs can appear on the shoulders.
5. Cups occur in several variants. Cups with a round body feature a handle that extends above the rim (Fig. 54: 14, 15), frequently decorated with grooves and strokes; cups without handles with a high neck and an inverted rim, sometimes decorated with

knobs; coarsely made cups, widely open (Fig. 54: 16), with a smoothed neck and a coarse body, or the whole surface is coarse.

6. Miniature vessels (Fig. 54: 21) appear in amphora-shaped, pot-shaped and bowl-shaped forms.

Only cremation graves are known and, as such, are linked to the Lusatian culture tradition. Graves contain one to three vessels. According to Kouček, the graves in Břežánky were pit graves (*Kouček 2003b*), in Libochovany mostly urn burials.

Billendorf culture vessels and small vessels also appear in the graves of burial areas ascribed to the Podmokly group. Plain clay discs known from the same context are regarded as a Billendorf element. A link between the so-called Podmokly bronze pins and the Billendorf culture has also been considered (*Venclová 1973*, 51, 61–62, with refs.). However, this issue is already related to the La Tène period (see Chapter 10.1 in Volume 6 in this series).

8 Late Hallstatt period, Ha D2 to LT A

In the late Hallstatt period, cultural differences observable in Ha C–D1 became obscure and further development took on a more or less homogeneous cultural expression. The period of Ha D2–LT A is therefore dealt with in the whole of Bohemia.

8.1 SETTLED REGIONS, DENSITY AND CONTINUITY OF SETTLEMENT AREAS

The land settled in the late Hallstatt period (Fig. 55) is essentially the same as that occupied in the preceding period, though an expansion can be observed in a number of regions. The late Hallstatt component has been documented in almost one thousand cadastral areas (usually with more than one site recorded in most of these areas).

Settlement in central Bohemia is tied to the territory of the preceding Bylany culture. Distinct and densely settled zones include Prague and the River Elbe basin up to the Nymburk, Kladno, Mělník, Slaný and Nové Strašecí regions, the middle Vltava region, the land along the River Berounka and a significant enclave in the Hořovice region. The lower and middle Jizera river areas were settled northward. Less favourable parts of the western half of central Bohemia and the Vlašim region were also sporadically used. The settled area in northwest Bohemia includes the Litoměřice and Louny regions, the middle and lower Ohře river basin and the Bílina river basin.

Relatively dense settlement documented in west Bohemia is concentrated in particular in the natural centre of the area along the River Berounka and mainly in the Plzeň basin and its broader surroundings along the Mže, Radbuza, Úhlava and Úslava rivers. Settlement also extends to higher elevations in the southwestern part of west Bohemia along the upper Radbuza river in the Domažlice region and to the upper Otava river in the Klatovy region. The land along the upper Střela was newly settled (the cemetery in Sovolusky). The cemetery in Hradiště near Kasejovice situated near the divide of the upper parts of the Úslava and Lomnice rivers suggests links to the south Bohemia.

The settled area in south Bohemia is essentially the same as in the preceding Ha C–D1 period. The only significant shift and expansion was to the northwest, especially toward the western part of the middle Otava region and to the basin of the Lomnice and Skalice

regions, occupying today's Prácheň, Blatná and Břežnice regions and marking the high point of prehistoric colonisation of a previously virtually unoccupied territory. Settlement in the southern part of the region also reached, to a lesser extent, higher locations in the Šumava foothills in the Český Krumlov and Prachatic regions. The entire southeastern part – the Pelhřimov, Jindřichův Hradec and Třeboň regions, and Šumava itself to the south – remained unoccupied.

The settled area in east Bohemia remained the same as in the Ha C–D1 period.

Although settlement density compared to the preceding period mostly increased, this was not true for all parts of Bohemia. The distance between settlements in some parts of central Bohemia is only several hundred metres up to a kilometre. Examples are found in the close vicinity of Závist in the fertile agricultural zone (*Čtverák 1999*, 107–109, Fig. 4; *Chytráček – Bernat 2000*, 255) and at other locations where intensive and large-scale investigations have been conducted, e.g. in the Vinoř stream micro-region and in the Loděnice region (*Dreslerová 2002*; *Venclová 2001*, 205, Fig. 101). A high density of settlements was also identified by systematic surface survey in south Bohemia (Plate 16: 1). However, settlements located extremely close to one another need not have been contemporary. East Bohemia is an exception; not only is the density of settlement lower than in the previous period, the size of settlements themselves also decreased to the point where it is now more appropriate to refer to them as homesteads.

Settlements were typically located within 500 m of a watercourse (*Dreslerová 1998*, 122, with refs.); in rare cases in which the nearest watercourse was up to 500 m away, the residential areas probably had access to another water source (Ledce II: *Venclová 2001*, 205).

The continuity of late Hallstatt settlement sites and those of the preceding Ha C–D1 is sometimes suggested (e.g. Libčice-Chýnov: *Sankot 2001*, 304, Fig. 17.5) and essentially cannot be ruled out at certain hill-top locations (Hradec near Kadaň, Praha-Bohnice - Nad Podhořím). The continuity of late Hallstatt residential areas and previous areas in west and south Bohemia has not been proven thus far. Late Hallstatt settlements were founded in east Bohemia at sites different from those of the preceding period, a phenomenon apparently related to changes in the settlement

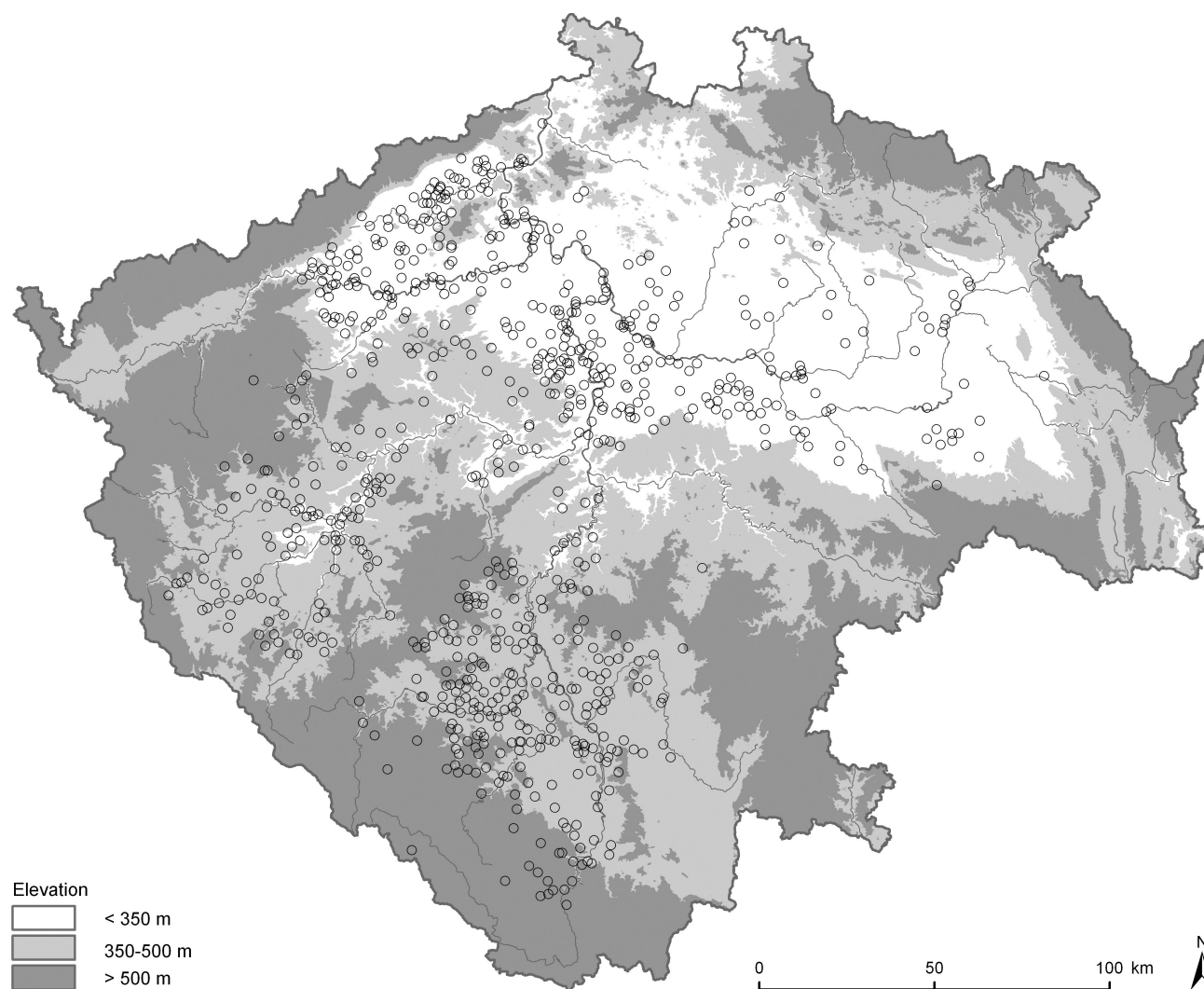


Fig. 55: Late Hallstatt period. Ha D2 – LT A sites in Bohemia (cadastres with finds from the relevant period). Archive of the Institute of Archaeology in Prague, revised and supplemented by M. Chytráček, D. Koutecký, J. Michálek, N. Venclová and V. Vokolek.

structure following the demise of local enclosed hill-top settlements in Ha D1. Exceptions to this trend were several sites apparently with central functions that existed continuously throughout the entire Hallstatt period (e.g. Jaroměř). The use of burial areas from Ha C until LT A has been recorded in many cases.

The continuity of settlement sites between stages LT A and LT B is a different matter, and although a certain interruption is assumed, well investigated regions with well-dated components confirm at least partial continuity (middle stretches of the Bílina river: 50 % of residential components are located in roughly the same place from Ha D2 to LT A and even LT B: *Waldhauser et al. 1993*, 405; elsewhere this percentage is lower, cf. Říčany region: *Dreslerová 1998*, 126–27, Pl. 21; Loděnice region: *Venclová 2001*, 205). A similar situation has been observed in south and west Bohemia.

It can be stated in general that new investigations, including surface survey, have discovered a far greater density of Hallstatt (mostly late Hallstatt) components than had been recorded earlier, while also confirming the same preference for location of settlement areas as in the La Tène period (Fig. 56).

8.2 FORMS OF SETTLEMENTS

Compared to the preceding period, the types and frequency of settlements changed significantly. There is an increase in the number of unenclosed lowland settlements as well as enclosed farmsteads, the form of which had changed. The number of cases in which unenclosed hilltop areas were used increased, not necessarily for settlement purposes, and the construction of hillforts in a wide range of sizes and types reached its height (with the exception of east Bohemia).

8.2.1 Unenclosed lowland settlements

Unenclosed lowland settlements were founded on flat terrain or on gentle slopes, on river terraces and in some instances even in stream floodplains (Dobev in south Bohemia). While locations on river terraces are sometimes already designated as elevated sites, an elevation of more than 15–20 m is generally used for distinguishing between lowland and hilltop areas (Chytráček – Metlička 2004, 15).

The settlements were probably composed of lightly enclosed or even open homesteads (Hostomice, Fig. 57: 2). According to the Jenštejn settlement (Fig. 57: 3), one homestead could include one sunken hut, one larger sunken structure, two to three storage pits, one terraced oval pit (with an oven), several shallow and deep pits, a clay pit and perhaps post-built structures and a manufacturing feature. The number of contemporary homesteads at Jenštejn is estimated at four or five, the number of persons per unit at four to six; a homestead covered an area with a diameter of around 30 m (Dreslerová 1995a, 68–69; 1996, 607). Features

grouped in a homestead were also found in Libčice-Chýnov (Sankot 2001, 303, Fig. 17.10–11), Chržín and possibly Praha-Zbraslav (Chytráček – Bernat 2000, 301, Fig. 5). Unique to date, a small LT A period homestead with a rectangular space of 12 x 9.8 m surrounded by a fence and composed of a sunken hut, a sunken workshop with a hearth or oven and a circular storage pit came to light in Praha-Stodůlky (Drda – Motyková – Rybová 1999, 261; Motyková – Čtverák 2006; Fig. 58).

The number of contemporary homesteads at the completely investigated settlement of Radovesice, in individual late Hallstatt phases (Fig. 57: 1), is estimated at one to five. The total number of sunken huts at Radovesice for the entire late Hallstatt period was 21, at Soběsuky 45. However, individual homesteads are often difficult to distinguish: huts at settlements are sometimes arranged in rows of varying distances (e.g. Dobev, huts XII–XIII–XIV, VII–IX–XI, etc.); in other cases the huts appear in groups of two to five, less often in groups of nine to fifteen huts, all of which, though, are not contemporary (e.g. Dobrovíz, Plate 12: 1;

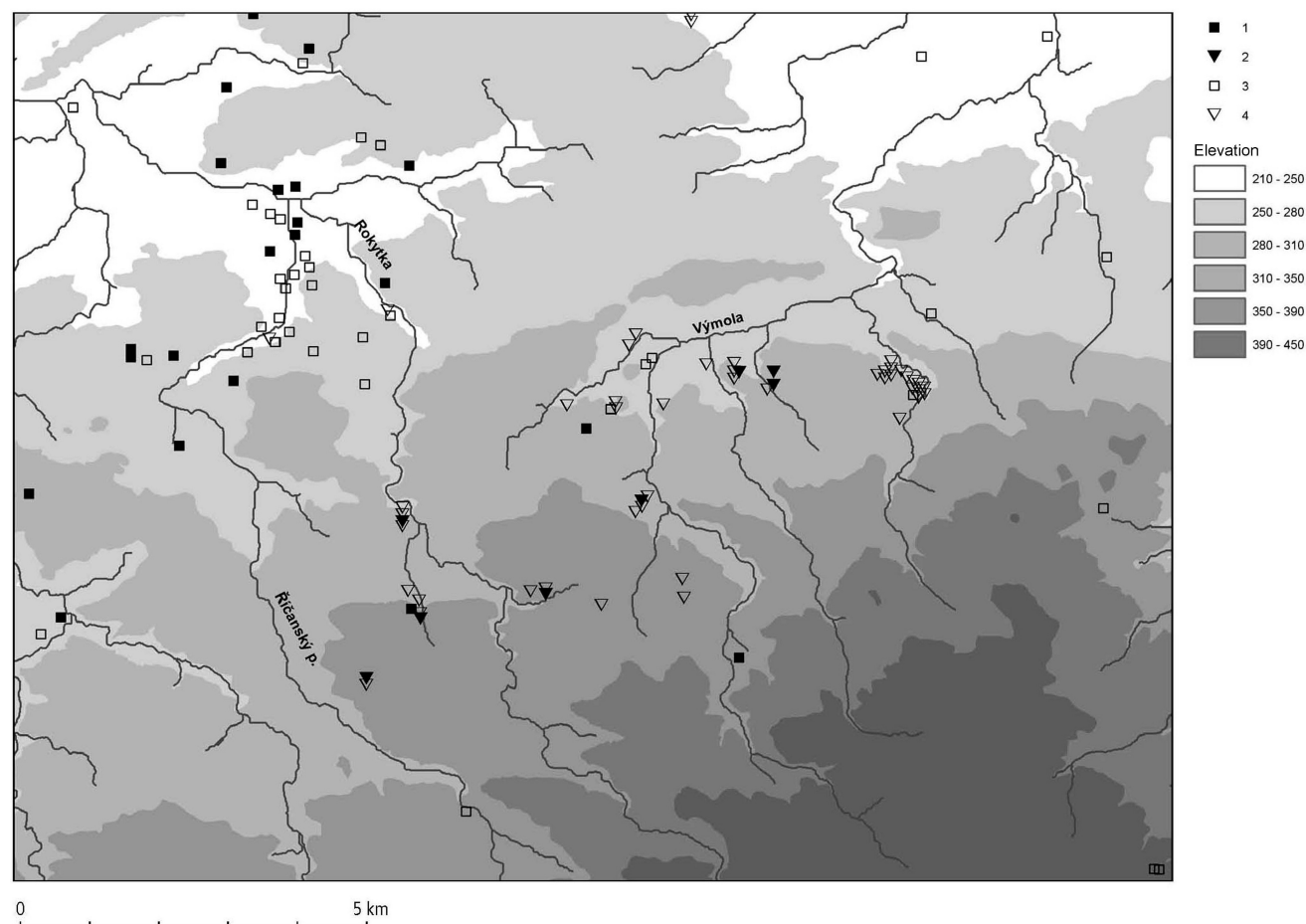


Fig. 56: Late Hallstatt period. Hallstatt and La Tène finds in the Říčany region. 1 Hallstatt period – older finds; 2 Hallstatt period – finds from surface survey; 3 La Tène period – older finds; 4 La Tène period – finds from surface survey. After Venclová et al. 2008.

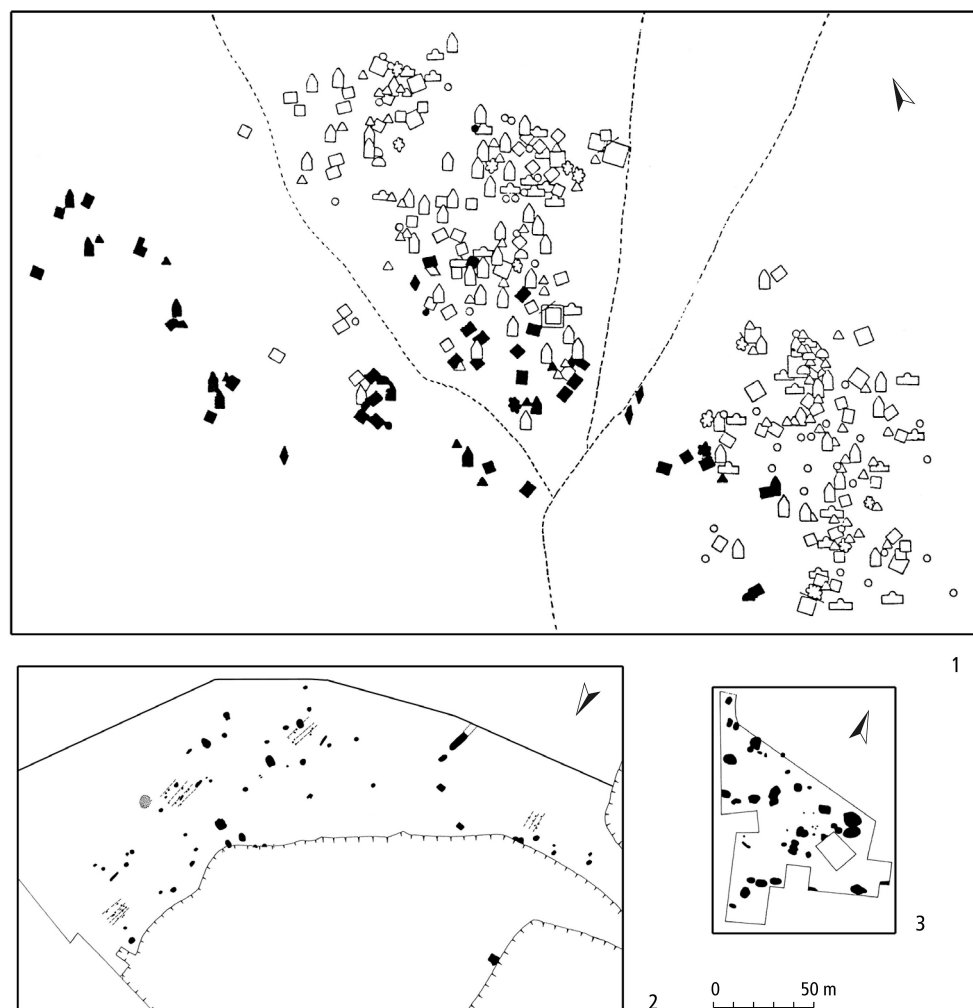


Fig. 57: Late Hallstatt period. Unenclosed lowland settlements. 1 Rádovesice (Teplice district): empty symbols – late Hallstatt period, black symbols – La Tène period, LT B–D; 2 Hostomice (Teplice district); 3 Jenštejn (Praha-východ district). After Waldhauser et al. 1993; Budinský 1999; Kuna 2004.

Kapsova Lhota, Podolí, Řepice: *Dubský 1949*). A trench within the settlement at Praha-Bohnice, outside the farmstead at the Nad Podhořím location, probably demarcated a homestead (*Fridrichová 1975*, 211–214).

The enclosure of an entire settlement has not been reliably documented. Although part of an enclosure (of a settlement or homestead?) was discovered in Poříčany, it is not clear if it dates to the late Hallstatt period. The settlement in Plzeň-Lochotín, on a terrace above the River Mže, was surrounded by a ditch 30 m in length on the investigated western edge (*Braun 1995*, 246).

8.2.2 Enclosed areas – farmsteads

Free-standing, essentially rectangular areas of 1–2 ha and a simple wooden palisade enclosure, in some cases supplemented by a shallow outer ditch, are typically designated as farmsteads. They are situated on promontories (thus closely resembling hilltop sites, e.g. Němětice) as well as on gentle slopes and lowland locations. The fully investigated farmstead in Drouž-

kovice in the Chomutov region (Fig. 59: 1) was subdivided into three or more parts and contained sunken and post-built structures; in addition to residential activities, smithing was also conducted at the site. The inner built-up area of the farmstead of just under 1 ha in Němětice (Fig. 60: 1, 2) was located in its northern and western part, in close proximity to the wooden palisade (*Michálek – Lutovský 2000*, Fig. 30). A square farmstead with an area of 0.44 ha, which was divided in a similar manner, was discovered by aerial survey in Nadryby in west Bohemia (Fig. 59: 2); its eastern side was enclosed by a double palisade trench, and an additional enclosed area with a concentration of features was attached to it (*Chytráček – Metlička 2004*, 95, 203–204). A farmstead at the Písek-teplárna site contained at least two sunken huts and dozens of post holes, some of them from post-built structures (*Fröhlich 2001b*, 165–67, Fig. 7–8). An area of 1 ha on a promontory in Praha-Bohnice - Nad Podhořím, the beginnings of which perhaps date back to Ha D1 (*Fridrichová 1974*), was enclosed by a simple and a double wooden palisade. The farmstead in Krašovice

regarded as a late Hallstatt site. Although the type of above-ground house in its southeast corner has parallels in the Ha D2–3 houses at the Závist hillfort, Venclová is of the opinion that it could also be contemporary with the La Tène features, and the somewhat unclear find situation and presence of late La Tène pottery does not rule out a late La Tène date (Venclová 2000, 464, Fig. 2; see Volume 6 in this series). Numerous farmsteads, mostly designated as a *Herrenhof*, are known from southern Germany (e.g. Reichenberger 1994a, with refs.).

An unusual type of Ha D2–3 farmstead at least 85 x 75 m in area, with a wooden enclosure and a number of different structures, was situated on the top of the Závist hillfort (Plate 11: 2; Motyková – Drda – Rybová 1988, 400–08, Abb. 3; Drda – Rybová 2008). Enclosed farmsteads located within hillforts are documented by the trenches of palisades and fences from the Vladař acropolis (Chytráček et al. 2010b, 46, Fig. 3; 2012) and the Svržno hillfort (Chytráček 2009, 121–24, Abb. 4, 8).

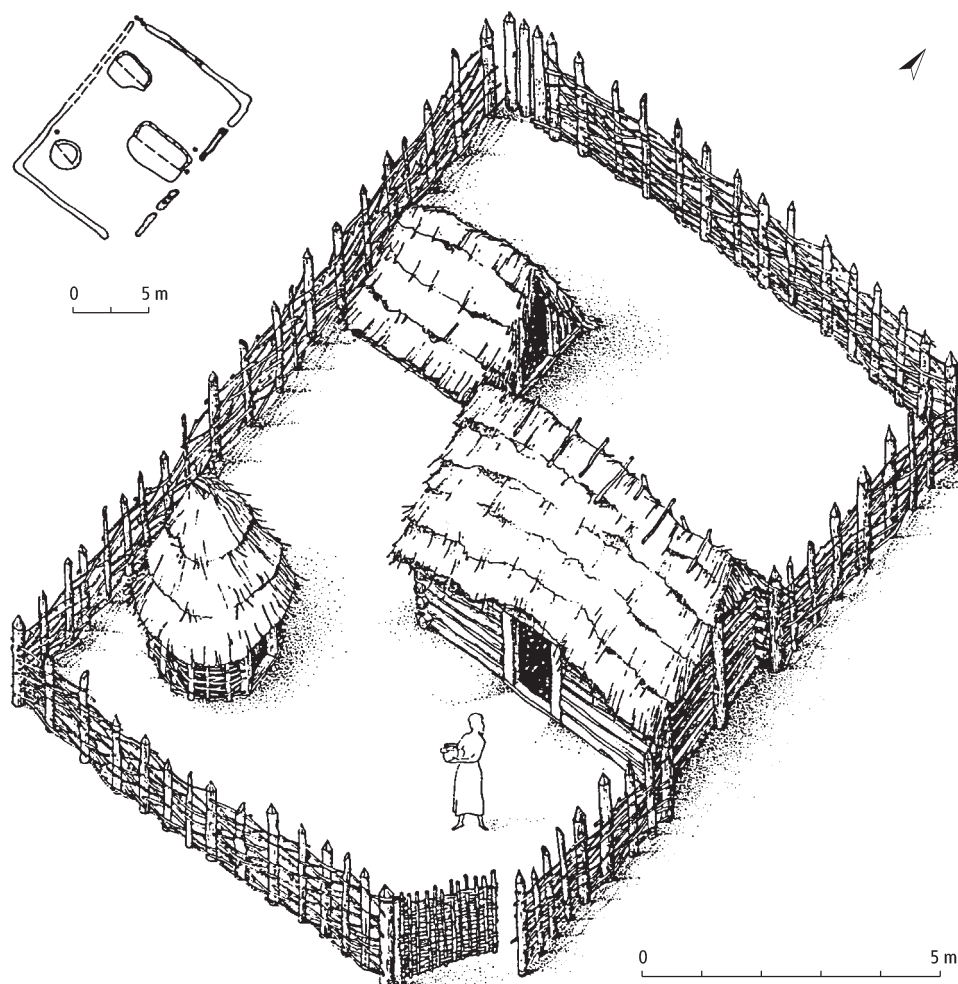
The small number of known farmsteads does not permit their differentiation by size and function, or the

difference between farmsteads and enclosed hilltop sites is not clear (e.g. Všeruby: Chytráček – Metlička 2004).

8.2.3 Unenclosed hilltop settlements

Many locations on promontories and the tops of hills provide evidence of activity in the late Hallstatt period, in the form of sunken features or occupation levels with finds of pottery, daub, and, in some cases, spindle whorls and loom weights. Verifiable fortifications in the form of a bank and a ditch are lacking at these sites, and not even simple enclosures with a palisade have been recorded to date (e.g. Bdeněves, Hvoždany, Meclov-Mašovice, Zelené in west Bohemia: Chytráček – Metlička 2004; Lazec, Bechyně, Jáma, Opalice and Opařany in south Bohemia: Hrubý 1998, 8–10; Chvojka – John 2009; Chvojka et al. 2011; Slaný - Slánská Hora in central Bohemia: Moucha 1994, 35). Settlement activities have been recorded at hilltop sites that were verifiably fortified in other periods and where it is possible that late Hallstatt settlement made use of the earlier enclo-

Fig. 58: Late Hallstatt period. Fenced homestead and its reconstruction. Praha-Stodůlky. After Drda – Motyková – Rybová 1999.



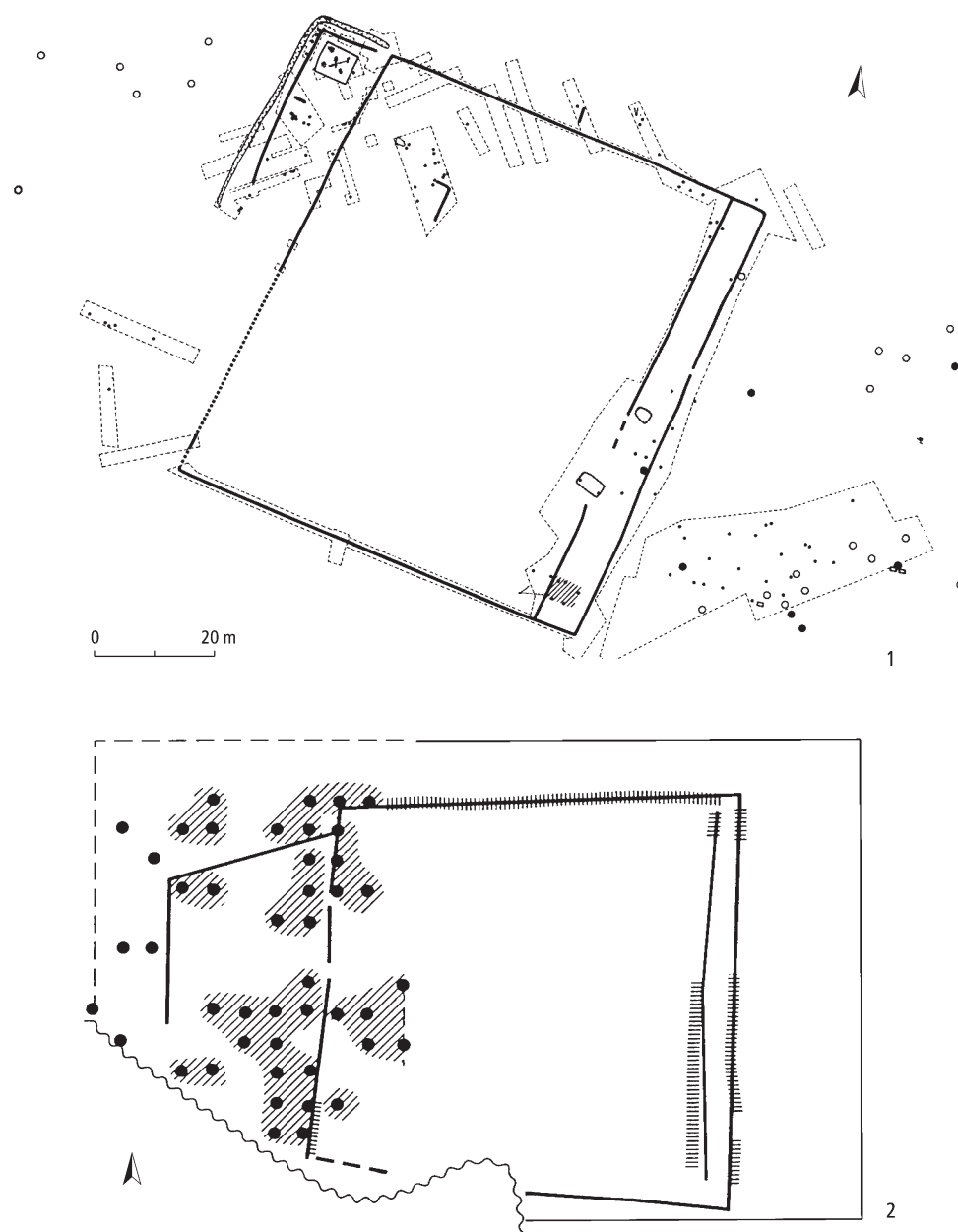


Fig. 59: Late Hallstatt period. Enclosed farmsteads. 1 Droužkovice (Chomutov district): investigated areas; 2 Nadryby (Plzeň-sever district): horizontal and vertical hatching – interpretation of magnetic anomalies, oblique hatching and black points – phosphate enriched areas. After *Smrž 1996*; *Chytráček – Metlička 2004*.

sure; the reason that the enclosures from this phase have not been identified could also be the result of the poor preservation of the site or the fact that ramparts were also built there in the later period (e.g. Černovice - Hradiště, Klapý - Házmburk, Úhošťany - Úhošť Hill in northwest Bohemia: *Smrž 1992*, 92; *Hrazany: Jansová 1988*, 78–79; *Čtverák 2002*). Likewise, the relationship between settlement activities from the LT A/LT B1 transition and the bank enclosure is not clear at the hilltop settlement at Dneboh-Hrada on the plateau of the Mužský massif in the Mladá Boleslav region (*Pleslová-Štiková 1958*; *Waldhauser 1996*, 109–110). In some cases the sites could be temporary occupation sites, in others a purpose other than settlement is possible.

8.2.4 Enclosed hilltop areas – hillforts

Hillforts are a characteristic feature of late Hallstatt period throughout almost the whole of Bohemia, with the peak of their occurrence in Ha D2–5 (Fig. 61). East Bohemia was an exception: following the demise of hillforts at the end of Ha D1, no hillforts were built there any more. This text only discusses hilltop settlements whose fortifications are dated to the late Hallstatt period; many other hilltop sites with finds of artefacts of this period are lacking this information and need not have been enclosed (e.g. numerous sites from south Bohemia, see *Hrubý 1998*). Hillforts have been studied in detail especially in the Plzeň area and in the Karlovy Vary region (*Chytráček – Metlička 2004*).

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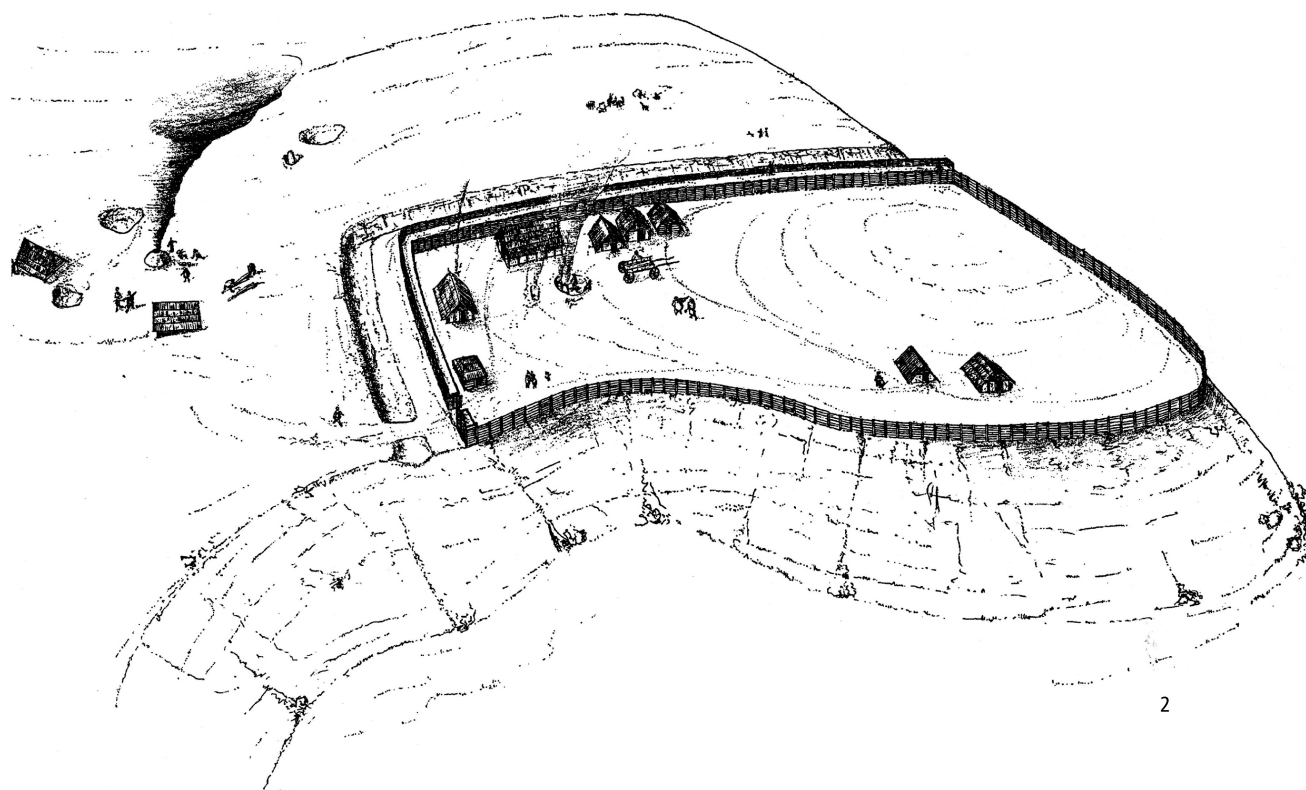
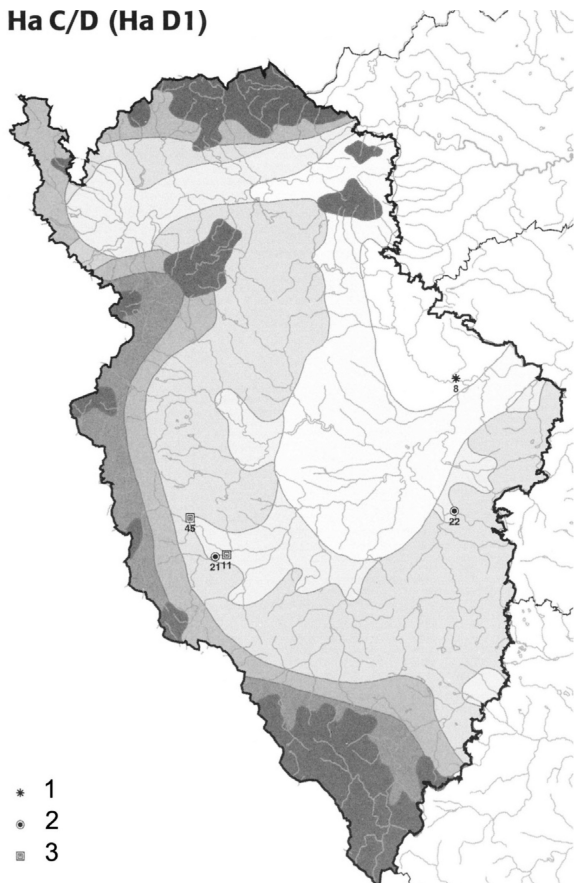


Fig. 60: Late Hallstatt period. Enclosed farmstead at Němčice (Strakonice district). 1 results of magnetometric survey; 2 drawing reconstruction based on archaeological investigation. After Michálek – Lutovský 2000.

Ha C/D (Ha D1)



Ha D (Ha D2-3)

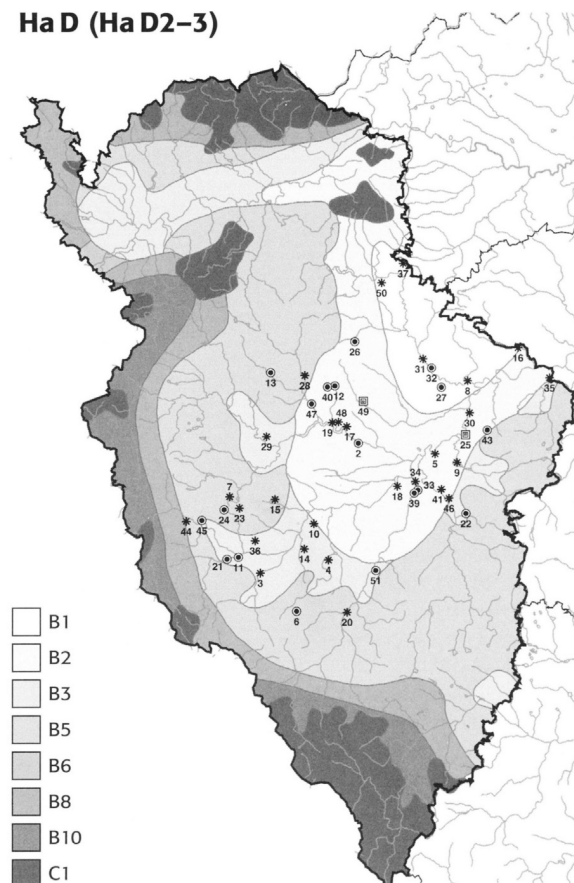
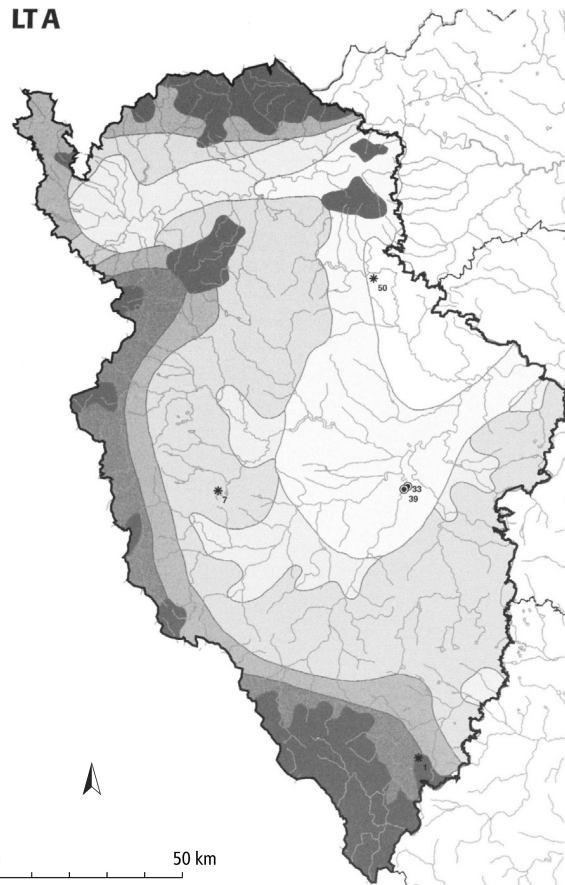


Fig. 61: Late Hallstatt period. Enclosed and unenclosed hilltop areas in west Bohemia. 1 enclosed (fortified), 2 unenclosed, 3 lightly enclosed areas. After Chytráček – Metlička 2004.

Hillforts in the other parts of Bohemia are to be found on the outskirts, but also within the settled territory. Some of them are situated directly along watercourses, while others up to several kilometres away. They are also found high in the Šumava (Albrechtice-Sedlo, 902 m above sea level), or in relatively raised locations (the hillfort at Velký Blaník in central Bohemia at 640 m above sea level: Šolle 1988, 97, Fig. 1). With the exception of the sites mentioned below, only limited information is available on the types of fortifications. Ramparts were most commonly dry-stone walls, sometimes with a stone face and an inner timber and earth construction, often accompanied by an outer ditch. The entrances corresponded to passage gates (Libědice, Třebanice, Skočice: Hrubý 1998, 14) or were funnel-shaped (Závist, gate D: Jansová 1983a, Plate 1, Tab. III; Motyková – Drda – Rybová 1984, 364, Fig. 21A, 23–24; Věvec near Lčovice: Dubský 1949, 310–17; Dolánky-Rubín).

The dozens of known hillforts can be divided by location, size and fortification system into three basic types.

LTA



1. Large hillforts with an area of up to 115 ha, with a complex fortification system, situated on the top of high hills.

2. Hillforts with an area of 2–9 ha with one, although more commonly two or three fortified areas (acropolis or the main hillfort, and annexes), situated on promontories and hilltops.

3. Very small, typically single enclosure hillforts with an area of up to 2 ha, situated on promontories and hilltops.

The Závist hillfort in central Bohemia is the leading representative of the first category (Fig. 62; Plate 9: 1). The hillfort on a prominent hill 200 m above the old confluence of the Vltava and Berounka rivers was built in Ha D2, with the fortification works continuing up to the beginning of LT A; activities lasted at the site until the end of LT A. The length of the ramparts gradually grew to 5,530 m to enclose an area of 90–100 ha. The ramparts had a palisade front made of oak and pine tree trunks and a massive, approximately 2.5–3.5 m high bank built of quarried stone, gravel and earth reinforced with an inner wooden construction. A fortified bailey on the south was connected to the central part of the hillfort, a wide terrace with a neck fortification and the main gate (D) to the southeast side, and the large annexes to the east. Residential and industrial areas composed of freely arranged groups of features divided by open spaces were situated in all parts of the hillfort. Post-built houses, a manufacturing space, sunken huts and pits were discovered. Part of an enclosed unit with a large post-built house was found in the central saddle of the hillfort. The farmstead with a wooden fence mentioned above was located at the top of the hillfort. In LT A the fortification was rebuilt into the form of stone rampart with vertical posts, with a wooden construction in the bank and a wooden face on the inner side.

The main gate (D) was equipped with stone bastions built using the box rampart technique. Several successive construction modifications during Ha D2 – LT A also significantly changed the appearance of the summit. With the establishment of ditches and ramparts with an unsegmented, 4 m high stone face with an interior stone chamber construction, the summit of the hillfort acquired the character of a rectangular acropolis in LT A. A unique complex of structures built inside the enclosed area was comprised of a pair of long stone walls, a group of three large and high podia – quadrangular structures with stone facing and one three-sided structure – built using a timber-framed technique. This entire remarkable space is interpreted as a ritual area (see Chapter 8.5.2.1). Following its final reconstruction using a stone chamber system at the end of LT A, the entire Závist summit became a large

elevated quadrangular plateau dominating the surrounding landscape (*Drda – Rybová 2008*).

The only other site in the category of large hillforts is Vladař in west Bohemia (Fig. 63; Plate 9: 2). The hillfort with an acropolis on a plateau 230 m above the Střela river valley featured an intricate system of fortification that extended down to the very base of the hill; the system was evidently built over a long period of time (the size of the entire fortified area is 115 ha). The fortified acropolis with an area of 13.4 ha was equipped with a sunken cistern for holding water. A cross-section of the acropolis fortification revealed five phases of construction. The built-up areas were apparently located near the ramparts. The intensive settlement of the acropolis during Ha D and LT A was also documented by palynology and analyses of plant macro-remains.

Hillforts from the second group provided significant data in only a few cases (Fig. 64). The Hradec near Kadaň hillfort, with traces of Ha C settlement, is subdivided into an acropolis and two annexes; however, perhaps only the inner enclosed part with an area of 5 ha dates to the late Hallstatt period. The hillfort of Stradonice near Louny, used from Ha D2 to LT A, with an area of 6.75 ha (Plate 11: 1), had an earth and stone rampart with a wooden box construction, or even a stone rampart (*Smrž 1992, 91*). The Minice hillfort, occupied in Ha D2, was divided into three separate spaces partially enclosed by a stone rampart; the total area of the site was approximately 3 ha. The hillfort was dominated by a small 40 x 40 m acropolis enclosed on the northern side by a stone rampart and on the east by a ditch. The rampart body originally had a height and width of around 3 m. It is assumed that stone was also used for constructions inside the hillfort. The hillfort in Praha-Hostivař had a stone rampart, perhaps with a wooden superstructure; sunken features were discovered in the inner area (*Čtverák et al. 2003, 251–52*). The three-part Albrechtice-Sedlo hillfort (Fig. 64: 4), with an area of just under 3 ha, was enclosed by a stone and timber rampart connected to the rocky outcrops; the hillfort had two gates. Due to the presence of late La Tène finds, it is not entirely clear whether the enclosure belongs exclusively to LT A. At the 4.5 ha hillfort in Planá-Radná (Fig. 64: 1), three sunken houses were excavated along the inner side of the acropolis fortification.

These hillforts were occupied, or at least provided suitable conditions for settlement, which need not have been the case at the other sites. One example is the Boudy hillfort in the Prácheň region (Fig. 65), where the extremely steep terrain of 0.5 ha was enclosed by two lines of dry-stone rampart, the outer line of which enclosed a total space of 2.3 ha. Regular residential or defence functions are doubted, and it is thought that the site was used instead for ceremonial activities.



Fig. 62. Late Hallstatt period. The Závist hillfort (Lhota, Praha-západ district). 1 overall plan (1 rampart, 2 pathway, 3 ditch), 2 reconstruction of gate D. After Motyková – Drda – Rybová 1984; 1988; Drda – Rybová 2008.

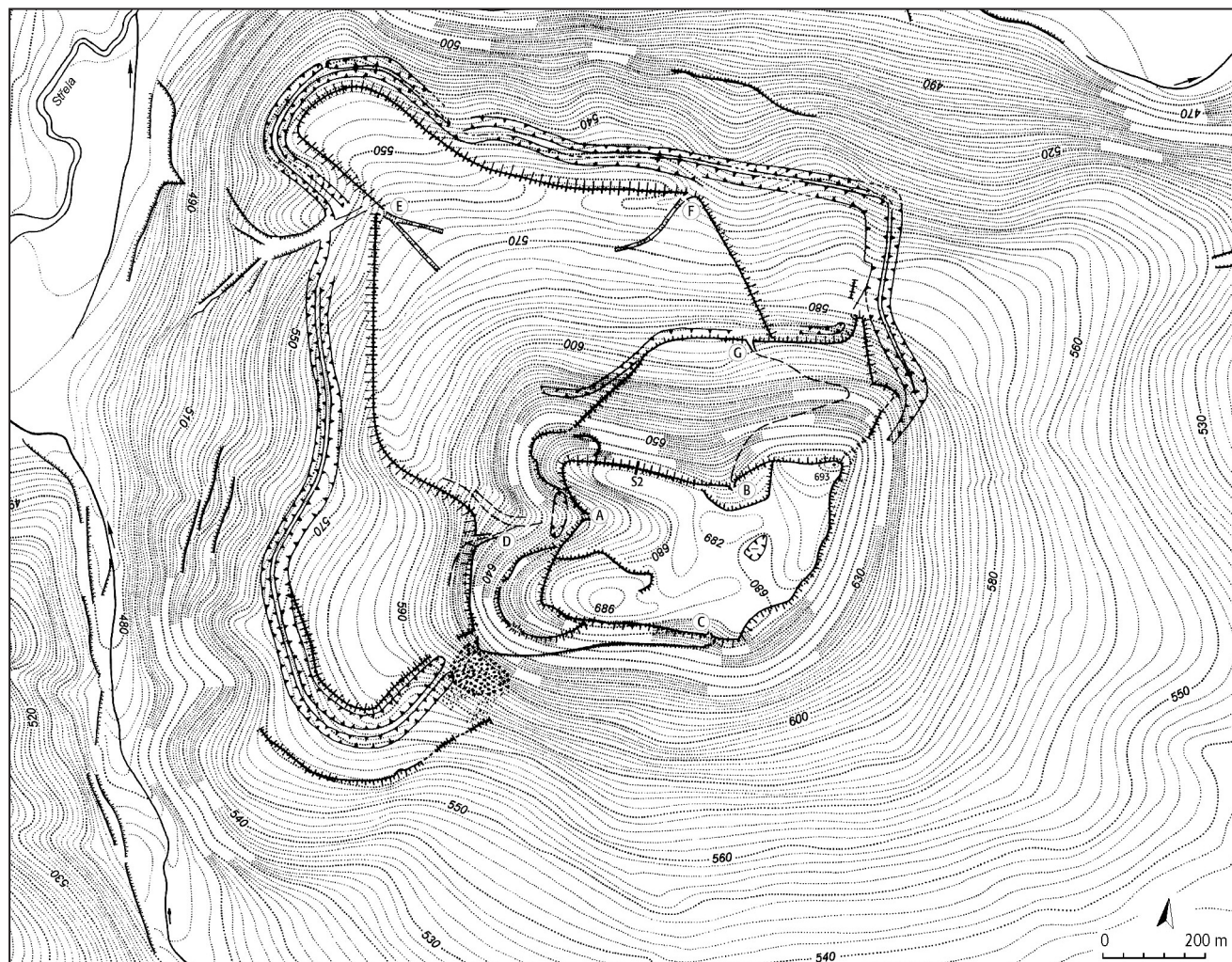


Fig. 63. Late Hallstatt period. The Vladař hillfort (Záhořice, Karlovy Vary district). After Chytráček – Metlička 2004.

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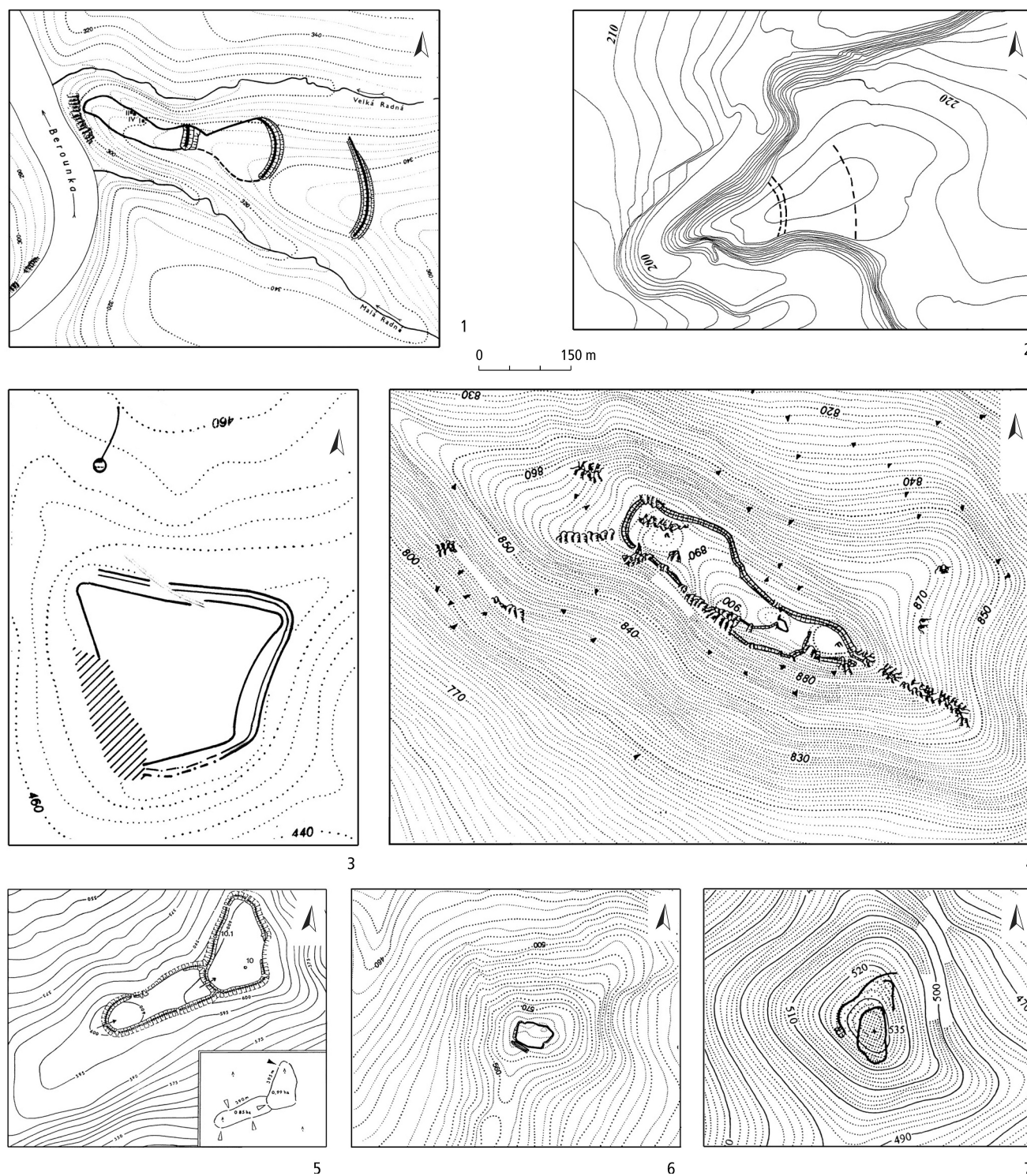


Fig. 64: Late Hallstatt period. Hillforts. 1 Planá-Radná (Plzeň-sever district); 2 Dřevčice (Praha-východ district); 3 Třeskonice (Louny district), Výrov Hill; 4 Albrechtice (Klatovy district), Sedlo; 5 Liběčice (Strakonice district); 6 Svržno (Domažlice district); 7 Buková (Plzeň-jih district). After Chytráček – Metlička 2004; supplemented by M. Kuna, J. Michálek and Z. Smrž.

With an area of less than 1 ha, Svržno belongs to the third group of small hillforts (Fig. 64: 6; Plate 10). The hillfort was fortified by a timber, stone and earth rampart with facing on both sides, while in an earlier phase it was surrounded by only a simple wooden enclosure.

A ditch and a rampart with facing on both sides were added to reinforce the hillfort's southern side, from which it was most easily accessible. Rectangular post-built houses were standing both in the central part of the hillfort and in a line along the inner side of the

rampart. At the 1.6 ha hillfort in Podražnice, an above-ground house was found immediately behind the rampart. The Dolánky-Rubín hillfort (0.7 ha) was surrounded by a stone rampart, perhaps with a pincer-gate (*Zangentor*). Even the small hillforts of this group could have featured a complex system of ramparts (Fig. 64: 5, 7).

While some hillforts were abandoned in Ha D2–3 (Praha-Hostivař, Minice and many others, e.g. in west Bohemia), others lasted until LT A (Závist, Vladař, Větec near Lčovice) or were even founded in LT A (Albrechtice-Sedlo).

8.3 FEATURES IN SETTLEMENTS

Sunken huts. Sunken huts or houses were apparently the most common structures in settlements. The

sunken features have a square to rectangular or oval ground plan most often with a W-E orientation (with deviations), less frequently N-S, with an area of approximately 20 m², in some cases up to 40 m² (Fig. 66). The construction consists of two posts set in the opposing short sides (Fig. 66: 2, 3; Plate 12: 2) to support the gable roof, which often extended beyond the overall ground plan of the structure; in other cases the posts could also be set in the corners or in three rows, around the perimeter or irregularly. The entrance was mainly in the south and east wall of the house, near the corner or also in the middle; entrances could also feature steps. A number of huts also had a small entrance space (Fig. 66: 1). The walls were made of planks or round timbers or were built using wattle and daub, sometimes whitewashed on the inside. Wall painting



Fig. 65: Late Hallstatt period. The Boudy hillfort (Písek district). After D. Dreslerová.

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has even survived in exceptional cases – red dots, lines and meander on a yellow background (Slaný: *Moucha 1994*, 35, Fig. 21). The roof, usually reconstructed as a gable or hip roof, was probably covered with straw or reeds.

Smaller post holes in the bottom of sunken houses are connected with interior furnishings. An elevated step – a “bench” – is left along one of the longer walls in some houses (Plate 12: 5). The common heating structures have a variety of forms: round sunken hearth (Fig. 66: 6), oval hearth with a layer of stone covered with clay (Fig. 66: 6) or a small oven, in some

cases with a dome (Radovesice), built in the corner. The clay parts of domestic hearths or small ovens have also survived. The cylindrical or conical pits dug into the bottom could have been for grain storage or small cellars (Fig. 66: 5). A unique find was a vessel – a pot without a bottom – sunk in the middle of the floor (Fig. 66: 5). Also found in sunken houses were bell-shaped vessels without a bottom and with perforations in their sides (often designated as fumigators). Sunken huts are interpreted as residential, mixed residential and manufacturing, or only manufacturing features.

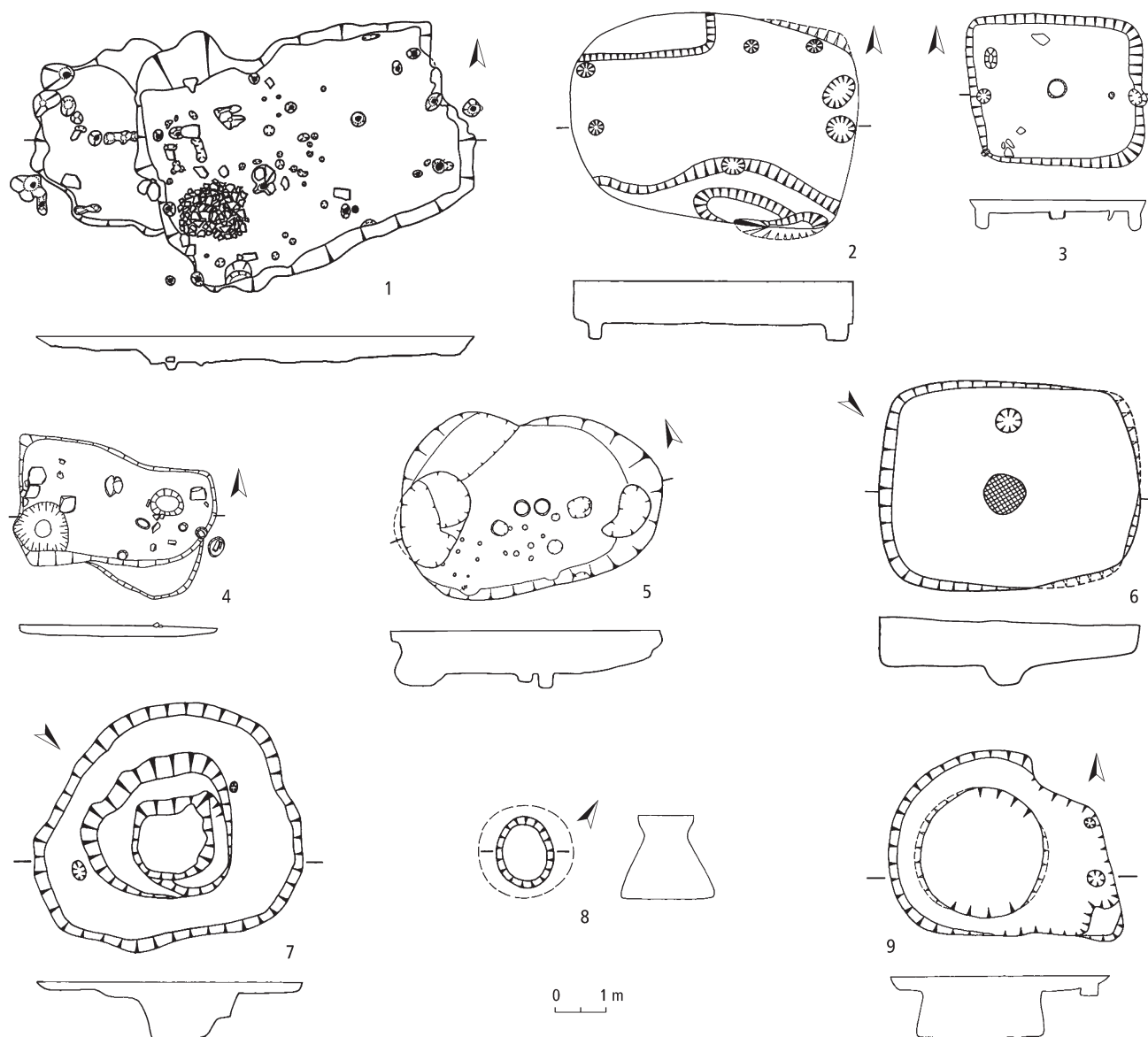


Fig. 66: Late Hallstatt period. Sunken huts and other features. 1 Plzeň-Roudná (Plzeň-město district); 2 Hostomice (Teplice district); 3 Osek near Milevsko (Písek district); 4 Myštice-Střížovice (Strakonice district); 5 Jenštejn (Praha-východ district); 6 Droužkovice (Chomutov district); 7 Radovesice (Teplice district); 8, 9 Hostomice (Teplice district). After *Bašta – Baštová – Bouzek 1989; Budinský 1997; Fröhlich – Jiřík 2006; Dreslerová 1995a; Smrž 1996; Waldhauser et al. 1993*; supplemented by J. Michálek.

Noteworthy for its dimensions of 13.6–14.8 x 9 m, the largest sunken structure was discovered in Dolní Břežany (Fig. 67: 1). House 1/82 was a timber oak and beech storied structure with a hip roof. The entrance was located in the west side, where foundations for a staircase leading to a semi-cellar and the upper floor

were identified inside the house. Various heating structures and traces of two chimney bays suggest a multi-room layout.

It is also possible that certain sunken houses served as cellars in above-ground structures, as is suggested by feature 3 in Písek, where a sunken feature

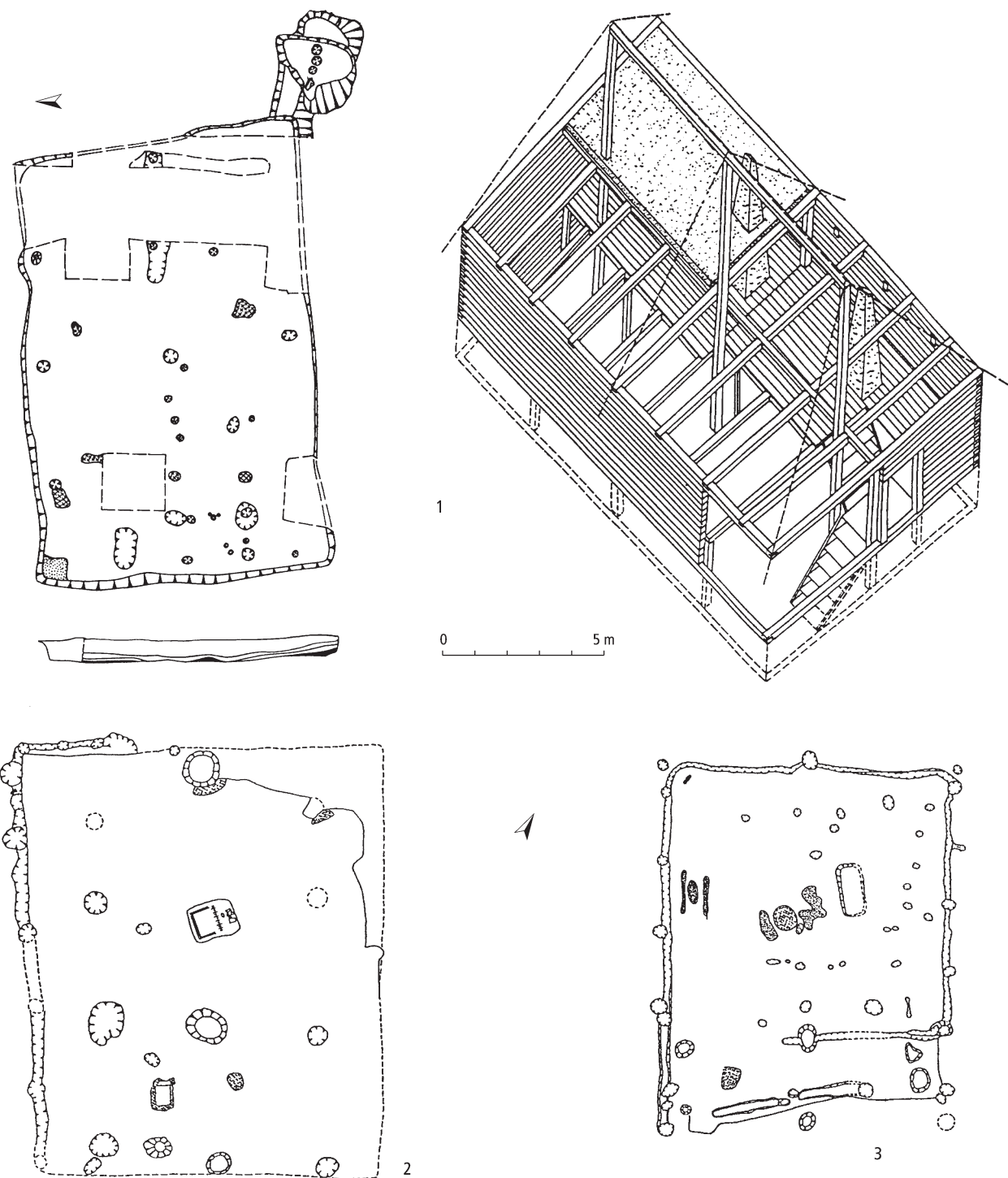


Fig. 67: Late Hallstatt period. A slightly sunken house and post-built houses. 1 Dolní Břežany (Praha-západ district), ground plan and reconstruction; 2, 3 Závist (Lhota, Praha-západ district): 2 house A1, 3 house A. After *Motyková 1986; Drda – Rybová 1998; 2008*.

formed part of the ground plan of a post-built house (*Fröhlich 2001b*).

Post-built houses. Post-built structures with a rectangular ground plan with variable orientation can have an area of several dozen square metres. The floor was identified in only a small number of cases. Certain structures featured a log construction with a foundation gully. Two large Ha D2 houses (features A1, A) dominating the complex of similar above-ground houses at the summit of the Závist hillfort were built from oak, had dimensions of 11.7 x 13.7 m and 9 x 11.7 m and a gable roof (*Drda – Rybová 2008*; Fig. 67: 2, 3). The layout of the construction elements in the ground plan and the combustion structures indicate that both houses had three rooms. The results of a soil phosphate analysis (Majer, A.: report no. 4047/85 in the Archive of the Institute of Archaeology in Prague) revealed that the smaller of the two houses (A) possibly included a stable in addition to the dwelling part. A somewhat smaller type of post-built house with dimensions of 10 x 5.7 m (floor space of 49.5 m²) and a side annexe dating to the transition between Ha D and LT A was also recorded in the southern bailey of the Závist hillfort. The central rectangular structure at the acropolis of the Minice hillfort possibly reveals the use of stone in the building foundations (*Chytráček et al. 2010a*, 158–162, Abb. 3–9). The interior equipment of post-built houses included a hearth lined with stone, or a clay oven or fireplace. Also classified as combustion structures are flat clay hearths, sometimes elevated above the floor, which can be decorated with carved or grooved motifs (house A1 from Závist even had two such hearths: *Motyková – Drda – Rybová 1988*, 405, Abb. 9; *Drda – Rybová 1998*, 81). The interpretation of all the houses as dwellings is not clear, as some of them could have been used for a specific type of manufacturing or could have held a joint residential/manufacturing function. Others may have had a social or ritual function.

Other above-ground structures. Structures interpreted, among other possibilities, as above-ground granaries or haylofts were typically smaller in size (10–40 m²), and can have a square ground plan with four posts or a rectangular ground plan with six to eight posts in pairs (Radovesice in northwest Bohemia; Mašovice in west Bohemia: *Břicháček – Metlička 2011*; Kotopeky in central Bohemia: *Stolz 2012*). The function of round (tent-like) shelters (Poříčany: *Čtverák 2005*, 626) is unknown.

Storage pits. Pits with a round or oval mouth, a cylindrical, conical or biconical shape (Fig. 66: 8), sometimes lined with clay and fired, served as silos or storage structures. The pits had mouth diameters of 100–300 cm and a depth of up to 200 cm. Storage pits

are found separately (Radčice near Vodňany: *Michálek 2003b*) as well as inside sunken huts or in other small sunken structures, in some cases perhaps with a roof (*Budinský 1999*, 191–95; Fig. 66: 9).

Other pits. The function of round, oval or irregular pits in a variety of sizes is usually unclear; they could have served as clay pits, waste pits or small cellars.

Pits with ovens or hearths. Sunken features of various sizes, sometimes stepped (Fig. 66: 7), with ovens or hearths built into the walls or the bottom, were perhaps covered by a roof in some instances. A connection with metallurgy has been suggested for some of the features.

Free-standing ovens. Sunken ovens, perhaps domed, could be located in the open space between settlement features (Bolešiny: *Šaldová 1984*; Hostomice feature C116).

8.4 PORTABLE ARTEFACTS

8.4.1 Pottery

Vessels

Manufacturing techniques. Vessels were primarily hand-made; only certain types of vessels, especially “Braubach” bowls and flask-shaped forms, were completed on a wheel or entirely wheel-turned. The use of the potter’s wheel began in Ha D3–LT A, marking its first appearance in central Europe. Wheel-turned vessels in earlier contexts involved imported pottery (Minice: *Chytráček et al. 2010a*, 161, Abb. 8).

Fabric. The basic classification distinguishes between three types of ceramic fabric. The fabric of hand-made vessels is coarse, mostly sandy, with grains of quartz and other minerals. Appearing for the first time in Bohemia is a graphite fabric, with a large amount of ground graphite temper or only large graphite grains, apparently used from Ha D2, more commonly from LT A. Analyses of pottery fabric (including that from Moravia) confirmed a south Bohemian origin of the graphite (*Hložek et al. 2003*). Another type is a fine fabric, which was characteristic of wheel-turned vessels.

Forms. The classification system for late Hallstatt vessels was first created in the 1960s by A. Rybová and B. Soudský (*Rybová – Soudský 1962*) and was subsequently also used for a large collection of pottery from the Hostomice settlement in northwest Bohemia (*Budinský 1999*, with refs.). *Ch. Gosden (1993a)* created a special classification system for the pottery assemblage from Ha D to LT A from Radovesice. The formal classification of late Hallstatt pottery used today is based on the system created by *A. Sheppard (1965)* based on the vertical and horizontal characteristics of vessels. In Bohemia this system was elaborated and applied to the pottery assemblage from Jenštejn

(Dreslerová 1995a), in a somewhat altered form to the assemblages from Praha-Zbraslav and Chržín (*Chytráček – Bernat 2000; Chytráček 2007b; 2008*) and from hilltop sites in west Bohemia (*Chytráček – Metlička 2004; Chytráček – Šmejda 2005; Chytráček et al. 2012*). The spectrum of the main pottery types from central Bohemia, from the period of Ha D2 – LT A, is presented by the finds from the Závist hillfort (*Motyková – Drda – Rybová 1984, 398–409, Fig. 45*), while the assemblage from Němětice provided an overview of Ha D forms (*Michálek – Lutovský 2000*).

Although the vessels are formally linked to the pottery of the preceding period, extremely large vessels disappear. Hand-made pottery is represented by the following forms:

1. Jars and barrel-shaped vessels (Figs. 68: 1–4). Higher vessels, slightly S-profiled or neckless, often with a row of impressions or a cordon, either plain or with impressions. The vessels are referred to as “flower-pots” in east Bohemia.
2. Amphorae and storage vessel-shaped amphorae (Fig. 68: 5). Large bipartite forms with a distinct body, sometimes with lugs on the lower part (in east Bohemia).
3. Small flask-shaped amphorae (Fig. 68: 6–8). Globular body, curved neck and everted rim.
4. Situlae and situla-shaped vessels (Fig. 68: 12). Vessels with a conical body and sharp shoulders, sometimes decorated with a row of impressions. Some situlae could be made of graphite clay.
5. Bowls and small bowls of various types: neckless with a slightly in-turned rim (Fig. 68: 17–20), S-profiled (Fig. 68: 21), or carinated, often with impressions (Fig. 68: 22–26).
6. Tureens (Fig. 68: 10, 11). A not well defined, non-homogeneous group with forms ranging from low, broad pots to deep bowls.
7. Cups (Fig. 68: 13–16). Small vessels with a variety of profiles and with handles that typically extend above the rim.
8. Small beakers (Fig. 69: 1–5). Small vessels without handles.
9. Plates and flat lids (Fig. 68: 9; 69: 6, 8).
10. Fumigators (Fig. 69: 4, 5). Bell-shaped vessels without a bottom and with perforations in the walls.

In LT A, wheel-turned pottery appears in the following shapes:

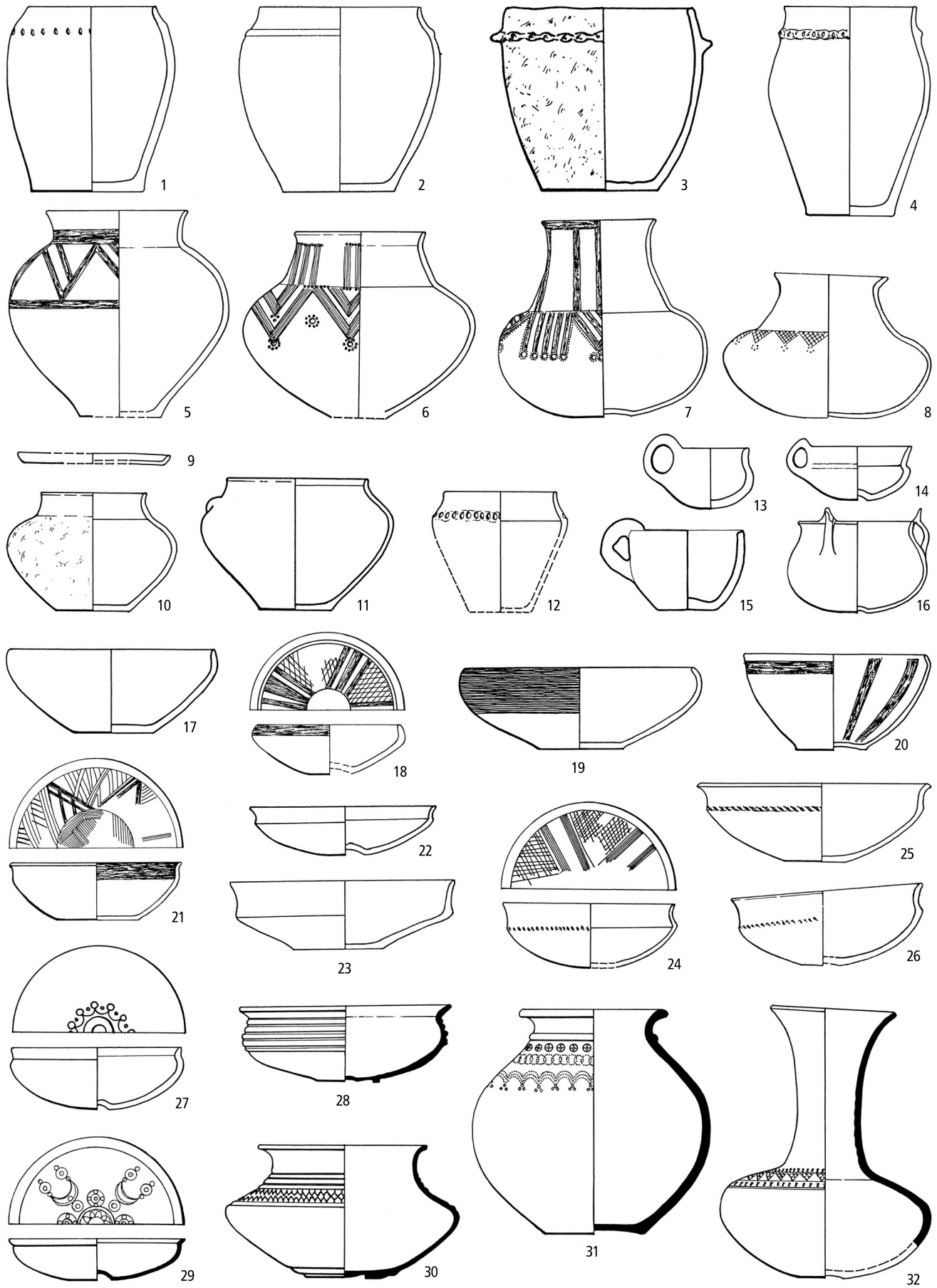
1. “Braubach” bowls (Fig. 68: 27, 29). The pottery from the site of Braubach in the Rhineland gave its name to this vessel form, in Reinecke’s terminology, although the form defined here is typical for a specific region in Central Europe, including Bohemia. It concerns low wide bowls with everted rim and an omphalos (concave) base.

2. Ribbed bowls (Fig. 68: 28). Low wide bipartite bowls with everted rim and horizontal ribs on the shoulders.
3. Tureen-shaped to jar- or vase-shaped forms, not well defined (Fig. 68: 30, 31).
4. Lenticular flasks (*Linsenflaschen*; Fig. 68: 32). Vessels with a markedly compressed body and a tall, slender neck with an everted rim.
5. Lids/goblets. A unique form (Chržín: *Chytráček 2007b, Fig. 10*).

Decoration. The decoration is based on the Hallstatt tradition (Fig. 70), and while certain elements are no longer used, others appear (*Dreslerová 1995a; Michálek – Lutovský 2000, 140–157; Michálek 2003a, Fig. 15–17, 19, 21; Chytráček – Metlička 2004*). Incised decoration makes use of cross-hatched bands of fine lines, mainly in triangular compositions, both outside and inside bowls and often combined with fine impressed decoration in the form of dots or rosettes. Lines applied with a toothed wheel also occur. The surface of vessels is frequently graphite coated, a technique that began to be employed in Ha C; graphited decoration in the form of bands, triangles and grids is also used. Burnished bands and grids are applied to graphite coated surface, both on the inner and outer sides of bowls. Relief decoration was used heavily, including horizontal cordons with impressions, rows of finger impressions on the shoulders, plain horizontal ribs or flutes, and knobs or lugs. Vertical or oblique fluting on the bodies of small amphorae is typical.

Appearing on fine, wheel-turned LT A pottery is stamped and compass-drawn decoration (Fig. 71; 72: 2); freehand incised ornamentation is less common. Stamps have circular, crescent, S-shaped or more intricate forms. Plant motifs with leaves, flowers and palmettes appear; zoomorphic elements are rare. A stamp in the shape of a horse from Kanín (*Megaw – Megaw 2010; 2011; Fig. 72: 1*) is an exceptional find. Stamps are arranged together with compass-drawn lines in semicircular, round, garland, band, triangular and star-shaped compositions. They are applied, finely executed, inside around the bottom of “Braubach” bowls (Fig. 71: 3, 4), or outside in horizontal bands or in groups on the shoulders or body of lenticular or other flasks and jars (Fig. 71: 2), and very rarely also on vessel base (Hlubyně: *Schwappach 1973, Abb. 15: 2, 48: 3; Osek near Milevsko: Fröhlich 2004, 193; Svržno: Chytráček 1997, 86, Abb. 7: 1, 2*). Vertical or oblique lines applied with the so-called comb stamp sometimes appear on the body of flask-shaped vessels (Chržín: *Chytráček 2007b, 469, Fig. 22; 2008, 60, Abb. 16*), a widespread technique particularly in certain Alpine regions. Coarse stamped decoration with S-shapes, arrows and concentric circles in a band on the shoulders

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or elsewhere on the body is characteristic of jars and situlae made of clay with or without graphite temper. Very few vessels bear the previously popular painted decoration, which is now black, red (swans on a bowl from Radovesice), in some cases red on a white background, or the whole surface is red painted.

Pottery repairs. Repair holes and clips (Fig. 5) – flat bronze clips attached with rivets (Hostomice) or bar-like iron clips – are evidence of repairs to vessels, both of fine and coarse ware (*Budinský 1999*, 211–14, with refs.).

Pottery chronology. There is no break in the development of late Hallstatt pottery. Characteristic of Ha D are hand-made jar-shaped vessels with a cordon with impressions or a row of impressions on the shoulder, and carinated bowls often decorated with incisions. Other decorative elements include incised lines, dimples and dots in geometric arrangements; graphite coating and burnishing were often employed, as was painting in a small number of cases. Numerous changes occurred in LT A. A new technology emerged – the potter's wheel, and a new type of fabric appeared – graphite clay. New forms include “Braubach” bowls, lenticular flasks and bowls with horizontal ribs. There is a marked decline in the use of geometric elements and motifs composed of straight lines in favour of compass-drawn and stamped decoration, often in new garland and semicircular arrangements.

Imported pottery. Imported pottery, mostly of Greek origin, was found in a small number of cases in LT A, or even earlier in Ha D2–3 contexts. The pottery can be distinguished from local ware by its very fine fabric, a polished surface, black slip on certain parts of the surface, and especially painting – black or red on a light or dark background. Reconstructed forms correspond to Attic vessels such as krater, kylix, skyphos and a small beaker (Fig. 73: 2–4). The vessels belong to black-figure (Tuchoměřice feature 98/98, LT A: *Sankot 2000*, 104; Droužkovice farmstead, LT A: *Bouzek – Smrž 1994*; Kadaň feature 40/69, Ha D2–3: *Bouzek – Koutecký 1975*; Fig. 73: 6) and red-figure ware (Praha-Ruzyně - Jiviny feature 20, LT A: *Bureš – Waldhauser 2005*, 726–727; *Trefný 2008*; Praha-Pitkovice: *Trefný – Polišínský 2008*; Dobrovíz: *Trefný 2011*; *Trefný et al. 2012a*). Thracian (?) wheel-turned pottery is also perhaps represented (Minice hillfort, Ha D2). It is probable that the low quantity of imported pottery is attributable to the earlier lack of knowledge concerning this category of vessels, because more recent excavations have produced a relatively greater number of finds.

Evidence of the imitation of black-figure decorative elements on drinking goblets is rare (Fig. 73: 1, 7; Plate 13: 1, 2; Plzeň-Roudná, Chržín: *Bašta – Baštová – Bouzek 1989*, Abb. 3; *Chytráček 2007b*, 473, 480–84, Fig. 17; *2008*, 60–62, Abb. 4; *Trefný et al. 2012a*).

Vessels with red painting on white slip also have a foreign origin, with parallels seen in lands to the southwest of Bohemia (Litice, Radovesice: *Stöllner 1993*; *2002*, 230, Abb. 105; *Chytráček – Metlička 2004*, 82, Bild 3, Abb. 57: 16). In contrast, fine vessels with a hollow pedestal, painted white and red in horizontal bands, were apparently imported from the area of the southeastern Alps (Závist: *Motyková – Drda – Rybová 1984*, Fig. 34: 5; cf. *Parzinger 1988*, 29, Tab. 36: 66). The hollow, horizontally grooved pedestal of a bowl (Závist: *Drda – Rybová 2008*, Fig. 59: 2, 70) comes from eastern Burgundy or northern Lombardy.

Other clay artefacts

Many clay objects are related to manufacturing activities and were already mentioned in Chapter 6. The use of discs cut from potsherds is uncertain. They could be spindle whorls, perhaps in a semi-finished form; they could also be toys. Clay spoons or ladles (Fig. 69: 7) were most probably used in the preparation and serving of food, assuming they were not manufacturing or ritual artefacts. Clay beads apparently imitate glass or amber models. Small clay balls are also known from Němětice.

Rare finds of zoomorphic and anthropomorphic clay figurines include a horse (Němětice and Nová Ves near Čížová: *Fröhlich 1987*), a horse with a mane (Němětice), a stylised bull or horse head (Závist hillfort – acropolis), a ram's (?) head with holes for inserting horns (Závišín), a small duck with stamped ring decoration (Dobešice), various human figures and other small figurines (Němětice – Burkovák Hill, see Chapter 7.2.5.2). As was the case in the East Hallstatt territory, certain figurines could also have belonged to vessel handles.

8.4.2 Iron and bronze

Iron was used primarily for weapons, wagon (chariot) fittings and even some personal ornaments; bronze was mainly used for personal ornaments, clothing accessories and parts of horse harness and wagons. Iron and bronze are combined relatively often in various types of artefacts.

◀ Fig. 68. Late Hallstatt period. Basic pottery forms. 1–4 jars and barrel-shaped vessels; 5 amphorae and storage vessel-shaped amphorae; 6–8 flask-shaped amphorae; 9 plate; 10–11 tureens; 12 situla; 13–16 cups; 17–20 bowls with an inverted rim; 21 bowl with an S-shaped profile; 22–26 carinated bowls; 27–32 LT A vessels with stamped and other decoration: 27, 29 “Braubach” bowls; 28 ribbed bowls; 30, 31 tureen- to vase-shaped vessels; 32 lenticular flask. Profiles: white – hand-made pottery; black – wheel-turned pottery.

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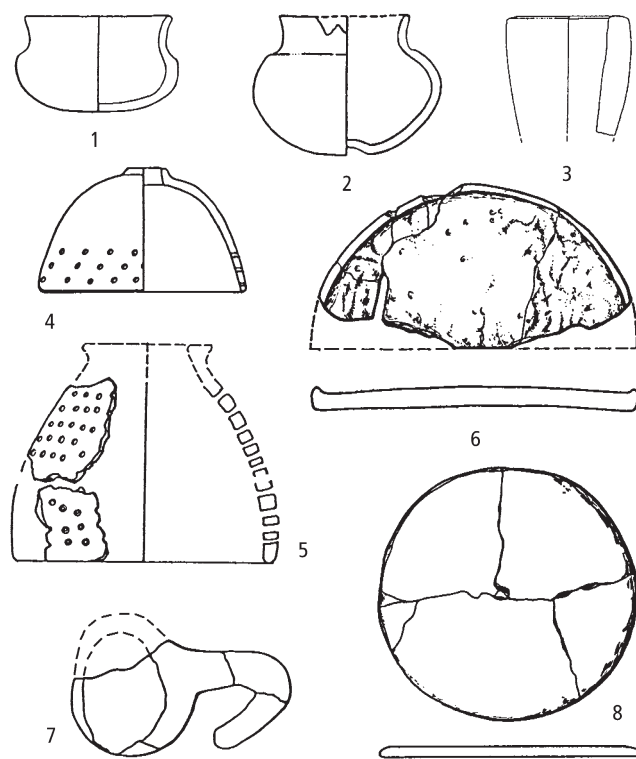


Fig. 69: Late Hallstatt period. Vessels and other clay artefacts. 1–3 small beakers; 4, 5 fumigators; 6, 8 plates or lids; 7 ladle.

Weapons. Changes in iron weaponry in the late Hallstatt period (Ha D2–3) were the result of new forms of combat.

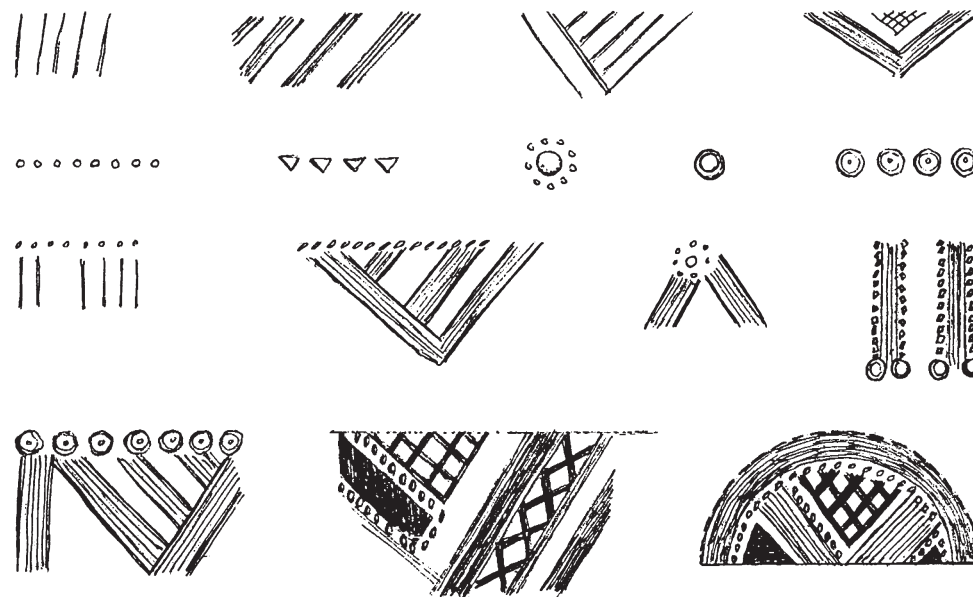
Swords. Although the development of the heavy Ha C sword was interrupted in Ha D2–3, the sword reappears again in LT A. The long iron swords now have

mostly a spike-shaped tang (Fig. 74: 1, 2), whereas shorter swords are typically equipped with an anthropomorphic (or pseudo-anthropomorphic) handle (Kyšice, Fig. 74: 3; iron sword with a bronze hilt: Klučov; *Sankot 1995; 2000*, Abb. 1: 8–9). Their length is between 60–80 cm. Decoration of the blade is unusual (Kralovice – the so-called *tremolo* hammering and engraving, Fig. 74: 1; Plate 14: 1). Scabbards are mostly sheet iron, combined in only rare cases: the front part was made of bronze, the back of iron. They were apparently often richly decorated with engraved, compass-drawn and hammered ornament (Plate 14: 2), in some cases perhaps even inlaid (Dražičky; Fig. 74: 5). Engraved ornament including a dominant central circular element is typical for Bohemia and raises the possibility of local origin (Veselí nad Lužnicí; *Beneš – Sankot 1994*; Fig. 74: 4). Due to the often very poor condition of scabbards, the identification of their decoration only became possible with modern conservation methods (*Sankot 2003*, with refs).

The scabbards featured an anchor-shaped, heart-shaped or round cast chape (Fig. 74: 5), in some cases also one to three medallions. In rare cases they were inlaid with coral (Dražičky, Kočvary-Lochovice; *Sankot 2003*, 9–11). Occasionally another decorative part of scabbards, clips, could feature coral or other inlays (Závist; *Drda – Rybová 2008*, Fig. 47: 1–2, 69, 81; Bušovice; *Sankot 2003*, Fig. 4: 11, E).

Knives. Regarded as a universal tool and weapon, large, long iron knives – cleavers (Fig. 75: 2, 3) – were in use during Ha D2/3 and LT A. Around 40 cm long, the knives have a blade with a straight or curved spine (e.g. Sedlec-Hůrka barrow 44; Želkovice; *Soudská 1976*, 641–42; Mírkovice; *Chytráček 1990*, 120–22;

Fig. 70: Late Hallstatt period. Elements and motifs of Hallstatt geometric decoration. After Michálek – Lutovský 2000.



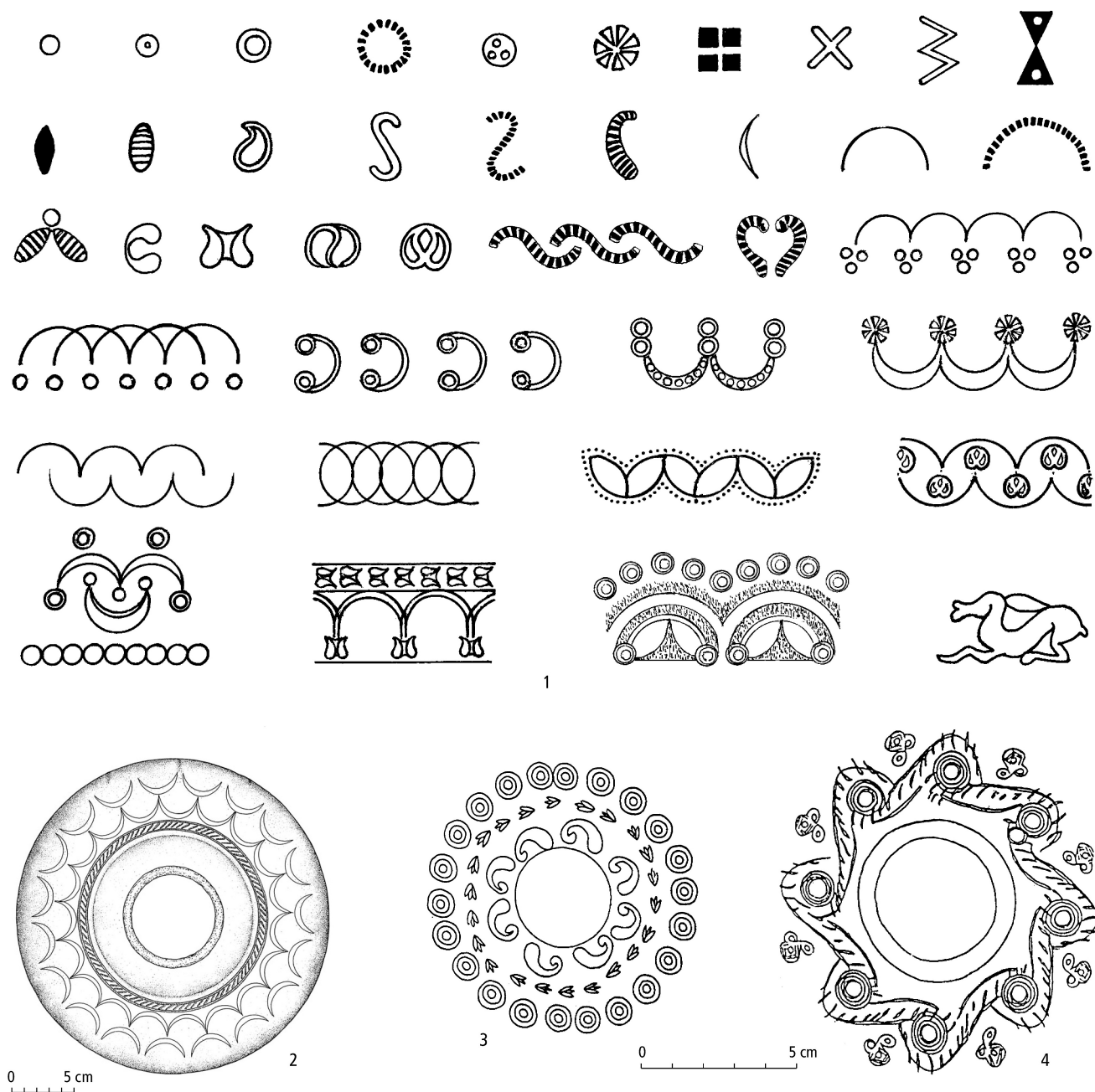


Fig. 71: Late Hallstatt period. LT A stamped and compass-drawn (or hand-drawn) decoration. 1 elements and motifs; 2 composition on the shoulders; 3, 4 composition inside vessels. 2 Osek (Písek district); 3 Dolní Břežany (Praha-západ district); 4 Praha-Záběhlce. 1 data from the authors; 2 Fröhlich 2004; 3, 4 after P. Drda.

Hořín: Čermák 1900, 517, Tab. I; Sankot 2003; Dolní Břežany: Motyková 1986, Fig. 3: 5). The handle of the cleaver was covered with organic material, in rare cases with bronze, and sometimes had a small loop for suspension. Some of the blades of LT A iron cleavers were decorated using the *tremolo* technique (Fig. 75: 2), creating, for example, meander motifs (Křečkov, Lenešice: Sankot 1996, 560–61). Similar to the large cleavers is a knife with a straight spine, a curved edge

and a short angled handle. Also occurring are small iron or bronze knives with a straight or arched spine and a tang. A rare form is a dagger-like knife with a slightly curved back and massive rivets on the flat iron hilt (Fig. 75: 1).

Spearheads. Iron spearheads or lanceheads are either short and narrow or long with a profiled blade (e.g. Závist, structure C: Motyková – Drda – Rybová 1988, Abb. 13: 1, etc.; Fig. 75: 6, 10, 12, 14; Mírkovice:

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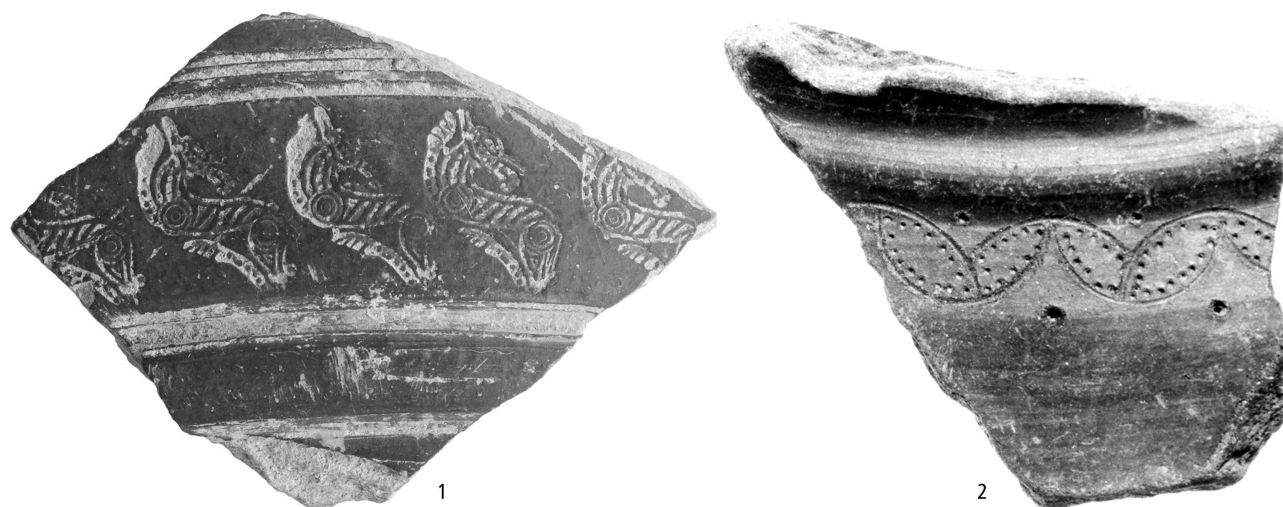


Fig. 72: Late Hallstatt period. LT A stamped and compass-drawn decoration. 1 Kanín (Nymburk district); 2 Počeradý (Louny district). Photo by J. Mařík (1) and V. Jílková (2).

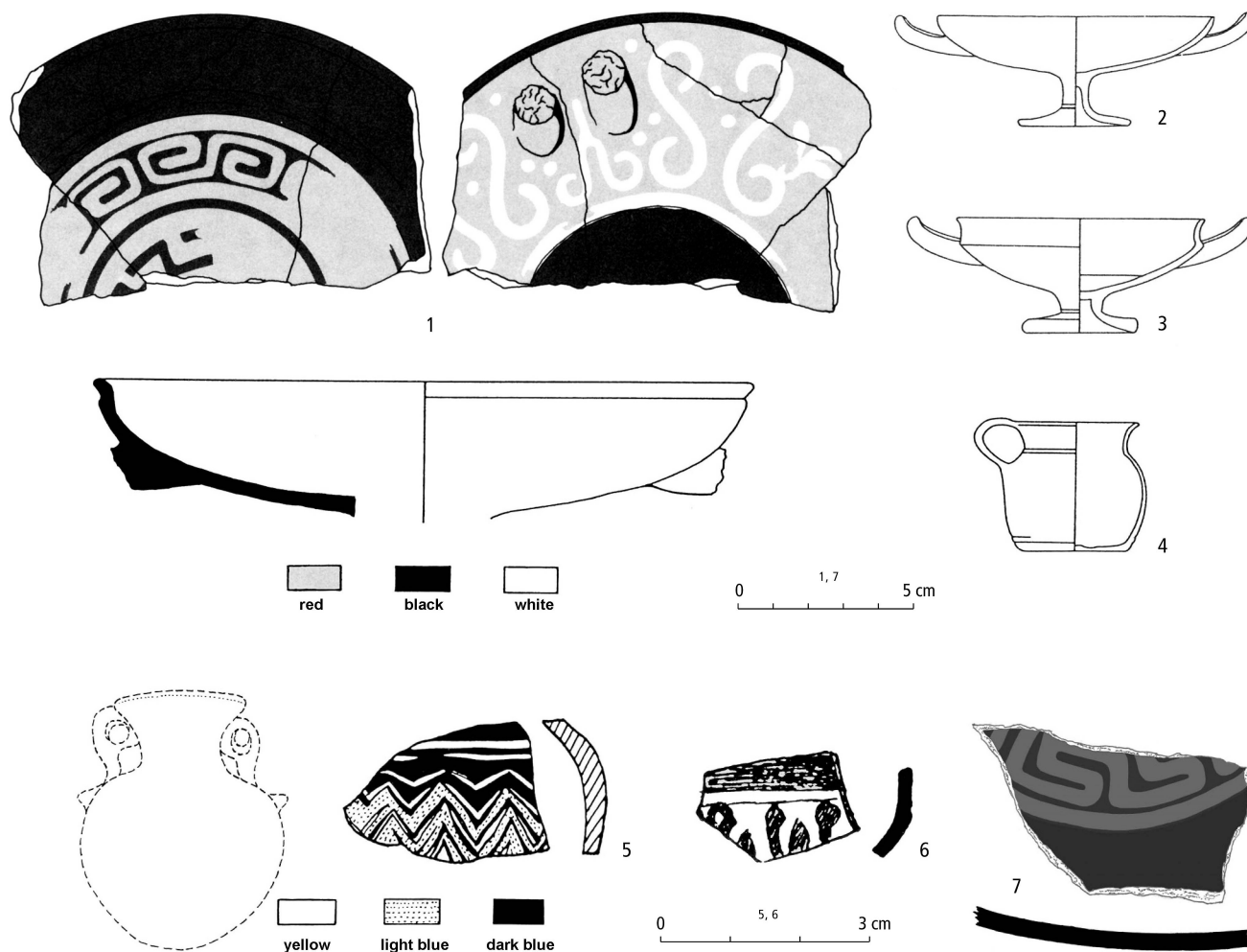


Fig. 73: Late Hallstatt period. Imported vessels and their imitations. 1, 7 red-figure pottery imitations; 2–4 reconstructed vessel forms; 5 glass aryballos; 6 black-figure pottery. 1 Plzeň-Roudná (Plzeň-město district); 5 Strakonice (Strakonice district); 6 Kadaň (Chomutov district); 7 Chržín (Kladno district). After Bašta – Baštová – Bouzek 1989; Bouzek – Koutecký 1975; Chytráček 2007b; Michálek – Venclová 1992.

Chytráček 1990). Although sporadic finds of spear butts came to light (hoard from Libčice-Chýnov: *Sankot – Vojtěchovská 2001*, 312–13, Fig. 18.2, 18.3), the small dimensions in certain cases are not positive proof that the artefacts are indeed fittings for the ends of spear shafts.

Arrowheads. Bronze and iron arrowheads are documented (Fig. 75: 7–8). A bronze arrowhead with two barbs belonged to the grave goods of a barrow in Želkovice (*Soudská 1976*, 641, 644, Fig. 14: 7), while an arrowhead with a socket containing the burnt remains of the shaft comes from the Vladař hillfort (*Chytráček – Šmejda 2006*, 55, Abb. 2). A hollow bronze cylindrical artefact with engraved compass-drawn decoration from Chlum near Rokycany (Fig. 75: 9) was interpreted as the base of a quiver (*Drda – Rybová 1998*, 48–50; *Sankot 2003*, 8–9).

Axes. Axes with a rectangular socket were used as tools (see Chapter 6.2.4) and weapons (Žákava-Sváreč barrow 13; Nýřany: *Bašta – Metlička 1992*, 384, Fig. 2; Lipno: *Chytráček – Metlička 2004*, Abb. 54: 8; Pavlovsko: *Šaldová 1981a*, 12). Rare forms include a large iron axe with an oval socket and a small loop (Fig. 75: 13) and a small axe with a transverse opening for the handle and a long, hammer-like butt (Fig. 75: 5). A unique iron axe with a transverse opening and a bronze butt in the shape of a dragon head with an open mouth and sharp teeth (Kaliště-Bezděkov barrow 79: Fig. 75: 4) ranks among finds labelled as Scythian-Thracian.

Shields. The use of shields is documented by a boat-shaped shield boss with engraved decoration on the edges and decorated rivets (Fig. 75: 11), the metal binding of a shield, a shield handle and other parts (*Sankot 2003*, 34).

Belts. Gear also included belts, the majority of which were probably made of leather. Surviving from them are individual bronze and iron rings, some of which could also belong to sword hangers. Some exceptionally decorative Ha D2–3 and LT A belts were equipped by slender bronze wire chains or composed of cast links (Závist, Dolní Břežany: *Drda – Rybová 1995*, 69).

Belts were equipped with hooks. Simple belt-hooks have an oblong to rhombic shape with a hook or cross-bar (Fig. 76: 2). Typical for LT A across the vast territory stretching from France through central Europe and to northern Italy is an iron triangular open-work belt-hook that was usually decorated with engraved and punched curvilinear elements (Fig. 76: 4, 5) or with a palmette and zoomorphic motif (Otmíčská hora: *Stolz – Sankot 2008*). An extraordinary belt-hook from Černouček with open-work in the middle bears hammered geometric ornamentation (*Brnič – Sankot 2005*; Fig. 76: 3). A fragment of an open-work belt-hook made

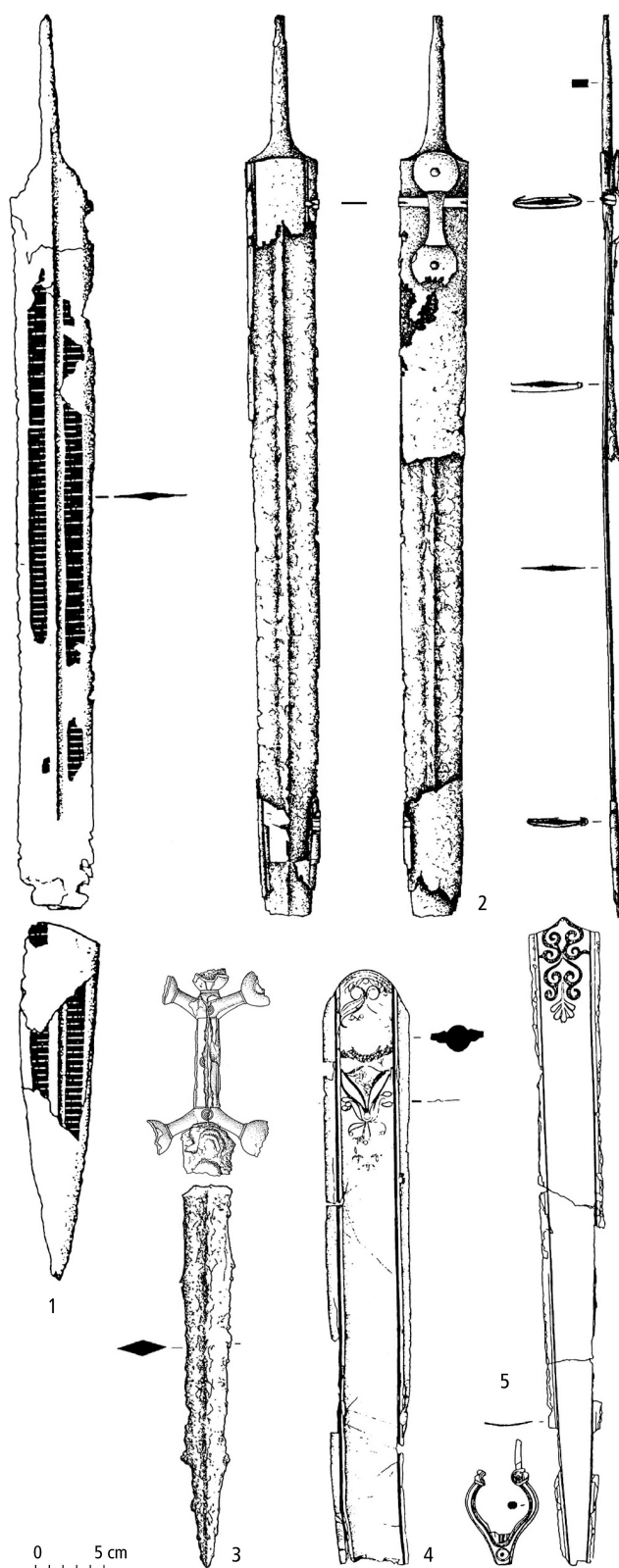


Fig. 74: Late Hallstatt period. Weapons – swords and scabbards. 1, 2 iron; 3 iron and bronze; 4 bronze; 5 bronze and coral. 1 Kralovice (Plzeň-sever district); 2 Klobuky (Kladno district); 3 Kyšice (Plzeň-sever district); 4 Veselí nad Lužnicí (Tábor district); 5 Dražičky (Tábor district). After *Beneš – Sankot 1994*; *Michálek 2003a*; *Sankot 1995*; 2003.

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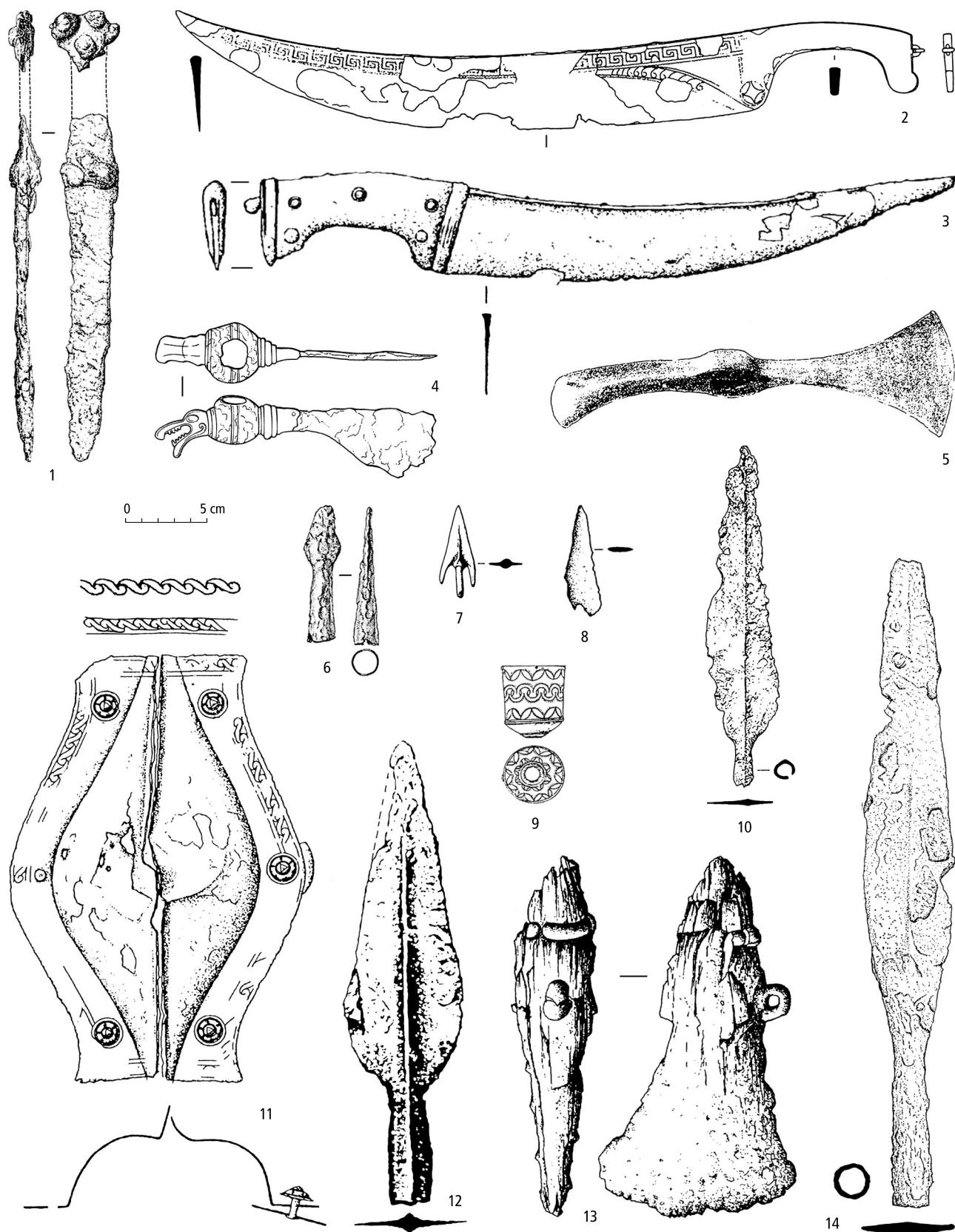


Fig. 75: Late Hallstatt period. Weapons. 1 knife-dagger; 2, 3 knives-cleavers; 4, 5, 13 axes; 7, 8 arrowheads; 9 quiver fitting; 11 shield boss; 6, 10, 12, 14 spearheads. 1–3, 5, 6, 8, 10–14 iron; 4 iron and bronze; 7, 9 bronze. 1, 10, 14 Mírkovice (Domažlice district); 2 Křečkov (Nymburk district); 3 Hostý (České Budějovice district); 4 Kaliště-Bezdekov (Klatovy district); 5 Skalice (Tábor district); 6 Závist (Lhota, Praha-západ district); 7 Lučice (Klatovy district); 8, 9, 13 Chlum (Rokycany district); 11 Branov (Rakovník district); 12 Neštětice (Ústí nad Labem district). After *Drda – Rybová 1995; Chytráček 1990; Chytráček – Břicháček 1992; Motyková – Drda – Rybová 1988; Rychlý 1904; Sankot 1994, 2003; Šaldová 1971b; Vokolek – Sankot 2001a.*

of sheet bronze comes from the finds from a secondary cremation grave in barrow III in Mírkovice (Chytráček 1990, Fig. 7: 4). A cast tripartite belt-hook with a rectangular plate was made of bronze (Fig. 76: 1). Another example of this type of belt-hook is a

single-sided, cast bronze two-part specimen in the shape of a figure eight (Fig. 76: 8). A bronze plate belt-hook with a relief mask and *tremolo* decoration found in Želkovice exhibits exceptional craftsmanship (Fig. 76: 7). Also surviving are fragments of an iron hook

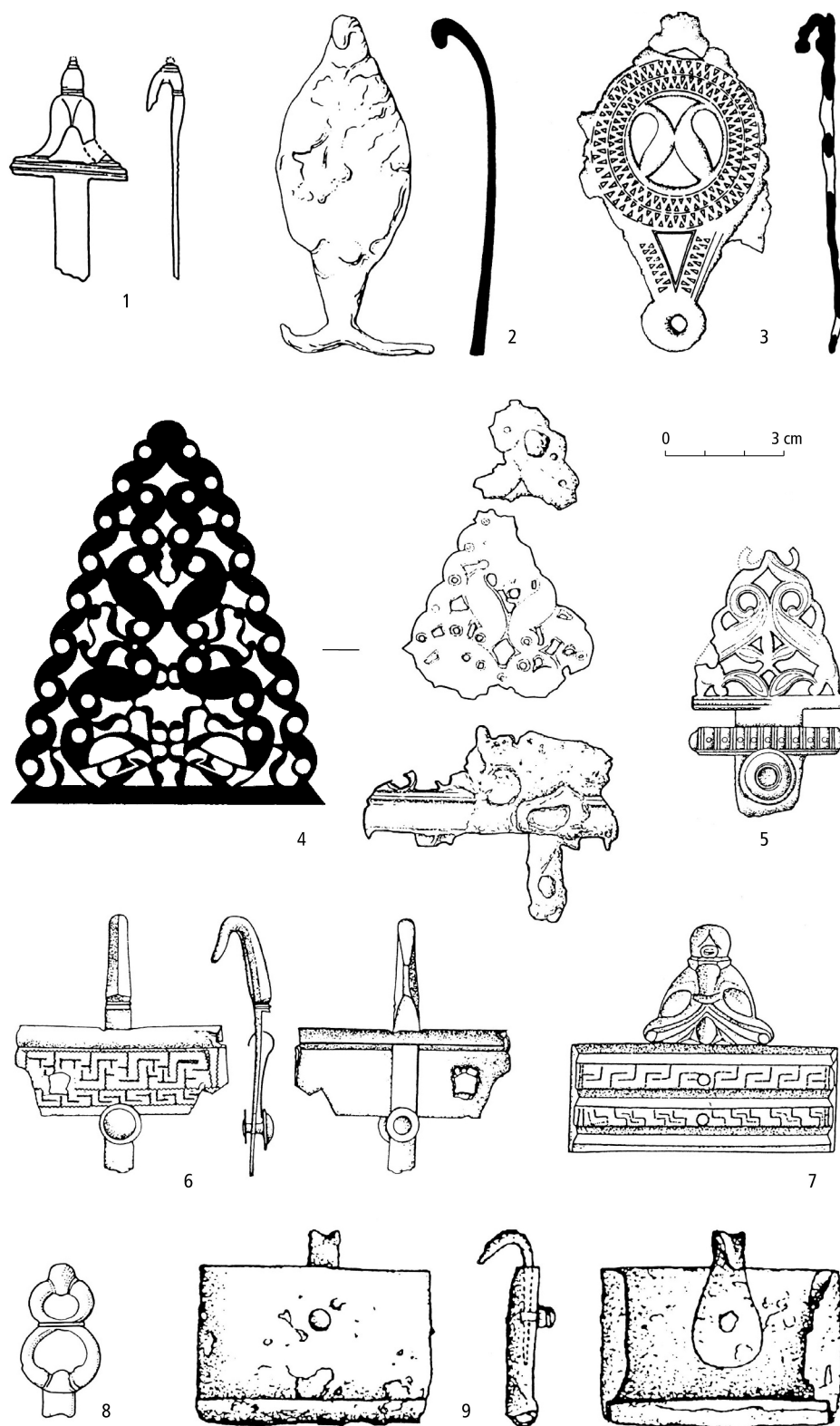


Fig. 76: Late Hallstatt period. Belt hooks. 1, 7, 8 bronze; others iron. 1 Nynice (Plzeň-sever district); 2 Hořejany (Příbram district); 3 Černouček (Litoměřice district); 4 Hosty (České Budějovice district); 5 Újezd nade Mží (Plzeň-sever district); 6, 9 Cítoliby (Louny district); 7 Želkovice (Beroun district); 8 Sedlec-Hůrka (Plzeň-jih district). After Šaldová 1971a; Soudská 1976; 1994; Brnič – Sankot 2005; Beneš – Sankot 1997; Sankot 1996; 1997; 2003.

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with a rectangular belt-end plate (Fig. 76: 9), which can also feature engraved and *tremolo* decoration (Fig. 76: 6).

Iconographic sources have provided information on other components of equipment used in this period of Etruscan or Greek origin, including a helmet (cf. the anthropomorphic foot of a pyxis, from the Vladař hillfort, depicting a Negau-type helmet) and armour (demonstrated, e.g., by the stone sculpture and also the bronze figurine from a *Schnabelkanne*, both from Glauberg in Hesse: *Frey – Herrmann 1997*).

Tools and implements. Both iron and bronze were used to make tools such as files, saws, hammers in a range of sizes, chisels and various types of knives. Certain axes undoubtedly served as working tools. Conversely, some knives and axes could also have served as weapons. Iron blacksmith's hammers were found at the Svržno hillfort and in the LT A hoard in Libčice-Chýnov. Iron shears are a unique find (Hořejany grave 4: *Sankot 1999*, Abb. 1: 8). Iron scythes, narrow ploughshares and keys appear in LT A. An iron compass was used in LT A to apply circular incised ornamentation on pottery and bronze artefacts (Tuchoměřice: *Sankot 2004*, 62, Fig. 8/2c). Iron razors

and bronze or iron tweezers have been documented. Other iron tools include sewing needles, engraving tools, awls, chisels (Chlum near Bezdědovice; Vladař: *Chytráček – Šmejda 2006*, 58, Abb. 14: 5; *Chytráček et al. 2012*) and bronze needle holders. Imitations of Greco-Etruscan originals, iron fire dogs with animal heads were found in LT A “princely” graves (Hradiště near Písek, Hořovičky: *Chytráček 2008*, 87, Abb. 18: 4, 5). Tools used typically for production activities are addressed in Chapter 6.

Vehicles. The use of vehicles, perhaps in war, but mainly in ceremonies, as it occurs in the inventory of “princely” graves, is a separate theme (see *Pare 1992*; *Vosteen 1999*). The four-wheeled wooden wagon was replaced to the north of Alps by a two-wheeled chariot probably around 500 BC, and Bohemia was part of the territory in which it appeared (Fig. 78). Some of the wagon/chariot components were made of iron (Fig. 77: 1). The iron rims of the two-wheeled chariot, with a diameter of 0.80–0.85 m, had a relatively small number of nails compared to the earlier wheels of four-wheeled wagons. The structure of the wood attached to the inner sides of rims is proof of a more advanced technology: unlike earlier wagons, wheel tyres were

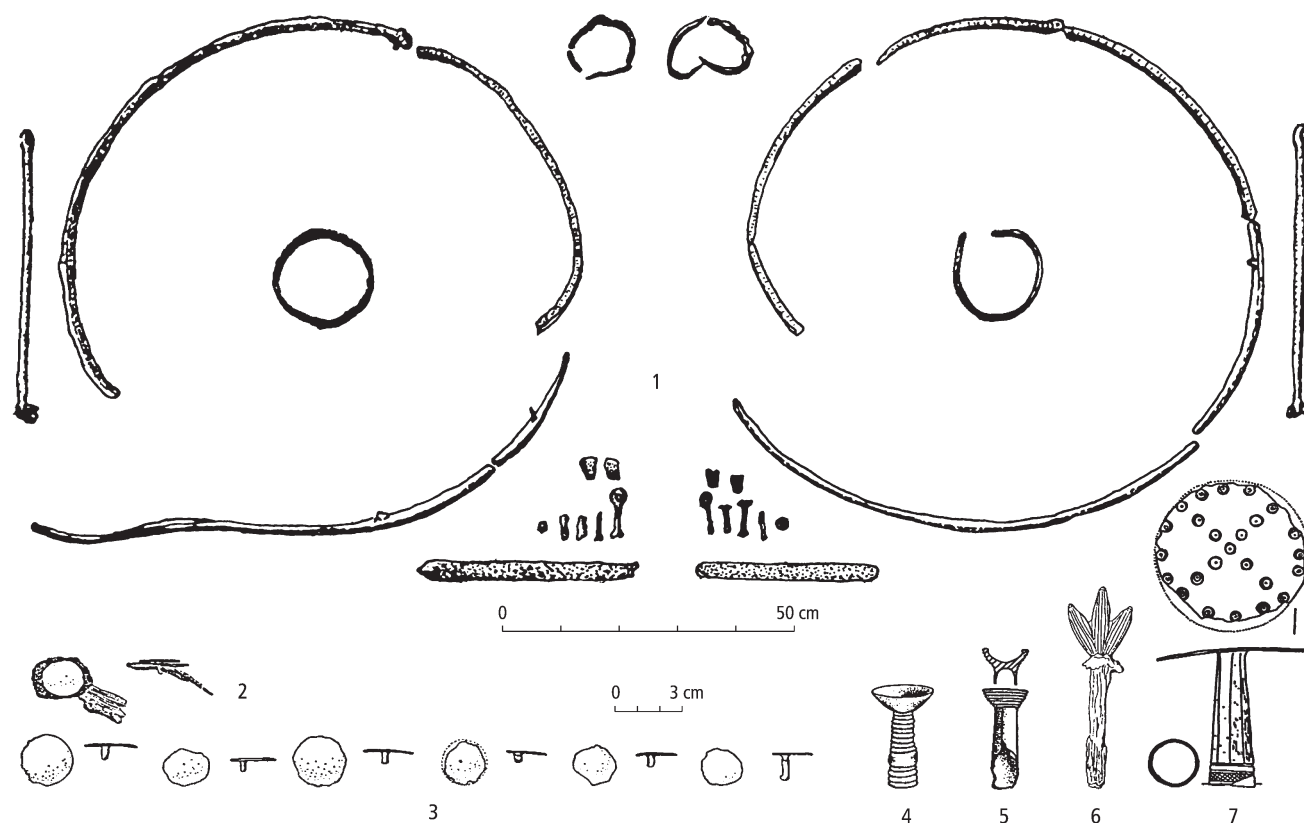


Fig. 77: Late Hallstatt period. Wagon and yoke. 1 tyres, wheel hubs, hauling rods and axle fittings; 2, 3 yoke parts (?); 4, 5, 7 terminals; 6 linch pin. 1 iron; 2 wood, leather and bronze; 3–5, 7 bronze; 6 iron and bronze. 1–3, 5 Mírkovice (Domažlice district); 4 Kladruby (Rokycany district); 6 Hořovičky (Rakovník district); 7 Řepeč (Tábor). After *Chytráček 1990*; *2000*; supplemented by J. Michálek.

now put over the spokes while the iron was still hot and were attached with several nails afterwards. The wooden wheel hubs were reinforced by a pair of smaller iron rims with a flat rectangular section and a diameter of 12.5–13 cm. Two flat iron rods, 31 cm and 37 cm in length, probably served to brace the axles. The stressed ends of the axles were reinforced with ferrules. Two iron rods with a length of approximately 50 cm (Mírkovice), with eyelets and forked clips for attachment to the axle of the vehicle, were related to the construction of the hitching, the same as similar hauling rods from two-wheeled chariots in Sedlec-

Hůrka, Želkovice and Hořovičky. The Mírkovice specimen possibly belongs to the type of war chariot characterised by a simple design devoid of metal decoration and with only the essential metal fittings. A two-wheeled chariot decorated with bronze ornamentation belongs to a different type (Lučice: bronze sheet from the wheel hubs with relief ribs; Švihov-Červené Poříčí: bronze axle caps; Kladruby: hubs covered with bronze sheet: *Sankot 2012*, 712–13, Abb. 4; Hořovičky: an iron linch pin with a bronze head in the shape of a palmette, Fig. 77: 6; sheet bronze caps with hammered decoration; Řepeč: end-piece with a flat

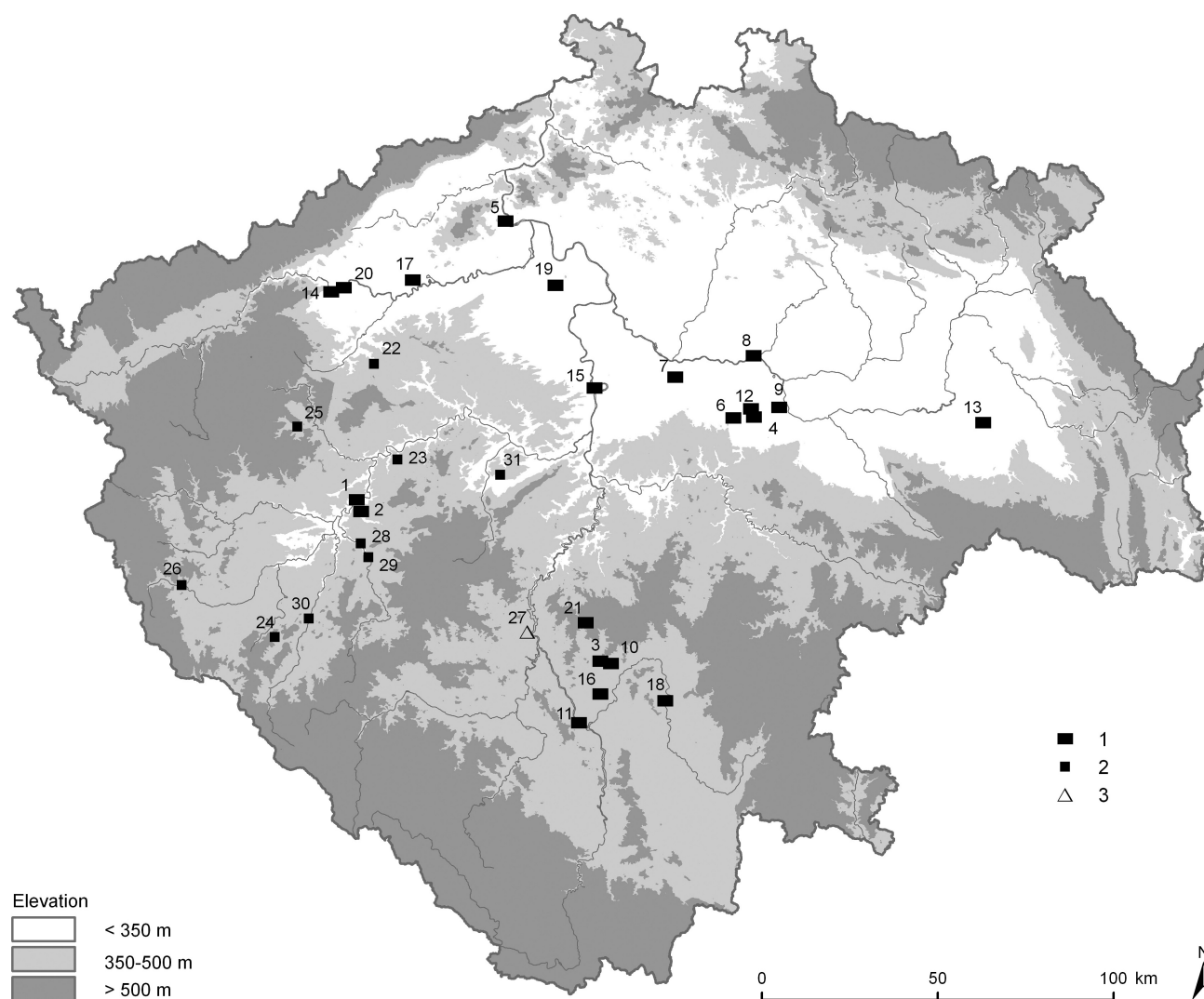


Fig. 78: Hallstatt and late Hallstatt period wagons in Bohemia. 1 four-wheeled wagon; 2 two-wheeled chariot; 3 wagon type not determined. 1 Dolany (Plzeň-sever district); 2 Dýšina (Plzeň-sever district); 3 Hanov (Písek district); 4 Hradenín (Kolín district); 5 Lhotka nad Labem (Litoměřice district); 6 Miškovice (Kolín district); 7 Nehvizdy-Nehvizdky (Praha-východ district); 8 Nymburk (Nymburk district); 9 Ohrada (Kolín district); 10 Opařany (Tábor district); 11 Pašovice (České Budějovice district); 12 Plaňany (Kolín district); 13 Platěnice (Pardubice district); 14 Poláky (Chomutov district); 15 Praha-Bubeneč; 16 Radětice (Tábor district); 17 Rvenice (Louny district); 18 Skalice (Tábor district); 19 Straškov (Litoměřice district); 20 Vikletice (Chomutov district); 21 Zbislav – Zhoř u Milevska (Písek district); 22 Hořovičky (Rakovník district); 23 Kladruby (Rokycany district); 24 Lučice (Klatovy district); 25 Manětín-Hrádek (Plzeň-sever district); 26 Mírkovice (Domažlice district); 27 Nevězice (Písek district); 28 Sedlec-Hůrka (Plzeň-jih district); 29 Štáhlavice-Beztehov (Plzeň-jih district); 30 Švihov-Červené Poříčí (Klatovy district); 31 Želkovice (Beroun district). After *Chytráček 2000*, supplemented.

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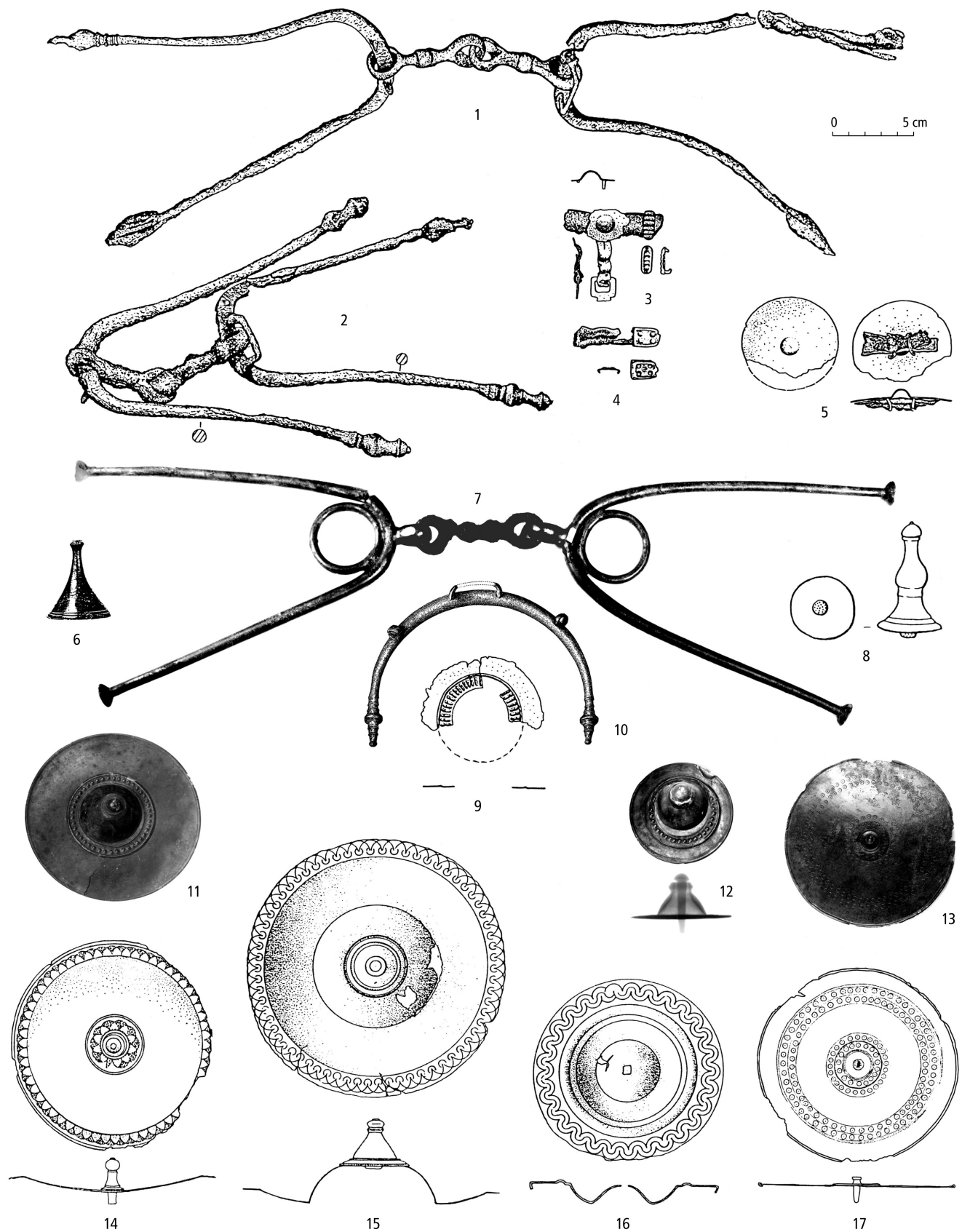


Fig. 79: Late Hallstatt period. Horse harness. 1, 2, 7, 10 bridle parts; 3–6, 8, 9, 11–17 phalerae, their parts and attachment. 1, 2 iron; 3–5 bronze and leather; 7, 8 bronze and iron; 9–7 bronze. 1–5, 9, 13, 14, 17 Mirkovice (Domažlice district); 6 Lučice (Klatovy district); 7 Želkovice (Beroun district); 8 Nynice (Plzeň-sever district); 10 Křinec (Nymburk district); 11, 12 Sedlec-Hůrka (Plzeň-jih district); 15, 16 Nevězice (Písek district). After Chytráček 1988; 1990; 2000; Šaldová 1971a. Photo by H. Toušková.

decorated head, Fig. 77: 7; Nevězice: bronze open-work ornaments: *Fröhlich – Jiřík 2005*, Fig. 2: 1–3). Chariots of this type represent impressive vehicles used mainly on ceremonial occasions (*Chytráček 1988*, Fig. 2–8; 13–15; *1990*, 87–95, 110–113, Abb. 11–16). Bronze hollow sleeves with goblet-shaped head (Fig. 77: 4, 5) were set on wooden elements related to the chariot (*Chytráček 2000*, Fig. 4: 1–11; *Sankot 2012*, 708, 710). Solid bronze conical objects with iron pegs decorated the body of the chariot.

Parts of the iron plating of wheel hubs and decorative iron clips, perhaps from the linch pins, come from the Závist hillfort. Tubular fragments of iron sheet (*Jansová 1983a*, 38–40, Fig. 7: 4–7, 11–13) could belong to tools of the same type as those found in the early La Tène hut 3a in Praha-Zbraslav. The artefacts were interpreted as devices for prodding draft animals.

Horse hitching, harness and horseshoes. Fragments of a wooden yoke coated with leather secured with bronze rivets are related to horse hitching (Mírkovice barrow XII: *Chytráček 1990*; Fig. 77: 2, 3).

The main components surviving from horse harness are phalerae (Fig. 79: 11–17; 80). Larger bronze phalerae (sometimes also made of iron) have a central rivet with a bronze head (Fig. 79: 6, 8) – solid conical or with an intricate profile. The centres of the phalerae can also be high, conical and hollow, with a nail with

a decorative head running through the middle (Fig. 79: 11, 12; 80). The centre and edges of the phalerae are often decorated with an engraved pattern (Plate 14: 3, 4). Bowl-shaped discs with engraved, compass-drawn or punched decoration belong to a special group of bronze, in rare cases also iron, phalerae typical for Bohemia (Želkovice, Lučice-Lotrov, Hořovičky: *Chytráček 1988*, 50–58, Fig. 3–4; *1990*, 113–118; *2000*, 365–370, Fig. 3; 8–10; 12) that differ from cast phalerae, often open-work, from northeastern France and the Rhineland. Although bronze discs from Jaroměř were interpreted as parts of armour (*Vokolek – Sankot 2001a*), according to Chytráček they are undoubtedly phalerae (*Chytráček 2000*, Fig. 5). Embossed relief decoration of La Tène anthropomorphic motifs – masks appeared in only one case (Hořovičky).

Also known are small flat bronze phalerae, plain or decorated with concentric circles or with strokes and zigzags. Documented in west Bohemia are large flat phalerae with a central rivet with a goblet-shaped head attaching a small decorated disc to the phalera (Fig. 79: 17); large and medium-sized phalerae are decorated with punched ring-and-dot-decoration (Mírkovice barrow XII; Kladruby: *Chytráček 1990*, Fig. 21: 12, 13; *Sankot 2012*, 696–702). Leather straps with holes for inserting the rivets of the phalerae have also survived (Fig. 79: 3–5).

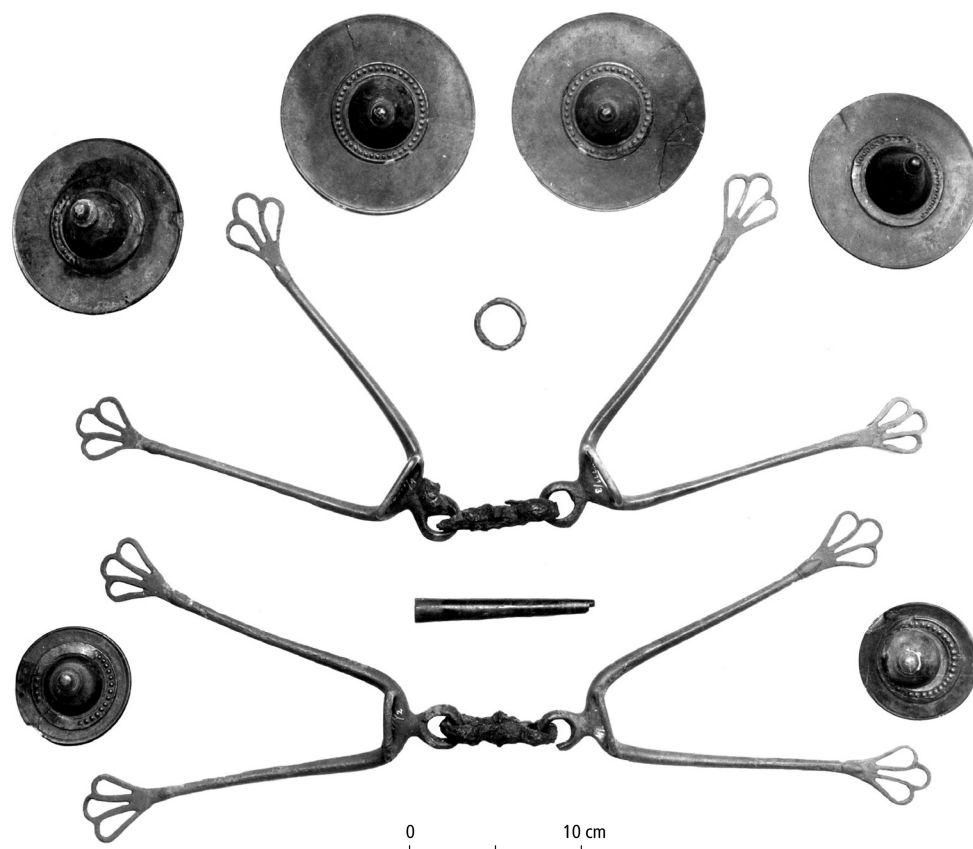


Fig. 80: Late Hallstatt period. Horse harness. Bridles with V-shaped cheek-pieces, phalerae and other parts. Bronze and iron. Sedlec-Hůrka (Plzeň-jih district). After *Chytráček 2000*. Photo by H. Toušková.

Bronze chains composed of bar-like links and rings with sheet metal pendants can be regarded as special decorative elements (Závist: *Jansová 1983a*, Fig. 5, 7, 15: 3–7; *Drda – Rybová 2008*, Fig. 66).

Harness also included two-link bits with rings for the bridle straps (Mírkovice barrow XI: *Chytráček 1990*, Fig. 16; Kladruby: *Sankot 2012*, 706–708; Dobšice, Dražičky: *Michálek 2003a*, Abb. 19). Bridle types A and B with solid metal arched cheek-pieces differ in their construction (*Chytráček 1988*, Fig. 3–4; *1990*, 115, Fig. 12: 1, 13: 4; *2000*, Fig. 5; 6; 8–10). Type A is more common than type B, which is concentrated primarily in southwest Bohemia. The cheek-pieces of bridle type A (Fig. 79: 10) have two rings for the face piece straps on their C-shaped arms; a clip for attaching the cheek-pieces to the bit is in the middle of the curved bar (iron: Štáhlavice-Beztehov barrow 10; bronze: Hořovičky, Nový Bydžov, Závist: *Chytráček 2000*, Fig. 5: a; *Motyková 2003*, 612, Fig. 2). A pair of type A cheek-pieces with decoratively profiled arm ends found in Křinec was among the finds in a prominent grave that was destroyed (*Šneidrová 1957*, 350, Fig. 127). The cheek-pieces of a type B bridle in the shape of a letter U or V (Fig. 79: 1, 2, 7; 80) have only a single clip in the middle of the arched bar for attaching the face straps and reins. Curved cheek-pieces with a wooden core with conical sockets at the ends were part of the inventory of the LT A princely grave in Hradiště near Písek (*Sankot 2002d*, Abb. 2: 7–9) and they appear in richly furnished early La Tène graves in eastern France.

The bit is usually connected to the cheek-piece through a clip in the middle of the curved arm of the cheek-piece (Fig. 79: 7; 80); in some cases the curve of the cheek-piece extends directly through the ring of the bridle (iron: Mírkovice barrow IX; iron with bronze ornamental links on the end of the arm: Lučice-Lotrov barrow 1/1882: *Chytráček 1988*, Fig. 3–4, 8; *2000*, 364–375, Fig. 5: b, 6–14). A less common form is a bridle composed of a two-link iron bit connected on the ends to large bronze rings (Lučice-Lotrov barrow 1/1882: *Chytráček 2000*, 368, Fig. 10). The bridles are accompanied by button-like discs, square open-work slides and fittings with loops on the bottom to attach the straps. Horse harness also included bronze or iron rings with hanging clips. Straps were attached using lozenge-shaped clasps with a rounded end and forked base (*Sankot 2012*, 704–706, Abb. 3: 7). Related to the use of horses are iron horseshoes represented thus far by a single LT A example (Dolní Břežany: *Motyková 1994*, 164, Fig. 6).

Personal ornaments and fasteners. The classification and chronology of the numerous artefacts in this category in Bohemia is based on the detailed study of

assemblages in neighbouring countries, especially Germany (fibulae: *Mansfeld 1973*; *Binding 1993*; *Dehn – Stöllner 1996*; various ornaments: *Pauli 1978*; *Sievers 1984*; *Parzinger – Nekvasil – Barth 1995*, etc.).

Fibulae are a characteristic dress accessory. Compared to other areas, relatively few fibulae are known in Bohemia; it is unclear whether this reflects the state of research and the poor preservation of the fibulae, or whether their low numbers could be the result of local dress code. The *Kahnfibel* (Fig. 81: 1) and *Paukenfibel* (Fig. 81: 2) fibulae and specimens with a crossbow construction belong to Ha D1–D2. A western Alpine Ha D2 band fibula is the only specimen found thus far in Bohemia (Fig. 81: 6). A southern Alpine version of the band fibula, which has a similar construction, is known from the Dolánky-Rubín hillfort (*Sankot 2009*, Abb. 1: 4). Belonging to Ha D3 are fibulae with a crossbow construction and an ornamental foot – *Zierfussfibeln* (Fig. 81: 4) or with grooves on the bow for a coral inlay (Fig. 81: 3; *Michálek 2011a*, 313–321). The wide range of types from the Ha D3–LT A includes the slender Speikern-type bronze fibulae with a boat-shaped bow and a foot reminiscent of the bird's head found on early La Tène fibulae (Fig. 81: 5; Třebovle: *Valentová – Sankot 2000*, 269, Abb. 2c).

Characteristic for LT A are small disc fibulae probably originally decorated with amber or coral, or with impressed ornamentation (Fig. 81: 12; Závist: *Drda – Rybová 2008*, Fig. 49: 1–2; 59: 6; 83); the entire fibulae or only their disc can also be made of gold. Also occurring is a small fibula with long crossbow coiling and a cord wound around the bow – a miniature form of late fibulae with ornamental foot (Chržín: *Chytráček 2008*, Abb. 13:1). Fibulae with a bird's head on the foot are a typical form (Fig. 81: 7, 8; Bylany grave 15, originally with crossbow coiling and a coral inlay: *Kruta 1975*, 15, 107, Fig. 3: 4; Tuhoměřice-Kněžívka feature 8/59: *Soudská 1966*, 588, Fig. 18, 18a; Tajanov-Husín: *Binding 1993*, 229, Tab. 30: 15). The Sanskimost fibulae are rare (Závist: *Drda – Rybová 2008*, Fig. 67). Certosa fibulae (Fig. 81: 10) appear a number of times, and Kowalowice-type fibulae with crossbow winding and an open-work foot also occasionally occur (*Čižmář 2011*). A fibula in the shape of a small shoe is a curiosity (Fig. 81: 11).

Belonging to the same stage are the characteristic mask fibulae (*Maskenfibel*), the construction of which is derived from the Certosa fibula (Fig. 81: 14–18; Plate 15: 2, 7), a fibula in the shape of a human figure from Manětín-Hrádek (Fig. 81: 18) and a fibula with a bird on the foot and a mask on the bow (Fig. 81: 9). Widespread throughout western and central Europe, the Marzabotto fibula (Fig. 81: 15) is one of the latest fibulae from the end of LT A (*Dehn – Stöllner 1996*).

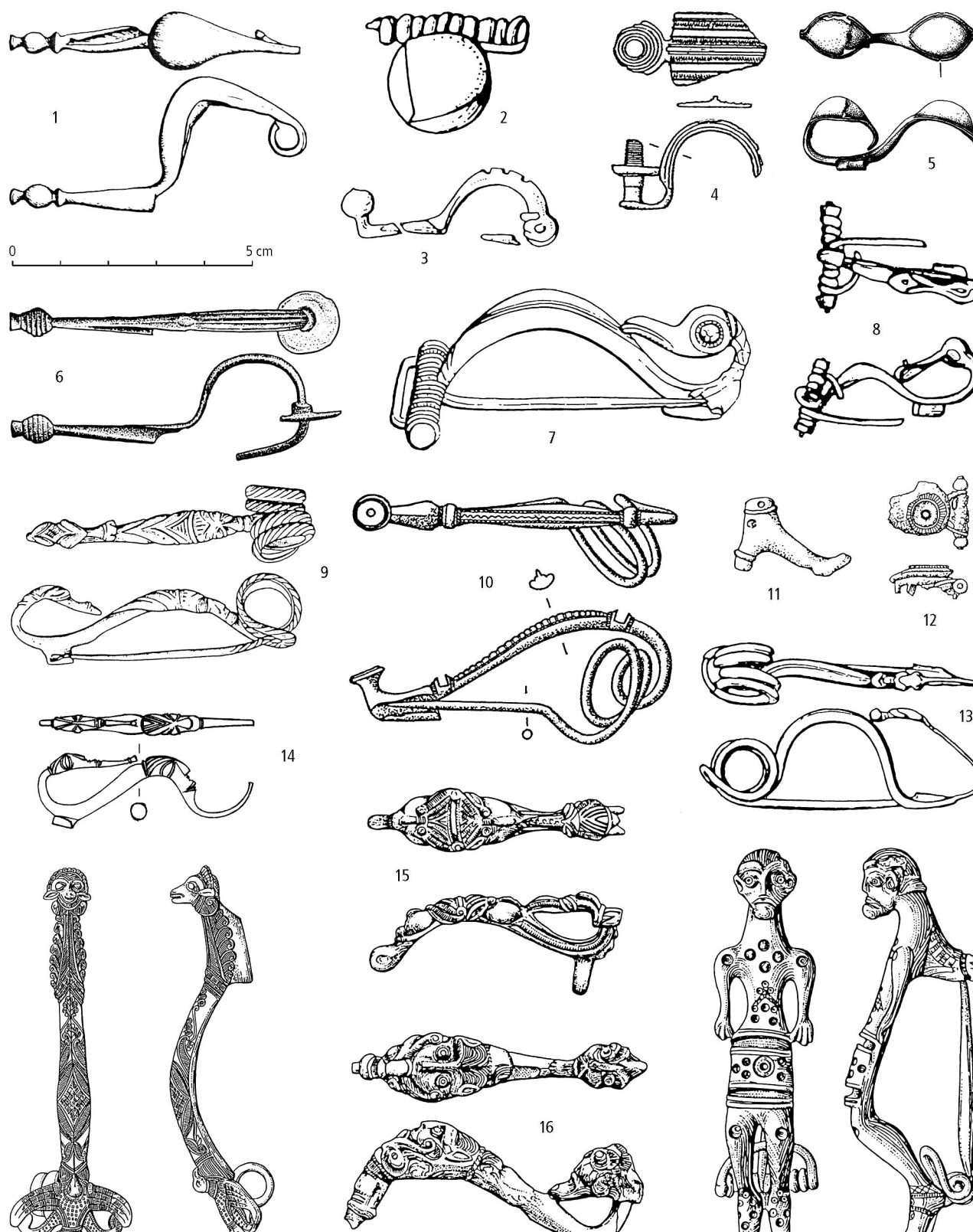


Fig. 81: Late Hallstatt period. Bronze fibulae. Types: 1 boat (*Kahnfibele*); 2 drum (*Paukenfibele*); 3, 4 with ornamental foot; 5 *Speikern*; 6 band; 7, 8 with a bird-shaped foot; 9 with a bird-shaped foot and mask; 10 *Certosa*; 11 boot-shaped; 12 disc; 13 *Marzabotto*; 14–18 mask fibulae. 1 Jenštejn (Praha-východ district); 2, 8, 9, 11 Hradiště (Plzeň-jih district); 3 Chlum near Blatná (Strakonice district); 4, 18 Manětín-Hrádek (Plzeň-sever district); 5 Dolní Břežany (Praha-západ district); 6 Svržno (Domažlice district); 7, 10 Kralovice (Plzeň-sever district); 12 Kutná Hora (Kutná Hora district); 13 Radobyčice (Plzeň-město district); 14 Mikulovice (Pardubice district); 15 Nová Huť (Rokycany district); 16 Kyšice (Plzeň-sever district); 17 Panenský Týnec (Louny district). After *Dreslerová 1995a*; *Soudská 1994*; *Chytráček – Metlička 2004*; *Motyková – Drda – Rybová 1984*; *Valentová – Sankot 2000*; *Sedláček – Sankot 2013*.

A bronze disc fibula with a crossbow construction featuring zoomorphic elements, found in Želenice (Fig. 82), is a remarkable artefact. The fibula was decorated with sheet metal pendants, glass beads and perhaps even coral (*Moucha 2002*, with refs.).

Bronze or iron pins, often with a curved neck, with a paddle-shaped or spherical head, appear only rarely (e.g. *Závist: Drda – Rybová 2008*, Fig. 49: 16–17, 83; *Praha-Ruzyně - Jiviny: Trefný 2008*, Fig. 3: 6 a, b). An extraordinary representative of this category is the, now lost, bronze pin with a head in the shape of a female bust reputedly found at Hradiště near Písek, possibly originating in the classical world (*Drda – Rybová 1998*, 47). Pins most probably served as hair ornaments.

Earrings, including those with attached glass beads, and temple rings (probably hair ornaments) have been found in only a small number of cases. A gold band earring (Ha D2/3) was among the finds from a grave in a barrow in Plešnice (*Chytráček – Metlička 2004*, 109, Karte 18: 6, with refs.). An Opařany-type or south-eastern Alpine type Ha D2–3 band ornament of gold or bronze sheet with repoussé decoration (Fig. 83: 20) and thin rings of plain or twisted bronze wire with overlapping ends (Fig. 83: 13; *Motyková – Drda – Rybová 1984*, 387, 389, Fig. 39: 3, 5) were also worn. A bronze wire spiral ornament found in Jenštejn (*Dreslerová 1995a*, Fig. 12: 232) probably belongs to the same period. Spiral and serpentine bronze earrings (temple rings) plated with an alloy of gold and silver, made from coiled bars with button-like ends, are rare finds (Fig. 86: 8; *Břežánky in the Bílina region: Hrala 1976*; *Kozinec in the Prague area: Stolzová – Šulová 2011*; *Sedlec in south Bohemia: John – Štěpánek 2012*).

Open solid bronze torcs featured engraved geometric decoration (Fig. 83: 1) including concentric circles, and grooved rings were also worn (Fig. 83: 3). Iron torcs also occur, in some cases with a hook and eye (Fig. 83: 5).

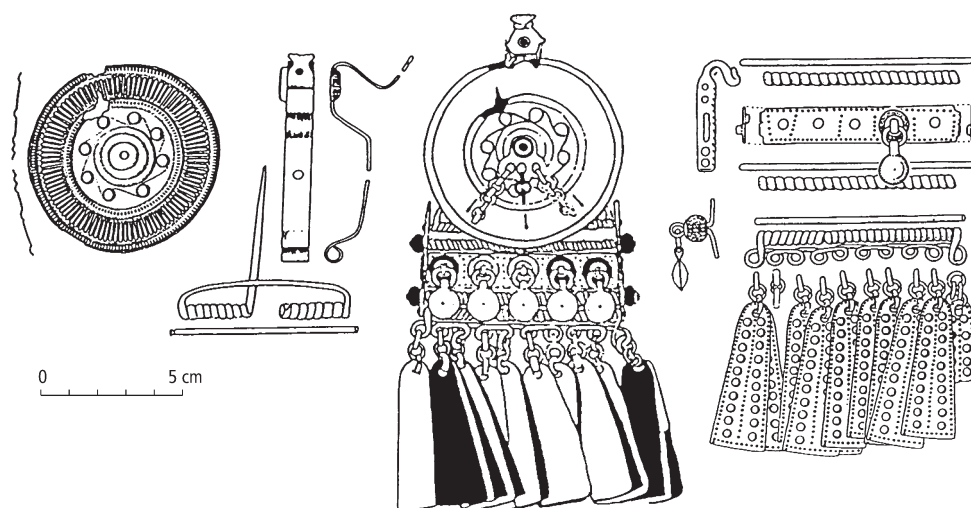
Bracelets were a popular form of ornament. The most common forms in the late Hallstatt south and west Bohemia were open bronze stirrup-shaped or oval bracelets made of thin or massive bars or from sheet coiled into a tube (*Chytráček – Metlička 2004*, 36, with refs.), either plain (Fig. 83: 8) or covered with engraved geometric decoration, sometimes with ring-and-dot motifs (Fig. 83: 2, 6, 7, 17). Large turban-rings made of bronze sheet were decorated in a similar manner. Hollow bronze hammered rings of various sizes already appeared to a lesser extent in the preceding Ha C–D1 period. Closed bar bracelets (Fig. 83: 4), sometimes with relief ribs (Fig. 83: 18), were also worn. The late type of bracelet is a solid closed ring with several – usually three, sometimes four – groups of knots (Fig. 83: 11, 16). Open wire bracelets could have ends hammered flat or bent into a loop. Commonly found in central Bohemia are closed bronze bracelets (Fig. 83: 9) and open bracelets with eyelets that are connected by small ring (Fig. 83: 19). Bracelets are both thin and massive, made of sheet metal, mostly plain, less often with engraved decoration, grooved or with crosswise ribs (*Mšeno: Lička 2004*; *Závist, Hrazany: Jansová 1983a*, Fig. 11: 5; 29: 3; *Praha-Zbraslav: Chytráček – Bernat 2000*, 297, Fig. 17: 10).

Bronze finger rings, at first worn by men, appear in Ha D2. The rings can be closed cast bands or sheet metal with open ends and decorated with engraved lines (Fig. 83: 12, 15). A *Koppelring*-type pendant is an exceptional find (Fig. 83: 21).

Head ornament (support for a leaf-crown?) was found on the skull in some inhumation graves (*Chytráček 2013*, 290–291).

Bronze vessels. Bronze was used to make sheet metal vessels and fittings for other (probably wooden) vessels. Bronze vessels formed complete drinking sets

Fig. 82: Late Hallstatt period. Bronze disc fibula with pendants and glass beads. Želenice (Kladno district). After *Moucha 2002*.



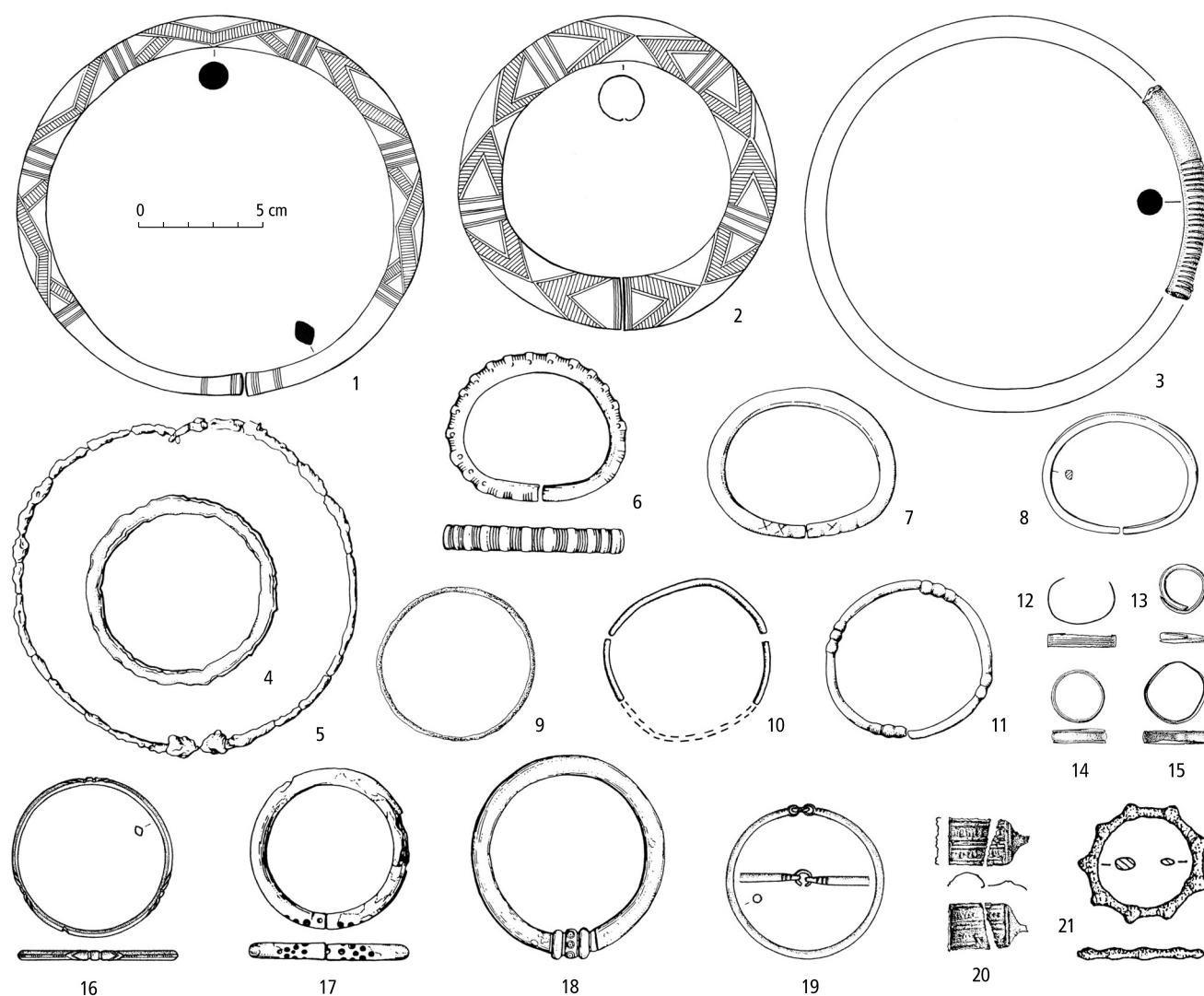


Fig. 83: Late Hallstatt period. Ring ornaments. 1, 3, 5 torcs; 2, 4, 6-11, 16-19 bracelets; 12, 14, 15 finger rings; 13 hair ornament; 20 earring; 21 pendant. 10, 14 silver; 4, 5 iron; others bronze. 1, 2 Skočice (Strakonice district); 3, 12-15, 20 Závist (Lhota, Praha-západ district); 4, 8, 18 Hradiště (Plzeň-jih district); 5, 6, 10, 17 Manětín-Hrádek (Plzeň-sever district); 7 Kocelovice (Strakonice district); 9 Jenštejn (Praha-východ district); 11 Chlum u Blatné (Strakonice district); 16 Blažim (Louny district); 19 Lužec (Mělník district); 21 Svržno (Domažlice district). After Michálek forthcoming; Motyková – Drda – Rybová 1988; Soudská 1994; Chytráček 1997; supplemented by P. Sankot.

which served for mixing (*stannos-situla*), pouring (beaked flagon) and for drinking (a pair of bowls) beverages. Specimens from Bohemia (excluding an as yet unpublished assemblage of bronze vessels from a barrow in Rovná; see Chapter 3) can be classified among the following types:

Ribbed bucket (Fig. 84: 11, 13): a cylindrical ribbed vessel with two movable handles (Hanov, Skalice in the Tábor region). Although ribbed buckets were already known in the preceding period, they were used until Ha D2/3.

Hatten-type bowl (Fig. 84: 14): a large flat bowl with two tripartite handles (Skalice in the Tábor region: Chytráček 1983, 427, Fig. 1: 1a, 1b; Michálek 2003a, Abb. 18).

Stannos-situla (Fig. 84: 8): high conical walls, rounded shoulders and a broad rim. Two cast handle attachments in the shape of flat plates were originally soldered to the rim. One of the preserved plates with two holes for the movable handles has a lotus flower motif at the base (Mírkovice). These vessels were made by hammering hot sheets over a template; handle attachments, parts of the handles and rim ornaments were cast using the lost wax technique.

Situla: *situlae* with a vertical neck are equipped with a single moveable arched handle connected to the handle attachments riveted to the outer side of the neck. The bottom of the vessel was attached by folding; the sides were made of two sheets connected by rivets (Veselí nad Lužnicí-Vlkov I: Beneš – Sankot 1995,

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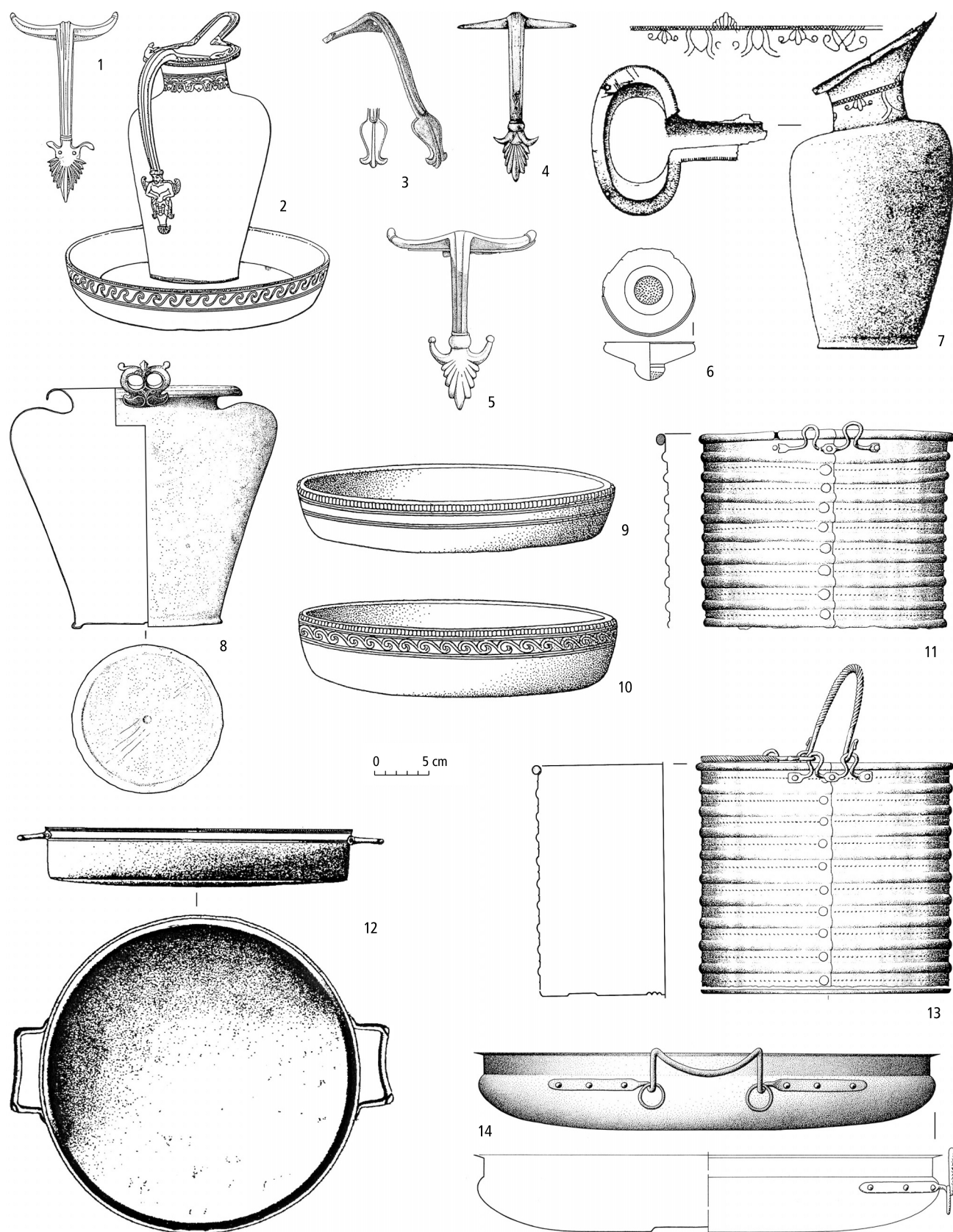


Fig. 84: Late Hallstatt period. Bronze and silver vessels. 1–5, 7 beaked flasks (*Schnabelkannen*) and their components; 2, 9, 10, 12 bowls with a flat bottom; 6 strainer; 8 stamnos-situla; 11, 13 ribbed buckets; 14 Hatten-type bowl. 6 silver; others bronze. 1, 2, 6 Hradiště near Písek (Písek district); 3, 5 Praha-Modřany; 4 Činov (Louny district); 7, 12 Chlum (Rokycany district); 8 Mírkovice (Domažlice district); 9, 10 Hořín (Mělník district); 11 Hanov (Písek district); 13, 14 Skalice (Tábor district). After Motyková – Drda – Rybová 1977; Chytráček 1990; 2002a; 2013; Siegfried-Weiss 1991; Sankot 2003; supplemented by M. Chytráček and J. Michálek.

145–46, Fig. 1: 5). A situla from Jaroměř perhaps featured twisted handles (*Vokolek – Sankot 2001a*). A fragment of a handle attachment, possibly from a situla, was recently identified in a grave with a two-wheeled chariot in Kladruby (*Sankot 2012, 715, Abb. 6: 2*). Situlae were already known in the preceding period.

Beaked flagon (*Schnabelkanne*): high shoulders, a distinct beak spout, a flat rim and a cast handle with attachments decoratively formed in a variety of ways (Fig. 84: 4). Decoration is also present on the (beaded) rim or neck (Chlum near Rokycany, Fig. 84: 7; *Vorlauf 1997*). Two noteworthy finds were made in “princely” graves from Hradiště near Písek – an intact flagon with handle attachment in the shape of Sirens (Fig. 84: 2) from the end of LT A, and another one with a palmette (Fig. 84: 1) from a second, earlier flagon (*Michálek 2003a; Drda – Rybová 1998, 45–48*). The handle of another beaked flagon in the shape of an “acrobat” – reputedly from a barrow of Hosty in the České Budějovice region lacks a reliable find context (*Waldhauser 2001, 441–45*). The same is true for the finds of two handles from Praha-Modřany with anchor-shaped attachment (Fig. 84: 5) and a lotus attachment (Fig. 84: 3; on the uncertain localisation see *Hlava 2008b, 558, note 14*).

Bowl with a flat bottom: vertical sides, the reinforced rim can be beaded (Hradiště near Písek, Fig. 84: 2; two bowls from Hořín, with an engraved “running dog” motif beneath the rim, Fig. 84: 9, 10; Hořovičky – two undecorated flat bowls with a straight rim, not preserved; Chlum near Rokycany – two bowls, with opposing rectangular handles set perpendicular to the vessel and attached with a rivet, engraved decoration below the rim, Fig. 84: 12).

Imola-Hundersingen bowl: flat bottom, slanted walls, beaded everted rim (Nebovidy; *Trefný – Korený – Frána 2012*).

Hemispherical bowl: details unknown (Hradiště near Písek, not preserved).

Olpe (Weber III B type): low maximum diameter, a long, narrow neck decorated with engraved lines, faceted handle with a decorated attachment extending high above the mouth (unverified find from Obří pramen-spring in Lahoš near Duchcov; *Cvrková – Jančo 2003, 133, Fig. 1*).

Other types of vessels, wooden and bronze, were equipped with bronze parts and fittings. A tubular spout and two open-work fittings from Čížkovice probably belonged to a jug (Fig. 85: 3–5; Plate 15: 5). A figurine of a warrior with a Negau helmet found at the Vladař hillfort (Fig. 85: 2) was evidently one of three feet of a bronze or wooden pyxis (*Drda – Rybová 1998, 67–68; Chytráček – Metlička 2004, 43, with refs.*); an alternative interpretation as the holder of a helmet

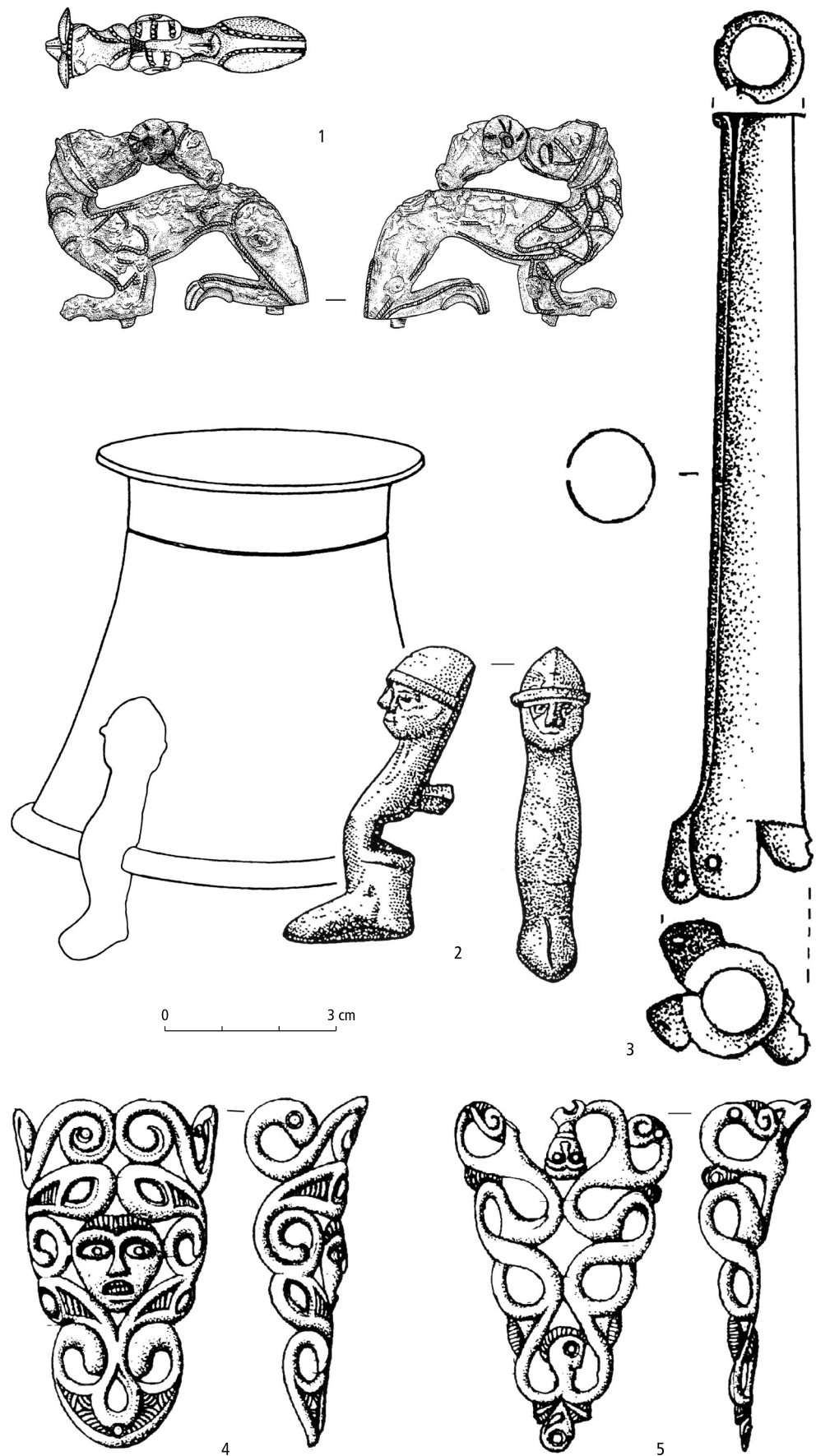
plume (*Bouzek 2005, 437*) has not yet been accepted. A creature with the head of a ram in its mouth from the farmstead in Droužkovice (Fig. 85: 1; Plate 15: 4) is interpreted as belonging to the lid of a metal jug (*Megaw – Megaw 2002*). Although a similar function cannot be ruled out in the case of a triangular open-work bronze plate depicting a mask in the shape of an ibex from the Plešivec hillfort near Rejkovice, other uses have been considered (Plate 15: 1; *Stolz – Sankot 2011, 389–392*). Some bronze sockets have been recently explained as belonging to drinking horns (*Chytráček 2013, 310–312*).

8.4.3 Gold and silver

Gold, which appears among finds more often than in the preceding period, was used to make ornaments and dress accessories (*Michálek 1997, 199–203*). Gold artefacts include fine wire spirals (Fig. 86: 3, 4, 11), closed and open wire rings (Fig. 86: 2, 5, 6) or sheet twisted rings (Fig. 86: 7), boat-shaped earrings (Fig. 86: 12, 13, 14) and strap earrings with fine incised lines (Fig. 86: 10; *Chytráček – Metlička 2004, 109, with refs.*), and corresponding coiled strap earrings (Fig. 86: 9). Bronze earrings/temple rings from Břežánky (Fig. 86: 8) and Kozinec were plated with gold and silver. Also documented are gold finger rings (Fig. 86: 16–18), an exceptional massive finger ring with a plate decorated with false filigree (Hořovice region, *Lehrberger et al. /eds./ 1997, 283, Tab. 46: Č808*) and a closed solid gold bracelet (Fig. 86: 22). A gold hammered belt (or tiara) from Opařany, ending with a hooked prong (Fig. 86: 31), is so similar to gold ornaments from Hochdorf, Hallstatt and Býčí Skála (Ha D1/2) that they could have been manufactured in a single workshop (*Drda – Rybová 1995, 34, 36; Parzinger – Nekvasil – Barth 1995, 46, Tab. 19; Michálek 1997, 201–202; Stuchlík 1997, 209*). Although the gold band with geometric decoration from Švihov-Červené Poříčí is regarded as a belt (*Michálek 1997, 202, Abb. 6.24: 4*), it could also have been a head ornament. A pendant in the shape of a flower was found in a grave with a two-wheeled chariot in Hořovičky (Fig. 86: 27). Gold foil for plating the discs of bronze disc fibulae are known (Fig. 86: 23–26). The gold foil of a Weiskirchen-type plaque (Chlum near Rokycany; *Břeň 1981, 179, Fig. 1; Chytráček 2000, 370; Fig. 86: 29*) covered a bronze base with earlier finely engraved ornamentation; similar plaques were attached to leather or fabric or had another function (cf. *Keller 1965, 44, Abb. 1: 8*). According to surviving illustrations, a set of jewellery from the barrow in Hradiště near Písek contained two plain gold bracelets and two deformed heavy gold wire spirals (Fig. 86: 21). These massive, plain, and irregularly twisted spirals are interpreted as ingots (*Michálek – Frána 1997, 204,*

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Fig. 85: Late Hallstatt period. Bronze fitting from vessels. 1 zoomorphic appliqué; 2 anthropomorphic foot of a pyxis; 3-5 jug spout and fitting, 1 Droužkovice (Chomutov district); 2 Vladař (Záhořice, Karlovy Vary district); 3-5 Čížkovice (Litoměřice district). After Megaw – Megaw 2002; Drda – Rybová 1998; Sankot 2003.



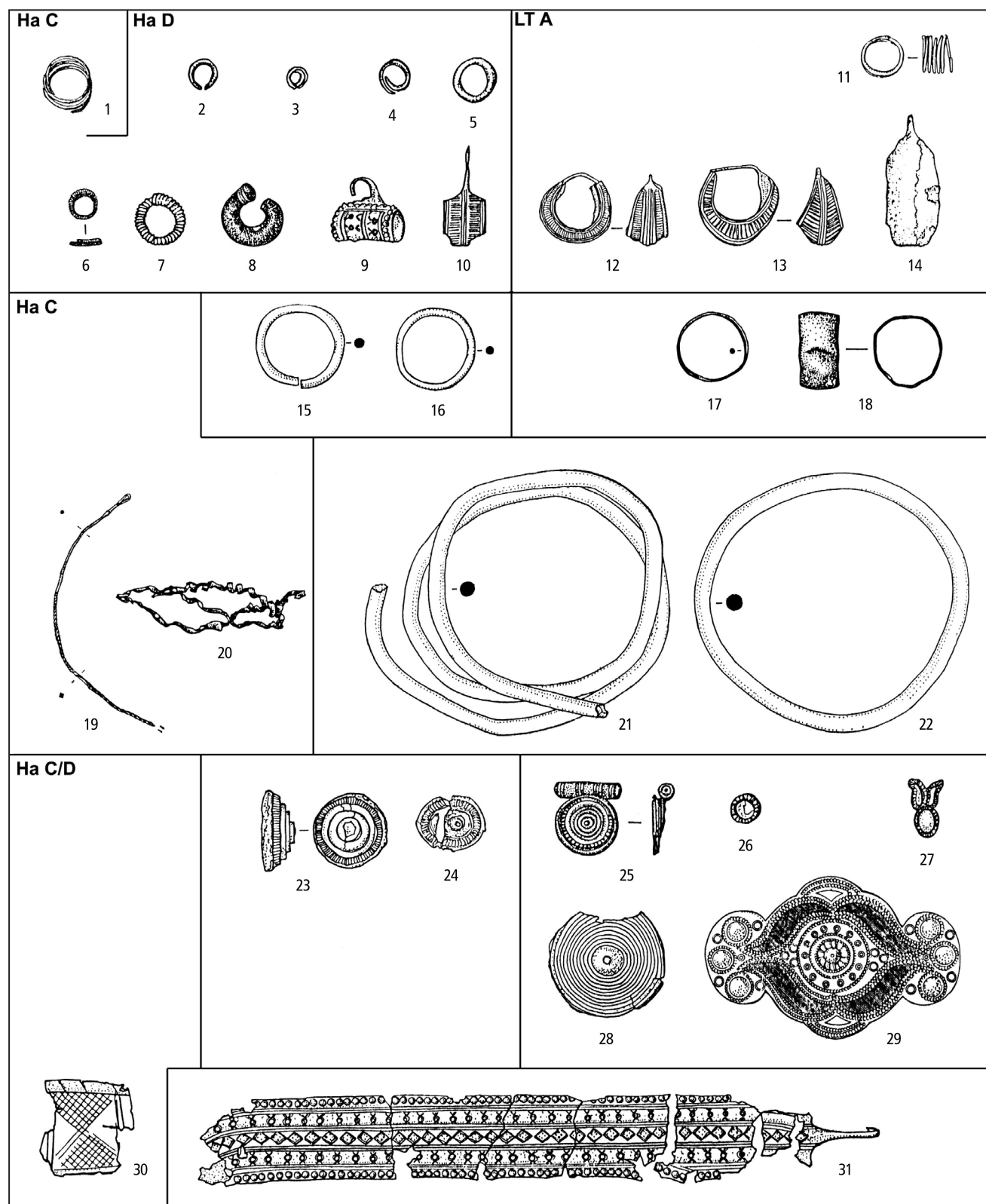


Fig. 86: Hallstatt and late Hallstatt periods. Gold and gold-decorated ornaments. 1–7, 9–14 earrings and temple rings; 8 gold-plated copper temple ring; 15–18 finger rings; 19–20 torcs; 21 ingot or armband (?); 22 bracelet; 23–26 gold foils of bronze fibulae discs; 27 pendant; 28 disc; 29 gold foil on bronze plaque; 30, 31 belts or tiaras (?). 1 Bylany (Kolín district); 2–4, 15, 23, 24 Manětín-Hrádek (Plzeň-sever district); 5 Skalice (Tábor district); 6 Praha-Bubeneč; 7 Chlum u Blatné (Strakonice district); 8 Břežánky (Teplice district); 9, 31 Opařany (Tábor district); 10 Plešnice (Plzeň-sever district); 11, 12, 21, 22, 28 Hradiště near Písek (Písek district); 13 Radčice (Plzeň-město district); 14 Skalice (Tábor district); 16 Litice (Plzeň-město); 17 Droužkovice (Chomutov district); 18 Libčice nad Vltavou-Chýnov (Praha-západ district); 19 Hradenín (Kolín district); 20 Vikletice (Chomutov district); 25–27 Hořovičky (Rakovník district); 29 Chlum (Rokycany district); 30 Červené Poříčí (Klatovy district). After Michálek – Frána 1997.

Tab. 8; *Chytráček 2002a*, Abb. 5: 1.3); according to a different interpretation and parallels, they could be gold spiral armbands (*Drda – Rybová 1998*, 47).

Silver is rare among finds from this period. Two wire bracelets found in grave 157 in Manětín-Hrádek (Fig. 83: 10) and a finger ring from Závist (Fig. 83: 14) were made of silver. The lone silver artefact from south Bohemia is an imported strainer (Fig. 84: 6) from barrow 1 in Hradiště near Písek (*Michálek 1977*).

8.4.4 Glass

Glass is mainly represented by beads, which were usually worn in necklaces. Numbering several dozen specimens, the largest assemblages of beads come from graves in south and west Bohemia (Dobšice, grave XIII – thirty-eight beads; Nynice, grave 138A – thirty-one beads; Milenovice, barrow – thirty beads; Dobešice, barrow – twenty-six beads; Manětín-Hrádek – fifteen graves contained a total of fifty-nine beads (data from: *Venclová 1990; 1994*, unless otherwise stated). Although the frequently illustrated assemblage of forty-two beads from Lípa in east Bohemia is often designated as a hoard, the artefacts probably come from several graves. Less common are finds of beads at fortified hilltop settlements (Závist: *Drda – Rybová 2008*; Svržno: *Chytráček – Metlička 2004*, 36, with refs.; Milínov: *Franc 1988*, 191) and in other settlement contexts, where they are certainly often overlooked during excavations.

The following types are characteristic: eye-beads, type 509 and others after *Venclová*: yellow or bluish-green, blue or white with stratified blue-white eyes (Fig. 87: 13–19, 21; Plate 13: 4, 5, 9); small and large beads with eyes and bosses, types 546–548 (Fig. 87: 20, 23; Plate 13: 7); other types of beads with eyes, types 505 (Fig. 87: 10), 511 (Fig. 87: 11) and 549 (Fig. 87: 12); beads with white rings, type 408 (Plate 13: 10); light green or light blue ribbed (melon) beads, types 306–310 (Fig. 87: 6, 7; Plate 13: 11) and blue beads with white wavy line, types 707–709 (Fig. 87: 8, 9; Plate 13: 8); larger and smaller monochrome beads, mainly blue, are common (Fig. 87: 1–5). Beads were also strung on bronze rings, among other purposes used as earrings (Hradiště near Kasejovice grave III: *Soudská 1994*, Abb. C2: 16, 17). The use of small blue beads on a fibula with bronze pendants from Želenice in the Kladno region (Fig. 82; *Venclová 1990*, 283, here erroneously dated to LT B) is unique.

Glass beads were common objects in the late Hallstatt period, and they are well represented among finds. Although Bohemia is one of several areas in Europe with a marked accumulation of certain types, especially eye-beads (*Venclová 1990*, 75–85, 100–101; *1994; Kunter 1995*, Karte 1, Abb. 3–6), none of them can

be regarded as local products; they apparently come from workshops in the Adriatic area or elsewhere in the Mediterranean.

Small glass rings (Fig. 87: 22; Plate 13: 6) made by coiling (folding) a glass rod (types 31–34, *Venclová 1990*, 108; Křepice: *Michálek 1988*, 31; Jenštejn) are rare. The glass rings first appear in the Ha D1–D2 period and are limited to the West Hallstatt zone, with production assumed somewhere in the western part of central Europe.

A remarkable find, the only one of its kind in Bohemia, is a fragment of a small two-handled vessel manufactured using the core-forming technique – an aryballos made of light blue, dark blue and yellow glass (Strakonice; Fig. 73: 5; Plate 13: 3). The vessel held aromatic substances, balms or cosmetics, and was one of the Mediterranean imports that reached central Europe on rare occasions.

8.4.5 Black materials

Like their predecessors in Ha C–D1, a small number of narrow, plain black rings worn as bracelets and armbands (Praha-Petrovice hut 5, Želenice) were made of Posidonian shale (“lignite”) or jet of southern German or Alsatian origin and were imported to Bohemia. In two cases there is a suggestion of a western Bohemian origin for the material, i.e. the Nýřany or Radnice sapropelite from the Plzeň basin (Dýšina – Nová Huť barrow 14; Nynice grave 141: *Venclová 2001*, 120, 388–89, with refs.).

8.4.6 Stone

Some stone artefacts have already been discussed in connection with manufacturing activities (Chapter 6.2). Finds include whetstones (Fig. 7: 19, 21, 22) that are quadratic, peg-like or slab-shaped and typically made of sandstone or quartz, sometimes with a perforation for suspension. The use of some of these artefacts as touchstones has not yet been documented. Grinding stones for cereals, i.e. flat rectangular to oval querns and smaller round or lenticular grinders (Fig. 4: 4, 2), are common finds. Representing a technological advance in LT A in grinding devices is a two-part quernstone with a feeding hole, the so-called Olynth type (Fig. 4: 3, 5). Multipurpose hammer stones (Fig. 7: 20), made mostly from quartz cobblestones, and various smoothing implements are common. Less frequent are weights with metal loops, e.g. from Hoštice (*Motyková 1977*), a conical mudstone weight from Středokluky decorated with concentric circles (Fig. 7: 24), a quartz weight from Albrechtice-Sedlo (Fig. 7: 23) and another one encircled by an iron ring (Sedlec-Hůrka barrow 44). Other perforated weights are of a pyrami-

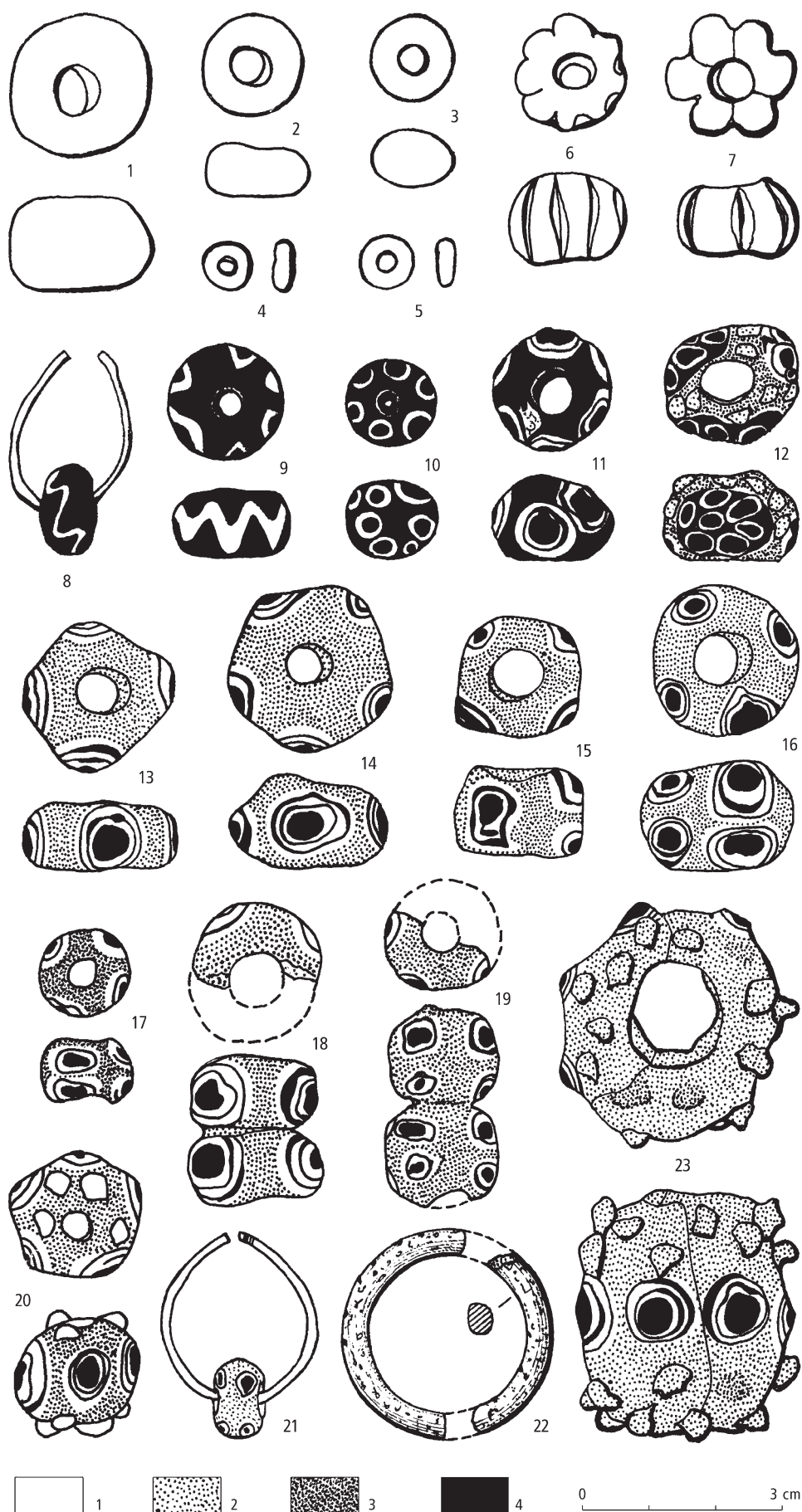


Fig. 87: Late Hallstatt period. Glass ornaments. 1–21, 23 beads (8, 21 strung on bronze earrings); 22 small ring. 1 Jemnice (Strakonice district); 2, 20 Manětín-Hrádek (Plzeň-sever district); 3–5 Praha-Běchovice; 6, 8, 11, 21 Plzeň-Doubravka (Plzeň-město district); 7, 9 Nynice (Plzeň-sever district); 10 Dolánky (Louny district); 12 Závist (Lhota, Praha-západ district); 13, 15 Horní Lochov (Jičín district); 14 Láz (Strakonice district); 16 Praha-Veleslavín; 17 Zbečno (Rakovník district); 18 Lípa (Hradec Králové district); 19 Varvažov (Písek district); 22 Praha-Podbaba; 23 Vícenice (Klatovy district). Colour key of polychrome beads: 1 white; 2 yellow; 3 light blue; 4 dark blue. After Venclová 1990.

dal, pear-shaped or spherical shape. Certain weights could indicate the use of metrological system (*Rahmstorf – Pare 2010*, with a catalogue of finds from Bohemia). A rounded marl spindle whorl also occurred (Závist: *Jansová 1983a*, 34–35, Fig. 11: 6).

Sculpture, known thus far only from the Závist hillfort (see Chapter 8.5.2.3), is a special type of stone artefact.

8.4.7 Organic materials

Antler and bone. Awls, points and handles of tools for a variety of manufacturing activities (see Chapter 6.2) are common finds (Fig. 7: 12–16, 18; 5: 3; 6: 13–15, 18–23). Antler handles, as well as a bone handle in the shape of a deer's head and decorated with concentric circles, were part of a hoard from Libčice-Chýnov (*Sankot – Vojtěchovská 2001*, Fig. 18.6: 1, 2; 18.4: 2). An antler knife from Soběsuky had a handle carved into the shape of twin animals, perhaps dogs (*Megaw – Megaw 2008*; Plate 15: 6). Other decorated artefacts included a small bone disc with an engraved swirling motif (Kladruby, chariot grave: *Pič 1907*, 470, Tab. XXVII; *Drda – Rybová 1998*, 36–37) and a decorated bone necklace spacer (Minice). A “hammer” also belongs to the assortment of bone artefacts (Dolní Břežany: *Motýková 1986*, 140, Fig. 3: 13).

Leather. Leather straps from horse harnesses have survived in only a small number of cases (Mírkovice barrows IX, XI, XII with Ha D1/2 to Ha D3-LT A graves; Kladruby – chariot grave: *Sankot 2012*, 702–704); in one instance a fragment of leather was found on a piece of wood, perhaps from a yoke (Mírkovice barrow XII). Other leather straps are indirectly documented by metal belt-hooks and components of horse harness. Leather footwear is illustrated by metal fibulae and other artefacts depicting shoes (see Chapter 6.2.4).

Textile. A wooden chamber in the barrow from Střeliské Hoštice was allegedly covered by woollen fabric, perhaps with a geometric pattern (*Michálek 1972*, II, 154–156, with refs.). Modern conservation methods have made it possible to identify fabric imprints on metal artefacts (e.g. Tišice: *Foster – Sankot 2007*; Plate 14: 5).

Wood. Although the use of wood was extensive, it is usually documented only indirectly. Among other applications, wood was used to build the walls of wells and cisterns. An oak timber construction was recorded in the annexe of the Vladař hillfort where, at the site of a spring, two rectangular water reservoirs with retaining walls made of timber boxes with walls of worked oak beams stripped of their bark were located. Worked pieces of wood were also found there, including pointed pine and oak posts and small chopped

branches of willow and beech (the new growth from trees could have been used to feed domestic animals or as material to make baskets: *Boenke – Pokorný – Kyselý 2006*, 74, Abb. 7). In addition to the use of wood in the construction of houses, ramparts and similar structures, it can be assumed that it was also used for numerous utility objects, chests, the wooden parts of yokes, chariot components and tools. Bronze fittings document the existence of wooden vessels, while arrowheads are evidence of bows and even quivers (Chlum: *Sankot 2003*, 33–34; Závist: *Drda – Rybová 2008*, 75–76).

Amber. Unworked amber as evidence of local production has already been mentioned (see Chapter 6.3.6). Beads, the predominant amber product from this period in Bohemia, most frequently have a barrel- or rounded form (e.g. Závist: *Jansová 1983a*, Fig. 11: 9); large, flat beads are less common (Svržno: *Chytráček – Metlička 2004*, 37, Bild 4, with refs.; Manětín-Hrádek: *Soudská 1994*, 132, Abb. B4: 16; B9: 25; D4; Poleňka near Klatovy barrow 3: *Hostaš 1883*, 326; Dolní Břežany: *Motýková 1986*, 140, Fig. 3: 12). Natural science analyses indicate that the beads were made of Baltic or North Sea amber; local succinite (fossil resin: Kostelec in the České Budějovice region) was identified in only one case. A decorated fragment from a vase-shaped amber pendant, originally regarded as a small vessel, is a unique artefact (Hradiště near Písek: *Drda – Rybová 1998*, 47). Amber was also used to decorate metal objects: the bronze anthropomorphic fibula from Manětín-Hrádek (Fig. 81: 18) and the feet of other fibulae from the same site and from Nynice (grave 120) were originally decorated with amber inlays; a small disc fibula from Závist possibly also featured an amber inlay (*Drda – Rybová 2008*, Fig. 49: 2, 85).

Coral. Unworked pieces of coral (which need not be evidence of local working, since coral branches were also worn in necklaces) were found at the hillfort of Kralupy nad Vltavou-Minice (*Chytráček et al. 2010a*, 160, Abb. 6) and in Poříčany (*Čtverák 1986*, 113; *Chytráček 2008*, 84, Abb. 19:5). A medallion on a scabbard chape from Dražičky (Fig. 74: 5) and the bow of a mask fibula from Libčice-Chýnov (LT A) were inlaid with coral. Coral also decorated the scabbard of a lost sword from a barrow near Kočvary (*Sankot 2003*, 11) and apparently other scabbards (Závist: *Drda – Rybová 2008*, Fig. 69: A; 81). Depressions or grooves on the bows or discs of fibulae probably held coral inlays. The closest source of coral is the Mediterranean (*Waldhauser – Mangel 2011*, 402).

Seashells. The intact, in some cases perforated, shells (or their fragments) of marine molluscs, often designated as conches or cowries, with an alleged origin in the Red Sea or the east coast of Africa, or more rarely

from the Mediterranean, have been found at settlement sites several times (e.g. Čelákovice: *Venclová 1973*, 629; Blšany: *Pleinerová – Pleiner 1981*, 163; Poříčany: *Čtverák 1986*, 113; Radovesice: *Waldhauser et al. 1993*, 345; Závist, bailey: *Drda – Rybová 1995*, 80) and perhaps also in a grave context (Čížkovice: *Sankot 2003*, 9, 37). Just under twenty finds of this type are known (*Waldhauser – Mangel 2011*). The shells were used as ornaments, amulets, or as material for inlays.

8.5 RITUAL AREAS AND ACTIVITIES

8.5.1 Burial areas

Barrow burial, common in both south and west Bohemia since the Early Bronze Age and continuously practiced at the same cemeteries from the Middle Bronze Age, end during LT A; however, in this period and even much later it is apparent that earlier barrows were used for secondary burials. Beginning in Ha D2/3, barrow burials are joined by flat graves, typically at their own separate cemeteries, but in some cases within barrow cemeteries. The cremation rite is entirely predominant in both types of graves, while inhumation burials appear only exceptionally. However, despite the conservative adherence to the cremation rite in Bohemia, new data suggest that, from the beginning of LT A, inhumation graves were more common here than had been previously thought. This corresponds to the expanding inhumation rite in neighbouring lands in this period.

It is assumed that the distance between late Hallstatt residential and burial areas did not exceed 500 m (e.g. *Waldhauser et al. 1993*, 301; *Sankot 2001*).

8.5.1.1 Barrow cemeteries

Barrow cemeteries have been documented at about 120 sites in south Bohemia. The burial rite remained essentially the same as in Ha C–D1. Burials beneath barrows were mainly cremation; inhumation burials are recorded exclusively in chamber graves in large “princely” barrows, as are known in six cases; further graves, unfortunately no longer verifiable, were listed by *Dubský (Malá Turná, Rovná, Údraž: Michálek 1999; 2003a)*.

In contrast, burials in west Bohemia (*Šaldová 1971a; 1999*) were only rarely ever made in newly built barrows; in many more cases (45 known graves) burials were deposited in earlier barrows. The number of late Hallstatt and early La Tène graves was never great at these barrow cemeteries (e.g. Žákava-Sváreč – 21 graves; Hájek-Štáhlavy – 13 graves, Újezd near Radnice – 8 graves; Fig. 88). Only fifteen burials have been recorded in their own barrows in west Bohemia (i.e. not as secondary graves), and all were deposited on the

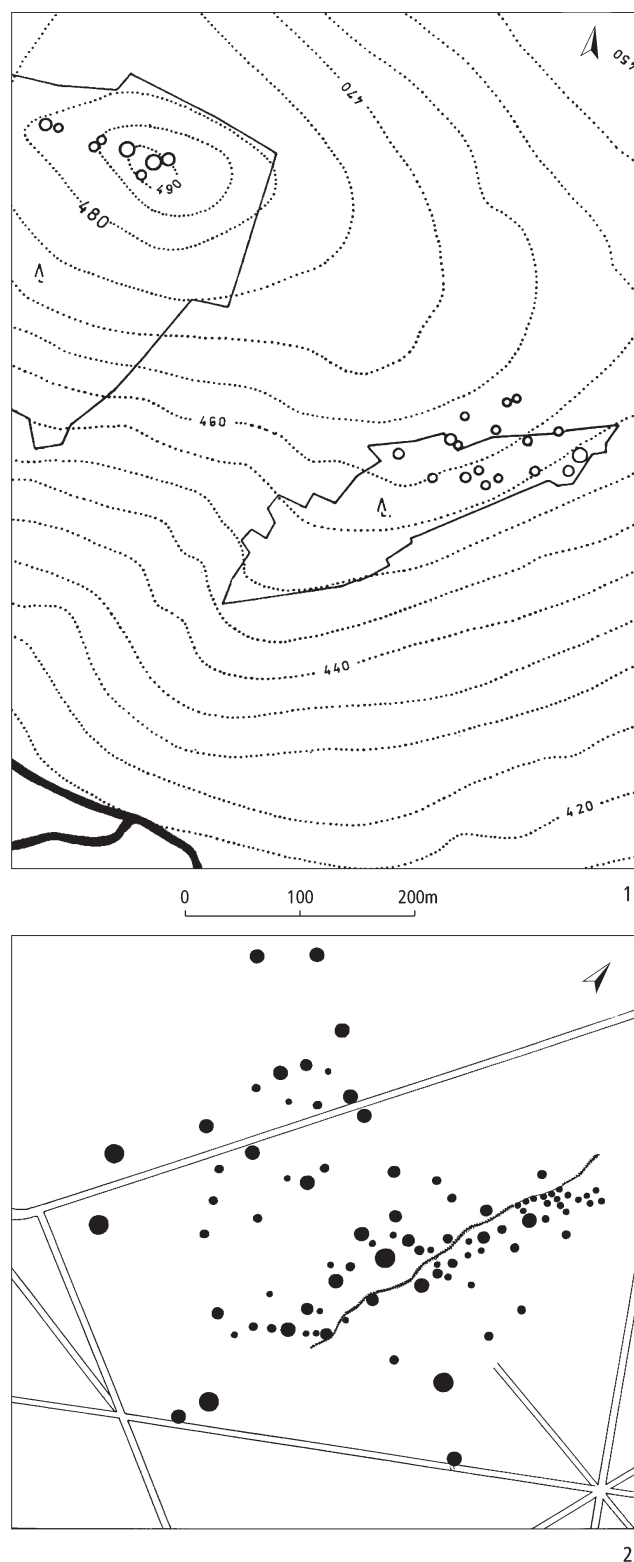


Fig. 88: Late Hallstatt period. Barrow burial areas. 1 Mirkovice (Domažlice district); 2 Hájek (Štáhlavy, Plzeň-jih district). The burial area in Hájek also contains earlier barrows. After *Chytráček 1990; Jílková – Rybová – Šaldová 1959*.

old ground surface. It is unknown how many of the graves today regarded as flat were originally covered by barrows. The cremation rite was also dominant in this region. Although only five inhumation graves have been positively identified (Hájek-Štáhlavy – two graves, Žákava-Sváreč, Červený Hrádek and Sedlec-Hůrka – one grave each), the position of grave goods suggests that several of the burials from chamber graves in Kralovice could also have been inhumations (*Franc 1988*, 217, Tab. 24; *Chytráček 1999*, Abb. 8: 8–11). Human teeth were found between cremation burials in two barrow graves (Manětín-Hrádek graves 80, 108), a situation that could indicate the deposition of uncremated bodies and a biritual burial practice. Although the placement of grave goods in other possible LT A barrow graves at the same cemetery suggests the deposition of uncremated bodies, the skeletons have not been preserved and traces of the bodies have been identified in only a small number of cases.

Information on barrow cemeteries is very incomplete in northwest and central Bohemia as a result of the fact that numerous barrows have been destroyed by ploughing and other earth works, many of which were conducted more than one hundred years ago. Nevertheless, barrow cemeteries with dozens of graves can be reconstructed (Kočvary-Lochovice, Roztoky: *Sankot 2003*, 11, 14; Libčice-Chýnov: *Felcman 1902–1903*; *Sankot 2001*, 299, Fig. 17.1). While rich inhumation wagon graves in chambers beneath barrows appear to be relatively rare so far in this region (Želkovice: *Maličský 1953*, 22–23; Hořovičky), other graves of a “princely” character are assumed based on the preserved parts of the original grave contents. However, certain levelled barrows (barrow cemeteries) have been destroyed beyond recognition. Round or square gullies around graves could be the evidence of barrows (Uhy feature B: *Sofaer – Turek 2004*). Possible examples of inhumation barrow graves in this part of Bohemia include a burial with a mask fibula from Panenský Týnec (*Piř 1902*, 169, Fig. 8; *Smrž – Krivánek 2002*); graves in Cítoliby (*Schneider 1890*, 110) and Želenice (*Sankot 2003*, 9, 16) were also probably inhumation burials. Although a layer of stones could indicate an original barrow (Tvršice-Am Berge grave 4: *Holodňák 1988*, 90–91), flat inhumation graves apparently also existed (see *below*).

While barrow burials appear to be less common in east Bohemia, indirect evidence of mounds is increasing. Jaroměř is listed as a possible barrow cemetery (*Vokolek 1993b*, 77). A greater distance between graves is interpreted as evidence of barrows (e.g. in Platěnice).

Grave arrangement

Large barrows. Large barrows, some of which were truly imposing in size, contained chamber graves with

two-wheeled chariots and horse harness; imported bronze vessels were also found in certain cases. One example is the barrow graves excavated in 1858 in Hradiště near Písek with an internal stone construction, probably a stone covering, and a rectangular grave chamber which was originally lined with wood. The barrow with dimensions of 42 x 20 m and a height of nearly 2 m covered two burials: the later burial from the end of the fifth century BC belonged to a man, while the earlier one dating to the period between the beginning and the middle of the fifth century BC belonged to a woman (*Drda – Rybová 1995*, 45–48; *Michálek 2003a*, Abb. 20). Barrow 1 in Skalice near Tábor from the end of the sixth century BC, with dimensions of 23 x 17 m and a height of more than 1 m, contained two richly furnished burials (*Michálek 2003a*, Abb. 18). These extraordinarily large barrows often stood isolated on the borders of barrow cemeteries (or in their vicinity), but can be found in the centre. In one case (Sedlec-Hůrka barrow 44; Fig. 89: 2) a chamber grave was built in an earlier barrow above a previous Ha D1 burial (*Franc 1988*, 95, Tab. XXXIX–XLI; *Soudská 1976*, 642). The wooden chamber was built on the ground level or even somewhat above the surrounding terrain; elsewhere they could even be slightly sunken. A common feature of all such burials was a stone covering. In some cases a stone ring occurs; other burials were surrounded by a peripheral gully and wooden beams (Manětín-Hrádek grave 196; Fig. 89: 1). Cremation burials could be deposited in vessels.

Small barrows. Also existing besides large and richly furnished barrows were small barrows piled from stones or enclosed by a stone ring. The smaller barrows had a diameter of only 3–4 m and contained a cremation burial in a small pit or a vessel (Kralovice; Fig. 89: 3, 4). A stone covering or a circular trench around some graves could indicate the existence of a former barrow (Tvršice - Am Berge grave 1: *Holodňák 1988*, 90–91).

Secondary graves in barrows. One or two cremation graves were typically sunk into the top of the barrow (Fig. 89: 5). A jar-shaped vessel, containing cremated bones and covered by a bowl, stood in a small pit. However, in some cases secondary graves took the shape of quadrangular chambers, sometimes even with a stone covering.

Grave goods

The richest male graves contain parts of wagons and horse harness (including those with characteristic phalerae), weapons (knives and spearheads) and, from LT A, also swords, shields, axes and arrowheads. A special group of graves consisted of male burials

8 LATE HALLSTATT PERIOD, HA D2 TO LT A

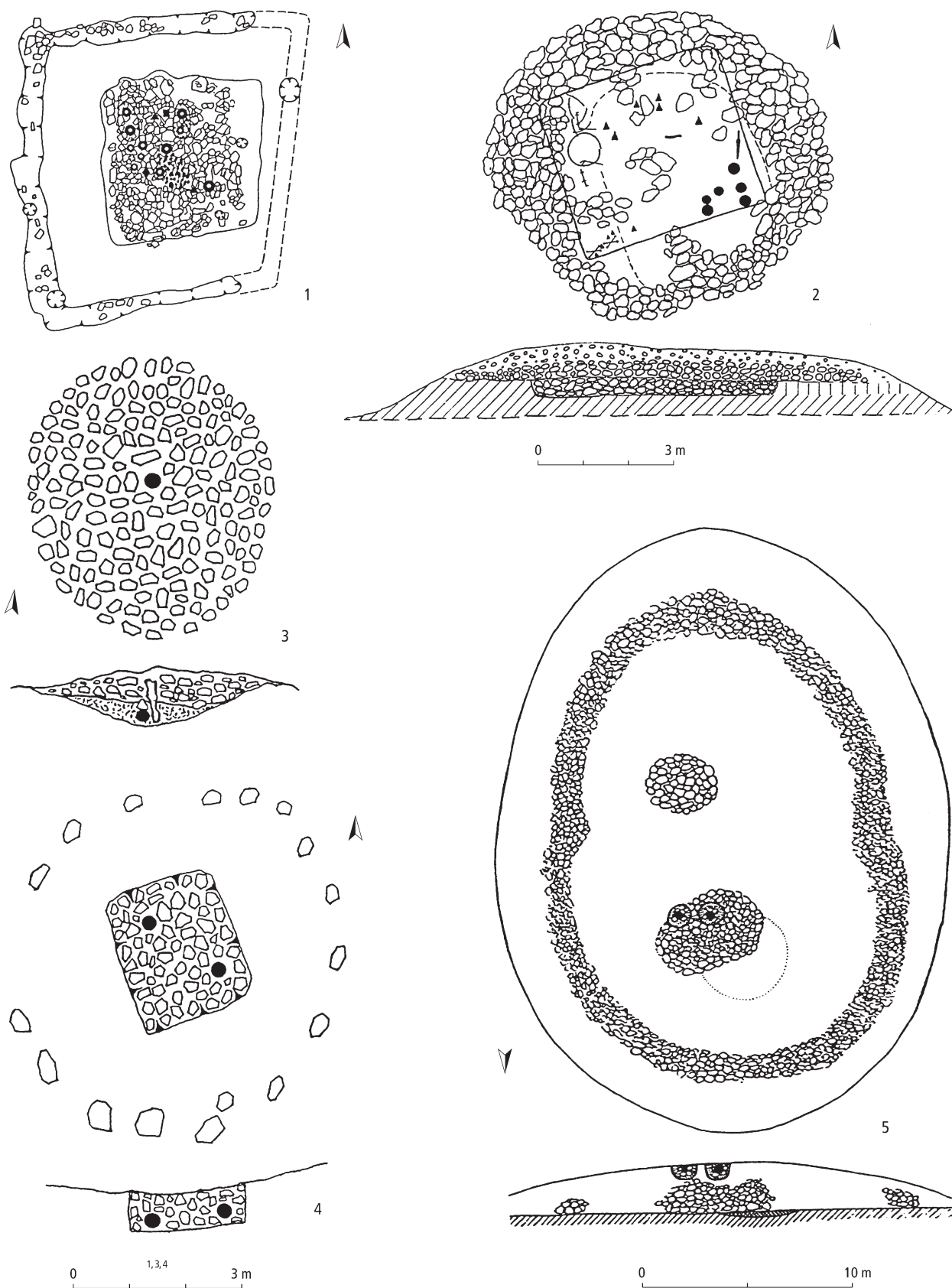


Fig. 89: Late Hallstatt period. Barrow burials. 1 chamber grave enclosed by a rectangular gully (beneath a barrow?); 2 chamber grave on the ground level, inserted into an earlier barrow; 3 grave in a pit beneath a stone barrow; 4 sunken grave beneath a barrow surrounded by a stone ring; 5 small pit graves inserted into an earlier barrow. Black symbols: vessels. 1 Manětín-Hrádek (Plzeň-sever district); 2 Sedlec-Hůrka (Plzeň-jih district); 3, 4 Kralovice (Plzeň-sever district); 5 Žákava-Svářeč (Plzeň-jih district). After Soudská 1994; Franc 1988; Šaldová 1971a; Chytráček 1999.

without a wagon but with swords. Both male and female graves were also furnished with fibulae and other personal ornaments, especially rings. They can also contain a small number of pottery vessels. Imported bronze vessels and entire bronze drinking sets occur, and even an iron fire dog is mentioned (Hořovičky, Hradiště near Písek). Gold artefacts and small imported ornaments are also found in male and female graves. Gold Weiskirchen-type plaques typically accompany the burials of men with swords. Animal bones were found in graves on rare occasions. Anthropologically identifiable remains in graves with weapons belong to men, as do wagon graves, although one such grave contained the burial of a child (Manětín-Hrádek grave 196). The finds from graves beneath barrows commonly consisted of only a vessel – an urn.

A characteristic trait of the treatment of grave goods in LT A was the ritual deformation or destruction of metal artefacts, especially swords, possibly other weapons and other grave goods, typically by bending, folding several times (swords), crushing or breaking (*Sankot 2003*, 45–49). On occasion, the earlier ritual custom of perforating the bottoms of vessels continued (Kralovice: *Šaldová 1971a*, 107).

8.5.1.2 Flat cremation cemeteries

Flat cemeteries (around sixty sites) are known mainly from the northwestern part of south Bohemia (the Strakonice, Blatná, Březnice and Písek regions), to a lesser extent in the eastern (Tábor region) and southern parts of south Bohemia (České Budějovice region; *Michálek 2003a*, Abb. 5). South Bohemian burial grounds are relatively small and mostly contain a single isolated grave or groups of up to thirty graves. The claimed number of up to 500 excavated graves in Škvořetice near Blatná seems implausible (not a single find has survived from the entire excavation: *Michálek 2007*).

Flat cemeteries in west Bohemia (around twenty sites concentrated on the northern edge of the west Bohemian settled area) are in the minority compared to barrow cemeteries (*Chytráček 1999*, 25, Abb. 1). Although the number of cemeteries is lower than in south Bohemia, the identified sites produced a higher number of graves (Nynice: 121 graves, Plate 8: 3; Manětín-Hrádek: 223 graves, Fig. 90; Plzeň-Radčice: more than 200 graves), other cemeteries contain at most thirty graves, or individual graves that could belong to larger cemeteries. Some flat graves were placed in barrow cemeteries that were in use for a long time; others occurred at new locations where earlier burial activity has not been documented. The Ha D to LT A graves in Nynice did not respect those from earlier periods.

Central and northwest Bohemia are distinguished by smaller cemeteries with up to several dozen graves (e.g. Pavlíkov-Brabečky in the Rakovník region: *Soudská 1969a*; Praha-Bubeneč) in several small groups (Tvršice - Am Berge: *Holodňák 1988*, 90–91). The small number of known graves and cemeteries could be the result of shallow burials that have not survived.

East Bohemian cremation cemeteries appear as small groups of a few graves, sometimes situated on the edges of earlier burial areas. Continuity from the previous period has been found in some cases (Platěnice, Skalice in the Hradec Králové region); other cemeteries were new in this period (Lochenice: *Vokolek – Sankot 2001b*, with refs.).

The layout and find contents of graves

Cremation graves have numerous variants that can differ at individual cemeteries and in individual regions. *Šaldová (1971a)* classified the basic types of graves in west Bohemia based on the cemetery in Nynice; *Michálek (1999, 66)* defined the formal characteristics of graves in south Bohemia. Essentially, two basic types of cremation graves can be distinguished.

Graves in pits. Small pits with a circular, oval or elongated shape were filled with earth mixed with cinders, ash with small bones and the burnt remains of the grave goods. The cremated bones were deposited in a vessel, sometimes covered with a bowl, more often just in the pit, or were scattered both in the pit and vessels. Intact vessels (not used as urns), mostly two but sometimes three, were stacked in the pit graves in Nynice. Parts of vessels were found in some graves, which did not contain any other pottery. Although the vessels also stood partially outside of the pits, sometimes in a niche, they were most frequently placed in the southern part of the pit, and only rarely on the other sides. Only one vessel stood in the centre of the grave in a small number of cases. The graves were lined with stone or surrounded by a gully; traces of posts were also found. An earthen mound or a flat stone covering were sometimes constructed above the pit. In the earliest period (Ha D2) the graves were marked by stone stelae (74 % of all graves in Nynice; Fig. 91: 3, 4). Elsewhere the ashes and the grave goods were deposited in urns, some of which were covered by a bowl; however, certain objects were placed outside of the urn (Fig. 91: 2).

Graves on the old ground surface. Ashes and grave goods were mostly freely scattered and unprotected in this type of grave, or the burial could also have been deposited in a vessel or scattered in the fill. Several graves in Manětín-Hrádek featured a square or rectangular ground plan. Earth mounds and stone covering

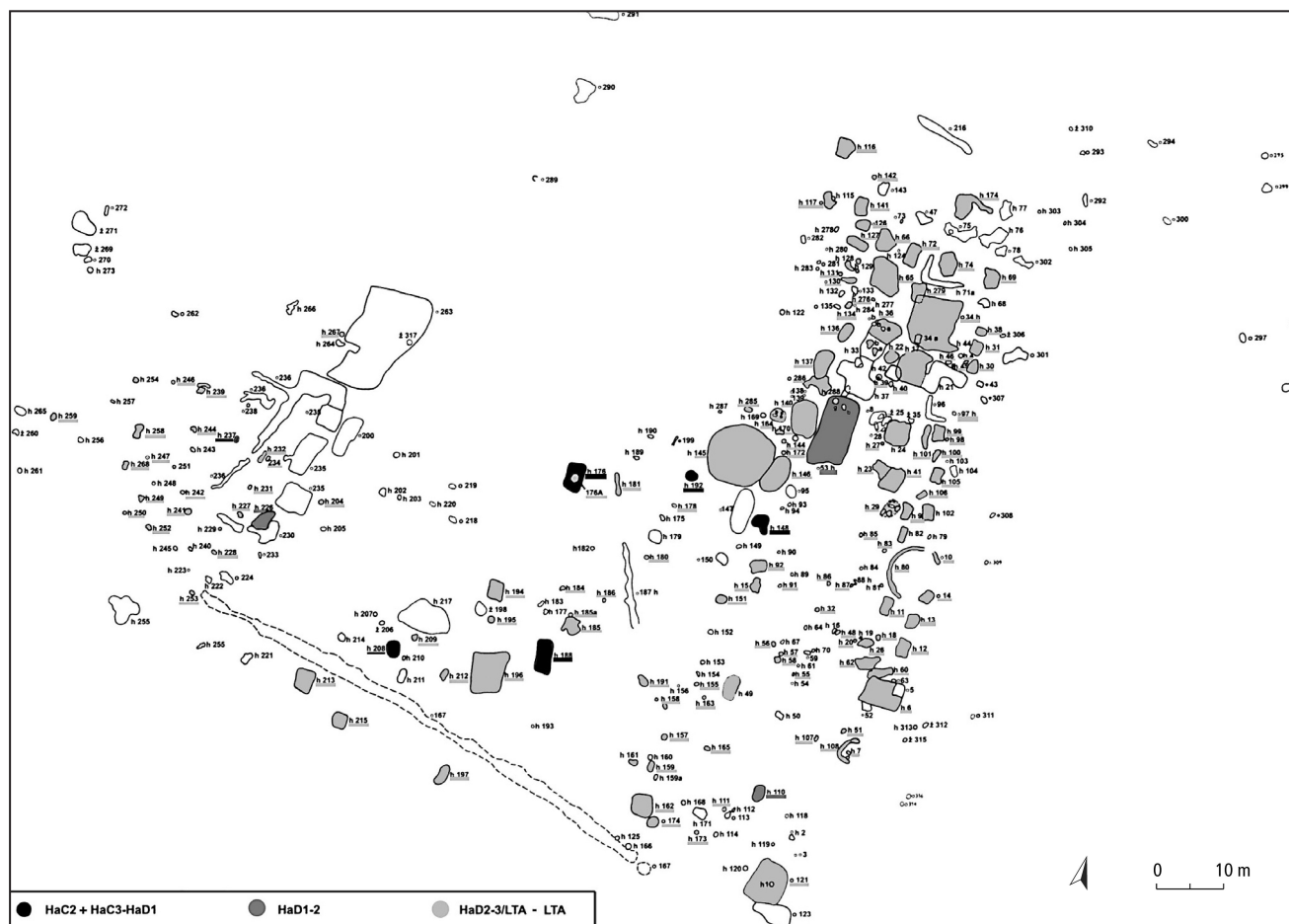


Fig. 90: Hallstatt and late Hallstatt periods. Manětín-Hrádek (Plzeň-sever district), burial area with flat graves. After Soudská 1994; revised by M. Chytráček.

or lining were also found (Fig. 91: 1). Graves on the ground level made up 17 % of the total number of graves in Nynice.

Šaldová (1971a, 31, 105) distinguished yet another category at the cemetery in Nynice – graves below the surface in which no pit was identified, with the ashes and inventory deposited in a vessel or, in some cases, simply in the ground. The remains of an adult individual were divided among three vessels in one case (Nynice grave 121). The exterior arrangement of the graves is the same as with pit graves (stelae, stone blocks, stone covering), raising the possibility that they could merely be unidentified pit graves. Graves of this type made up 9 % of the total number of graves in Nynice.

Cremation graves were often deposited as secondary burials in earlier barrows, both in south and west Bohemia.

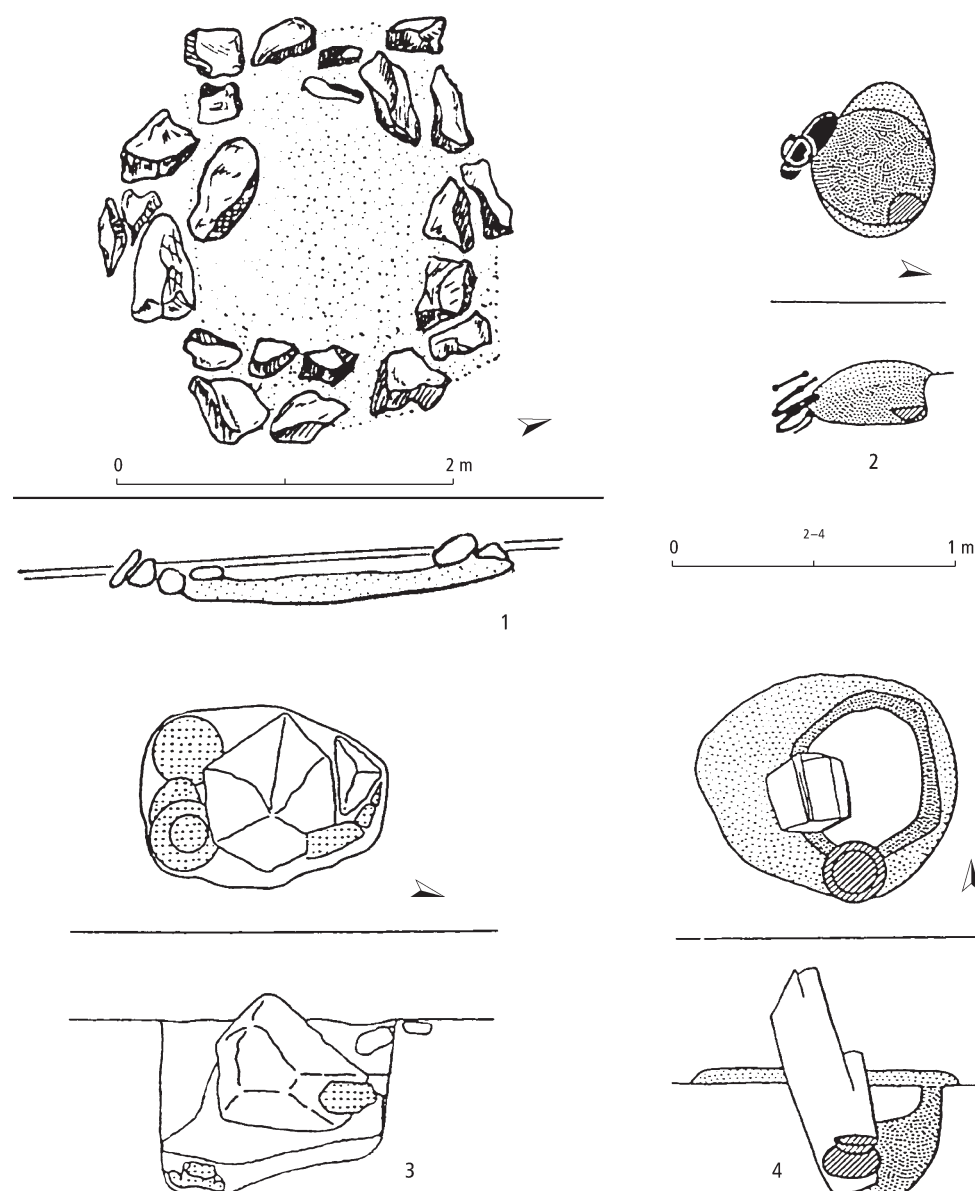
Grave goods are simpler and more uniform than in the previous period. The composition of grave goods does not differ greatly from (non-princely) barrow graves; however, the quantity of weapons and personal

ornaments differs. The majority of flat graves contained vessels, typically one or two; instead of intact vessels, only their parts or fragments were deposited. Non-pottery grave goods included dress accessories such as fibulae, bronze and iron bracelets, torcs, belt-hooks, large necklaces of glass and amber beads in female and children's graves, iron weapons in male graves – spearheads, arrowheads and knives, in some cases the iron components of horse bits and tools, bone artefacts or spindle whorls. The frequency and quality of non-pottery grave goods differs at individual cemeteries. Animal bones also appear.

An absolute majority (c. 95 %) of graves in north-west and central Bohemia are pit graves with or without urns, i.e. group III graves according to Kouček's classification; the remaining graves could not be classified. The fact that no ground surface burials have been identified could reflect the archaeological excavation methods employed. No parallels have been found so far for a feature composed of four (post?) holes, with traces of cremation, in the burial area in Uhy (feature 6: *Sofaer – Turek 2004, 296–298*). The

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Fig. 91: Late Hallstatt period. Flat graves. 1 ground-level grave with stone lining; 2 pit grave with urn and grave goods outside of it; 3, 4 pit graves with stone stelae. 1 Kšice (Tachov district); 2, 4 Nynice (Plzeň-sever district); 3 Kyšice (Plzeň-sever district). After *Eichhorn 1935*; *Metlička 1992*; *Šaldová 1971a*.



graves often have stone pavements or a flat stone is placed over them (Tvršice–Am Berge grave 1: *Holodňák 1988*, 90–91; Lazsko, Pavlíkov-Brabečky: *Soudská 1961*; *1969a*; *1969b*). Pottery is represented by flask-shaped and jar-shaped vessels and bowls, sometimes even fragments of other vessels. Grave goods deposited in urns or next to them include personal ornaments and dress accessories (fibulae, rings, beads and belt hooks), in some cases weapons such as spear-heads, knives and, on rare occasions, arrowheads.

East Bohemian urn graves are deposited in small pits, with the urns typically covered by a bowl. In pit graves the cremated remains are scattered in shallow pits (Platěnice). The small depth of the graves and the lack of grave goods have evidently influenced the recording of these burials; during earlier excavations

these types of graves, especially those deposited on the ground surface, need not have even been noticed. As a result, relatively few have survived. The graves are furnished primarily with flask-shaped and jar-shaped vessels, bowls with inverted rims or cups. Unlike other parts of Bohemia, other artefacts appear only rarely in graves, both inside and outside the urn. This typically involves only iron knives or bronze pins, possibly perforated and used as needles (*Vokolek 1993b*).

Cemetery structure

The largest west Bohemian cemeteries provide the best data. Both dispersed and grouped graves were observed in Nynice. Late Hallstatt and early La Tène graves were found over the entire investigated area of the cemetery; with the exception of a small number of

isolated graves, the burials formed three smaller groups. The graves were scattered evenly over a larger space in the eastern part of the cemetery, from where they apparently continued on further eastwards. Small cremation graves in pits formed a separate group in the western part of the cemetery in Manětín-Hrádek (Fig. 90), whereas rectangular graves with a stone, originally barrow cover with a diameter of 2 to 6 m, were scattered about the eastern part of the burial area. Graves from the beginning of LT A were concentrated in the central part of the cemetery, and rows of possibly LT A barrow graves (arranged N-S and E-W) from the final phase of the cemetery formed the northern and eastern borders of the area.

Twenty flat cremation graves in Plzeň-Bílá Hora were located in a band in the central part of the investigated area; the smallest distance between graves was around 2 m (Šaldová 1955, Fig. 1). The distance between the relatively densely distributed graves at the cemetery in Sovolusky did not exceed 1–2 m.

Three larger circular or oval groupings of stones with a diameter over 4–5 m located in an area of c. 10 x 5 m in Praha-Bubeneč covered fifteen identified cremation graves; another five graves were located outside the groups. Some burials stood less than 1 m apart (Hájek 1939, 86–87, Fig. 1–2).

The anthropology of flat cremation cemeteries

Quantitatively and qualitatively significant anthropological data are available from only a few burial areas. No single type of grave or grave goods at the cemetery in Nynice was connected exclusively to male, female or children's burials. Of the 106 cremation burials, only four were identified as male and fourteen as female; fifty-one graves belonged to adults whose gender could not be determined, six to children and adolescents, while thirty-one involved individuals that could not be identified at all. J. Chochol (1969, 633, Tab. 7) distinguished variability in the physical characteristics of adult individuals ranging from very gracile to relatively robust. The share of children's burials (3.8 %) is low and does not reflect the actual child mortality rate. The age at death could only be determined for one-third of the individuals. Within identifiable cases, c. 10 % of the people lived to the age around sixty, whereas just under 4 % of individuals lived to a truly advanced age. The three studied groups of burials from stages Ha B, Ha C and Ha D / LT A are regarded as development phases of one single population.

From an anthropological perspective, no signs were observed suggesting significant changes in the cremation technique from Ha B to Ha D – LT A, with the exception of the greater austerity of the burial rite in the latter period (a greater amount of carbonised bone

fragments testifies to a thriftier technical organisation of cremation: Chochol 1969, 636). The graves in all of these periods share certain ritual customs: in none of the graves were the dead buried at the site of the cremation; instead, the cremated remains were gathered from the funeral pyre along with the charcoal, ash, earth and even burnt metal grave goods in some cases, and transferred to the grave. The small amount of cremated remains in the graves is not a representative sample of a whole body and is only a symbolic selection of the cremated remains from the pyre; part of the transferred remains were apparently also scattered around the vessels, in the grave fill and probably along the path from the pyre to the grave (Šaldová 1969, 642).

The anthropological analysis of cremated human remains at the cemetery in Manětín-Hrádek is based on a total of 209 burials, of which only 103 (twenty non-adults and 83 adults) provided the minimum amount of evidence necessary for an evaluation. The body type of the local population was highly gracile. Gracile and diminutive body forms were also documented in Újezd nade Mží. J. Chochol (1984, 295, Tab. 1) draws attention to the relatively low reliability of the gender determination. E. Soudská (1994, 61, 63, 180–81, Abb. B20) accepts male burials only in the case of five Ha D2–5 graves. Only the grave goods of grave 162, containing an iron spearhead and a knife, confirms the anthropological gender determination of the buried individual. The author even contemplates the possibility that Manětín was inhabited mainly by women and children in the final phases.

As was the case at the cemetery in Nynice, there is also a conspicuously small number of children who died shortly after birth; their remains probably were not buried or are deposited in an uninvestigated part of the burial area. A high number of non-adult individuals who died between late childhood and late adolescence were found in Manětín-Hrádek. Few of the adults lived past the age of sixty, none to an advanced age; one-third of the women died in early adulthood (juvenis-adultus, adultus). The average lifespan was around six years for non-adults, about forty years for adults. Graves typically contained the burial of a single individual, while five graves held the burials of two individuals. The entire cremated body was never found in a grave, and the intentional crushing of cremated bones can also be assumed. The perfect and even cremation of bones documents the application of the correct (or higher) amount of fuel and the maintenance of the cremation fire in the range of 800–1000 °C. A very low physical development of the local community was observed; the weak modelling of muscle relief suggests only a minimal level of manual activity (Chochol 1984, 301).

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8.5.1.3 Flat LT A inhumation graves

In contrast to the past assumptions regarding the exclusive use of the cremation burial rite in the early La Tène period (LT A), evidence of inhumation burials in this period increases. The small number of finds of non-cremation burials beneath barrows was mentioned above. However, some inhumation graves were also flat burials, sometimes beneath a stone covering (Plate 8: 4, 5).

The extraordinary inhumation grave from Černouček (Fig. 92; Plate 16: 2, 3) was deposited in a pit with a wooden superstructure and stone covering demarcated by a rectangular ditch; it is assumed that the grave was not covered by a barrow (*Brnič – Sankot 2004; 2005*). Rectangular ditches surrounded several LT A inhumation burials in crouched position at Vliněves (*Chytráček 2013, 290-291*).

Other inhumation graves were apparently wrongly dated to LT B despite containing grave goods typical for LT A (even early LT A) flat and barrow cremation graves. According to Sankot, typical grave goods include bronze rings with loops on their ends, rings with an angular profile or with single to triple ribs (Ústí nad Labem-Trmice, Malé Žernoseky; Mariánské Radčice: *Budinský 1983, 44; Milčice: Sedláčková – Waldhauser 1987, 148, Fig. 22: 7-13; cf. Budinský 1983, 7-8, Tab. II; 1999, 372*). Isolated artefacts of these and other types belonging to characteristic LT A grave inventories can in many cases be the lone remains of unpreserved inhumation graves from this period.

8.5.2 Non-burial ritual areas

8.5.2.1 Artificial ritual places

Evidence of architecture that could be regarded as being related to ritual activities is sporadic. One reason for this is the fact that sacred and profane activities need not have been strictly separated and could have been conducted in common structures and spaces; another reason is that natural ritual sites were used (see below). Nevertheless, there are extraordinary structures and spaces justifiably connected with ritual, especially at the highest part of the Závist hillfort, where continuous use for ritual purposes is assumed for the entire period of Ha D2-3 and LT A. Four areas designated as ritual precincts were progressively built on top of one another. Dated to Ha D2-3 (Fig. 93: 1), the earliest was a rectangular space of 27 x 30 m enclosed by a palisade built at the summit of the hillfort adjacent to a fenced complex of ground-level houses A-A6, evidently a farmstead used by the elite. Following its destruction by fire, another larger precinct of 35 x 38-40 m was built there at the turn of Ha D3 and LT A (Fig. 93: 2) with a post-built two-aisled structure C

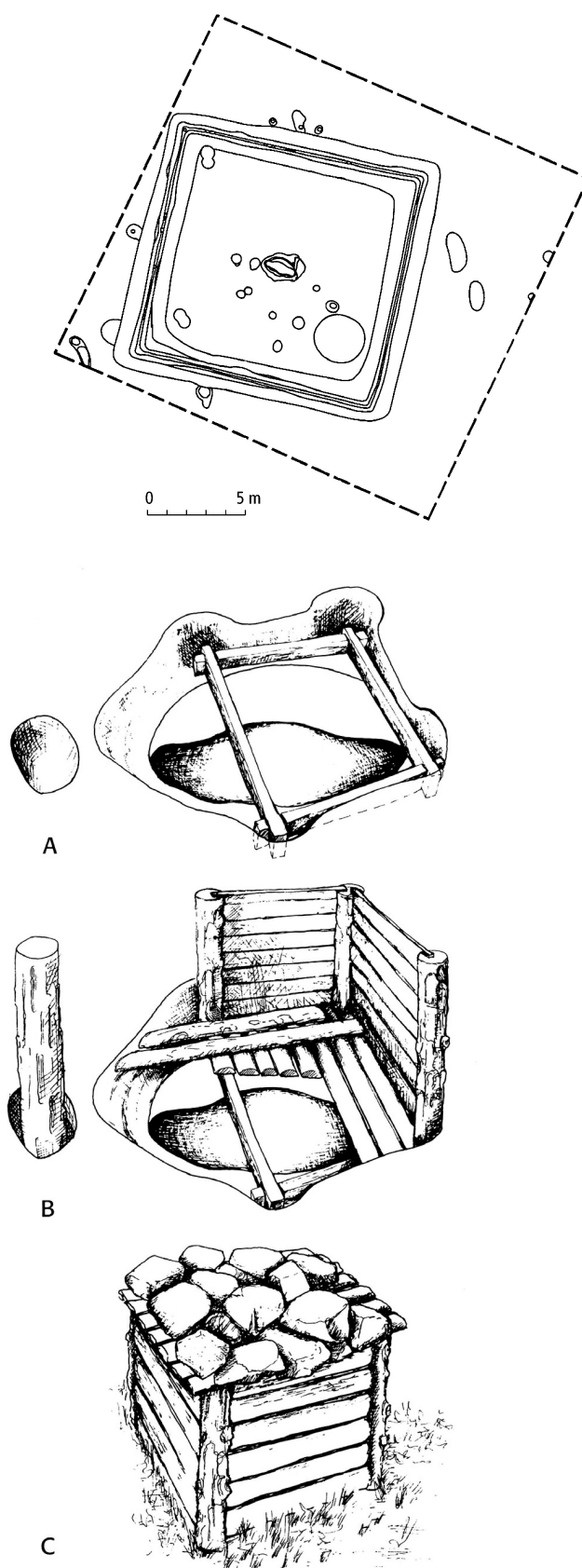


Fig. 92: Late Hallstatt period. Chamber grave enclosed by rectangular trench. Černouček (Litoměřice district). A, B, C sequence of chamber construction. After *Brnič – Sankot 2005*.

with a ground plan of 9.5 x 17.3 m in the middle. Although the ritual interpretation of both of these areas is not universally accepted, it is based on a large amount of indirect evidence, including a position on the summit of the hillfort, the limited occurrence of portable artefacts of a standard settlement nature on one hand and the presence of atypical artefacts on the other, and especially the subsequent construction of a special area in the same zone. There was an extensive reconstruction, during LT A, of the summit of the hillfort (Fig. 93: 2) – construction activity of an unprecedented scope in central Europe. The rectangular 80 x 90 m space was enclosed by a rampart with a stone face and by a massive external ditch on three sides. Built inside the space was a group of structures made of stone, earth and, partially, of wood – a square podium VI with an area of 160 m² and a height of up to 1.5 m, a rectangular podium I with dimensions of 27 x 11 m and a height of more than 4 m, two lines of stone walls II, III, a three-sided timber-framed structure V with walls 9 to 11 m in length and 3 m high, as well as a sunken timbered structure regarded as a building of a chthonic nature. The area is reminiscent of the Mediterranean sacred precinct – a *temenos*. A further reconstruction of the area, still in LT A (Fig. 93: 3), incorporated and hence preserved relics of the stone structures into a new 105 x 80 m terrace built using the stone chamber technique. Located in the middle of this dominant elevated platform was a single rectangular deeply sunk structure with wooden walls, interpreted as a ritual centre of an exceptional assembly place (*Drda – Rybová 2008*, with refs.). The entire area is thought to be an expression of Mediterranean influences, probably Etruscan or Greek.

Numerous cases of the ritual destruction of weapons by breaking, a practice known from LT A graves, appeared in various phases at the Závist hillfort: fragments of a bronze scabbard from a small sword were used as a votive offering during the building of the area with stone structures (*Motyková – Drda – Rybová 1988*, 414, Abb. 13: 6, 12; *Drda – Rybová 2008*, 63, 72–73, 77).

Also regarded as a man-made ritual space is a platform tiled with stones (house foundation?) at the acropolis of the hillfort in Minice (*Slabina 1981; 2003*, 201–204; *Chytráček et al. 2010a*, 160, Abb. 4, 5). A possible ritual (ceremonial) role is ascribed to the entire enclosed space of the Boudy hillfort in south Bohemia (*Dreslerová 2004*).

8.5.2.2 Natural ritual places

Natural ritual sites are difficult to document archaeologically. Human activities found on prominent points in the landscape, near springs, or at locations unsuit-

able for living and other practical activities, are generally regarded as ritual, despite the fact that clear evidence for such an interpretation is usually missing.

Hill tops. The peaks of steep hills were probably used for ritual purposes, as is documented by the presence of late Hallstatt finds (Lovoš and Bořeč hills in the Lito-měřice region). The previously mentioned ritual area on the summit of Burkovák Hill near Nemějice ceased to serve its function by the end of Ha D2/3 at the latest (see Chapter 7.2.5).

Rock formations and caves. The context of late Hallstatt finds from the Prachovské skály is not verifiable and it is unclear whether they are connected with settlement or ritual activities (*Waldhauser 1996*, 113–114); the character or even a more precise dating of activities in other rocky areas in Bohemia are not sufficiently known (*Peša 2006*). The extraordinary assemblage from the Býčí Skála cave in Moravia probably testifies to the ritual use of caves in the late Hallstatt period (*Parzinger – Nekvasil – Barth 1995*).

Standing stones. Based on finds of late Hallstatt vessel fragments, it is possible to infer ritual activities (unknown thus far in greater detail) in the immediate vicinity of prominent isolated standing stones in the Písek and Strakonice regions, for example near the stone in Boudy (*Dreslerová – Stejskal – Beneš 2003*) or near stones with naturally occurring depressions (“bowls”) in other south Bohemian localities (*Dubský 1949*, 222–29).

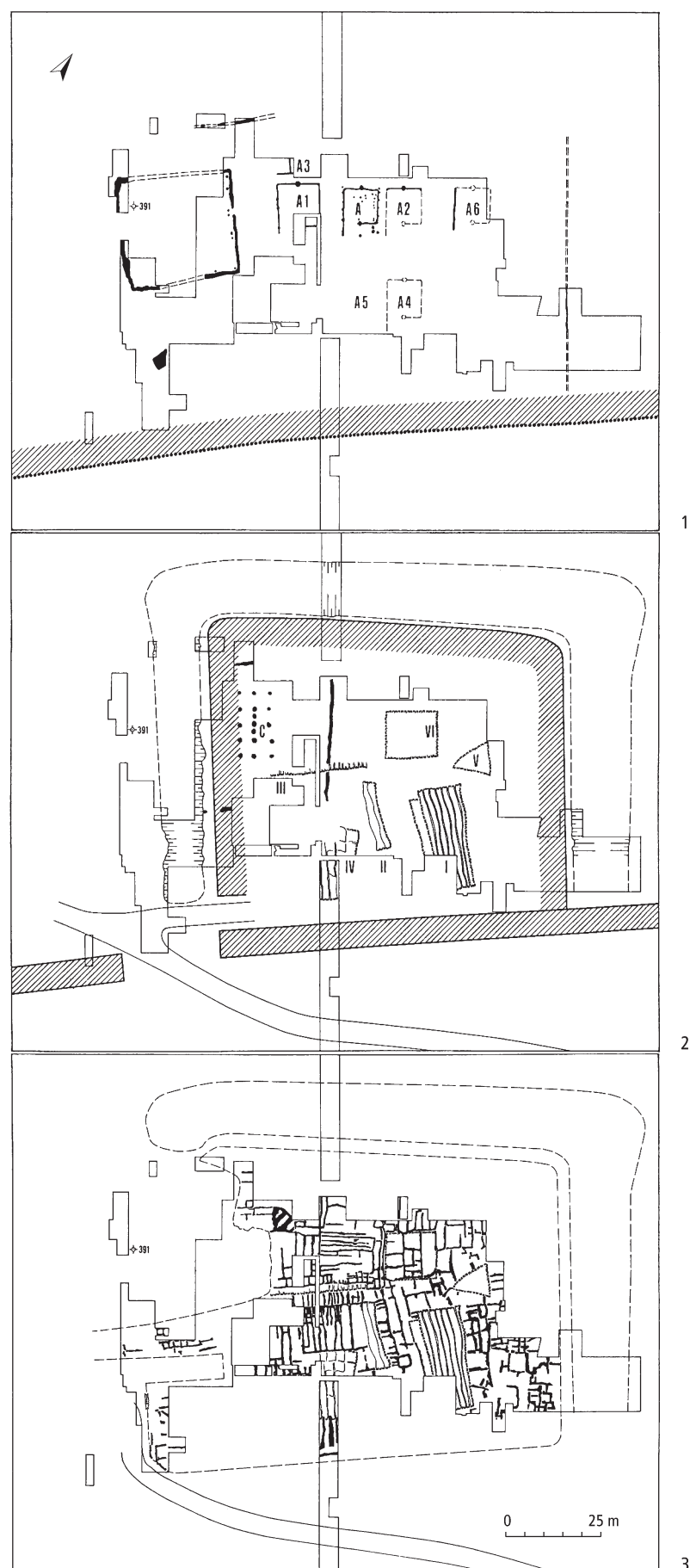
River finds. A damaged bronze situla, a deformed sword scabbard and clay vessels were found in the River Lužnice near Veselí nad Lužnicí-Vlkov (*Beneš – Sankot 1995*, Abb. 1). These artefacts may have been placed or thrown into the river intentionally, over a long period of time, for ritual purposes as sacrifices. Nevertheless, it is not always possible to distinguish such intentions from random losses, for example, during transport along the watercourse or at a ford; the finds could also come from structures along the banks of the river (*Beneš – Sankot 1994*, 557).

8.5.2.3 Ritual activities in a settlement context

The deposition of human remains. Human skeletal remains appear relatively often in settlement contexts at unenclosed lowland settlement sites (e.g. Radovesice, Hostomice) and at hillforts (Minice). Entire skeletons, most often belonging to children, were deposited on the bottom (or beneath the bottom) of sunken huts, on the bottom or in the fill of storage pits or other sunken features; in some cases the skeletons of multiple individuals are found (Dneboh-Hrada feature 273, perhaps from the end of LT A: *Pleslová-Štiková 1958*). More common finds are parts of bodies, bodies without skulls or fragments of individual skulls in the fills of

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Fig. 93: Late Hallstatt period. Ritual area at the Závist hillfort (Lhota, Praha-západ district) and its development. 1 Ha D2-3; 2 turn of Ha D2-3/LT A and LT A; 3 later phase of LT A. After *Motyková - Drda - Rybová 1988*.



features or in occupation layers. Cremated remains are found less often. Interpretations of such finds range from building or other sacrifices to conflicts, executions, the burials of “different” individuals and newborns or unspecified ritual activities (survey of finds: *Waldhauser et al. 1993*, 307–315).

Hoards. Hoards from the late Hallstatt period are rare. A hoard of iron weapons as well as farming, metalworking and woodworking tools and fragments of other artefacts, including bone handles, was probably deposited (wrapped in cloth and placed in a vessel) beneath the floor of a LT A sunken house in Libčice-Chýnov; two scythes were found next to the vessel. Although the presence of fragments of artefacts and tools seems to suggest that the property was buried by a craftsman, a ritual reason for the deposition of the entire assemblage cannot be ruled out. The same interpretation applies to a hoard of four iron tools (assuming they did not originally come from a destroyed barrow) – axes and a sickle in Vráž near Písek (*Dubský 1949*, 182–83, Fig. 3).

Thought to have been a symbolic act is the deposition of rolls of bronze and iron sheet outside the rectangular space with a wooden enclosure (farmstead) built in Ha D2–3 at the summit of the Závist hillfort, a location interpreted as a ritual area (*Drda – Rybová 2008*, 24, 72, Fig. 79; see Chapter 8.5.2.1).

Hearths and altars in residential features. Some scholars interpret fired clay, sometimes whitewashed flat rectangular hearths or fireplaces, which can also be decorated on their edges, as ritual features; they occur in dwellings (the Želenice-Liběšice settlement: *Waldhauser 1977*, Fig. 3; the Planá-Radná hillfort: *Šaldová 1977*, 127, Fig. 11, 15; the Minice hillfort; house A1 at the acropolis of the Závist hillfort: *Motyková – Drda – Rybová 1988*, 403, Abb. 9; *Drda – Rybová 2008*, 17, 70, 116, 119, Fig. 14, 77). These features are being linked to the veneration of ancestors or household deities protecting the hearth, home and family (and as an expression of Greek-Celtic syncretism in religious notions: *Makiewicz 1987*, 65–66, 205). Other scholars believe that similar panels were also used for cooking, or had a combined practical and ritual significance (*Arcelin – Dedet – Schwaller 1992*).

Unusual structures. It is tempting to connect structures of unusual size or construction with an extraordinary or ritual use. As ritual activities were certainly part of everyday life, structures where such activities were conducted probably also had a profane function and, hence, need not have differed, from a construction perspective, from common types of structures. In the case of a rectangular (?) sunken structure of above-average size and depth in Libkovice in the Most region

(*Zápotocký 1962*), for which a possible ritual (ceremonial?) function was suggested, the purpose cannot be reliably interpreted.

8.5.3 Symbolism of the Hallstatt period

The symbolic world is reflected, to a certain extent, in all activities and artefacts. Certain forms of artefacts and their decoration could perhaps reflect rites, cults and ceremonies known from written or iconographic sources in other contemporary cultures.

The manufacturing technique or material of the artefact can also have symbolic significance. Examples of this include the Ha C–D1 pottery, the quality of which differs according to its function: vessels intended for funerary purposes, i.e. for deposition in graves, were made of clay less well fired than vessels intended for secular use. Noteworthy, however, is the fact that the funerary vessels were usually richer in decoration, including painting (especially in the Bylany and Silesian-Platěnice cultures).

Pottery decoration followed symbolic norms and made use of only selected motifs. Although decoration was characterised up to LT A by a purely geometric style (Fig. 15; 16; 70 and others), some motifs (e.g. triangles with hooks) are a stylisation of figures or scenes found in realistic form in regions further south, for example in the Kalenderberg culture (*Nebelsick 1997; Eibner-Persy 1980*) or in southern Germany (*Stroh 1979*). In general, the source of the Hallstatt art style was the Greek geometric style and the art of the Villanova culture in northern Italy.

In addition to anthropomorphic motifs, other images (a combination of circles and dots) on pottery and bronze artefacts are considered solar symbols and evidence of the veneration of a sun deity. Other examples include clay toothed discs – perhaps symbolising the sun – from the Burkovák Hill (Fig. 43), or a four-ray disc and a triskele from the cremation grave of a presumed shaman in Poděbrady. A solar motif is commonly used in conjunction with a water bird. A bronze pendant from the barrow in Nemějice (Fig. 34: 4) bears bird and sun symbols in the form of figures of water birds on a bronze ring with the central motif of a cross, a common solar symbol as far back as the Bronze Age (*Novotná 2001*). Hammered birds, suns and dots are found on the rim of a bronze plate from a grave in barrow 2 in Dýšina (*Siegfried-Weiss 1991*, 108, Tab. 14: 72). Clay rattles (Fig. 17: 3; 34: 2; 49: 17) also occur in the shape of a bird (duck or swan?). A water bird could represent an intermediary between water, earth and the sky, which is symbolised by the sun (*Springer 2003*, 19). As early as the late Urnfields, a sun in a boat drawn by birds, or a sun in a chariot was a central religious symbol (*Bouzek 1997*, 126–27, 141; *Jockenhövel 2003*,

110). Birds could be a symbolic expression for delivering votive gifts to the deities and, in general, represent a connection between man and god.

The symbol of a horse is one that reached the West Hallstatt culture from the East Hallstatt circuit or from the east in general. Clay horse figurines are known (Praha-Řeporyje, Burkovák Hill, Nynice grave 34, Němčice feature 4/82, etc.; Fig. 34: 1; 43), and were one of the most common grave goods in the Greek geometric period, where they probably depicted Hade's horse (*Reichenberger 2000*, 62, 148, Abb. 157).

The riding of horses was adopted in Ha C from the eastern nomads. Horses and riders also reflect nascent social differentiation in which warriors on horseback were high-ranking members of society, as is clearly documented in richly furnished graves with wagons and horse harness. Clay figurines of riders on horses (e.g. from the Frög cemetery in Carinthia) could be connected with sepulchral ceremonies (Protesis, Ekphora) at burial areas, which were also accompanied by burial games (*Tomedi 2002*, 278). Anthropomorphic figurines are rare in Bohemia (Jaroměř).

Known from the Final Bronze Age, a deer motif (Libčice-Chýnov) also appears in the Hallstatt and late Hallstatt culture; the origin of the motif could be central European, south European or eastern (*Jockenhövel – Knoche 2001*). Remarkable in this regard are the short iron bits from a pair of bridles from barrow 44 in Sedlec-Hůrka, which were probably not intended for a horse; instead, they are thought to represent a symbolic harnessing of a deer (*Franc 1988*, 98, Tab. XXXIX: 8, 9; *Pauli 1983*, 468; *Chytráček 2000*, 365, Fig. 6). Other zoomorphic representations include dogs (Hradenín: *Dvořák 1938*, Fig. 65 above; a figurine from an unknown site: Plate 7: 4) and animals which, despite some equine traits, are unidentifiable creatures.

Parts of clay chariots from the Burkovák Hill are connected with ceremonies invoking the power of chthonic deities. The symbolism of wagon models (Frög in Carinthia, miniature carts from Villanovan graves in Italy) is sometimes tied to the widespread Indo-European myth of Agnis the fire god, the inventor of the chariot, who arrives on Earth in a drawn vehicle to take the dead to the other world (*Tomedi 2002*, 278; *Woytowitsch 1978*).

Depictions of ceremonial chariots are attributed in the southeastern Alpine regions to the continuing development of sacred motifs from the Urnfield period and to Mediterranean influences (*Vosteen 1999*, 177; *Pare 1992*, 185, 214, Fig. 123, 153). Wagons and richly decorated horse harness known from Hallstatt graves are ascribed to individuals of the highest social standing and were perhaps intended for the posthumous ride of the deceased to the netherworld. Evidence of

these notions is known from Greece and, beginning in the sixth century BC, especially from Etruria, where, in the local and eastern religious conceptions, horses pulled the chariots of sun gods (*Bouzek 1997*, 39, 126).

Artefacts often called “moon idols” are probably unrelated to lunar symbolism. The clay platters have ends that are drawn upward like horns and are sometimes attached to a round clay base. Traces of fire are commonly found on it. These artefacts appear in Ha C–D both in graves and settlement contexts, in the Hallstatt zone (the Bylany and Hallstatt Tumulus cultures, Fig. 17: 8) as well as in the Urnfield circuit (the Silesian-Platěnice culture; Fig. 49: 1, 2, 4), and are interpreted as small altars symbolising purifying fire (during the cremation of the dead) and the cult of fertility (the ends of the platters symbolise bull horns) or as symbols of the domestic hearth. Clay discs from the Billendorf culture context could also be related to them. A small vessel found in Radčice perhaps bears a bull's head with horns (Fig. 34: 3).

A symbolic significance is usually ascribed to various small artefacts (Fig. 17: 1, 2, 4–6; 49: 3, 5–19), including small vessels of unusual forms such as hanging vessels with a hole in the bottom, or double or triple vessels. Clay rattles – hollow objects filled with clay balls – probably served as an instrument used to accompany ceremonial dances. Votive artefacts included various small clay objects. Cylindrical spools with toothed or plain edges from Burkovák Hill have parallels in northern Italy and Switzerland, where they are usually interpreted as spools for yarn or thread, i.e. symbols representing a feminine element (*Primas 1990*, 85, Abb. 5; 6; *Chytráček et al. 2009*). Finds of these artefacts are connected with clay spindle whorls and loom weights and, in the symbolism of grave gifts, are meant to denote the ideal of female capabilities (*Tomedi 2002*, 162) and perhaps could reflect the high social standing of women among the Etruscans and the Veneti (*Amann 2000*). The reeling and unreeling of thread symbolised the determination of human fate by the higher powers. Spinning and weaving undoubtedly also had a calendar-ritual and divine dimension. Many goddesses wove (especially the goddess of fortune), spinning the thread of life and destiny. Clay spools, representing attributes of female work undoubtedly possessed great ritual significance, a fact indicated by grave goods and the deposition of spools with other magical artefacts at the Veneti and Raetian ritual precincts. Numerous four-sided clay objects from Burkovák Hill have parallels in Kalenderberg culture graves (Sopron-Varhely, Nové Košariská), where they are interpreted as dice or astragali, which served an important role in fortune telling and even for determining calendar time. A number of these artefacts

appear in graves in Hallstatt and Este and can represent symbols for the cosmic-temporal dimension of the other world (*Chytráček et al. 2009*, 201–203, Fig. 6, 8–9).

Stone cones deposited in graves (of the Bylany culture) had a place in the symbolic sphere, as did earlier artefacts such as polished stone tools and flint blades also found in burials or in other ritual contexts (*Pauli 1975*; *Drda – Rybová 2008*, Fig. 86; 95).

Based on examples from south Europe, it is assumed that bronze vessels, often found in complete sets (e.g. in Hradiště near Písek), were used during libation ceremonies. Vessels with a drinking spout are also connected with libation acts during funerals (for instance Platěnice grave 65). Drinking horns made of clay or horn probably served the same purpose.

Glass (especially blue) and amber beads as well as black ornaments are regarded as amulets – objects of personal protection; in addition to the material, the colour of the artefacts also played an important role as a protective agent. Beads with blue and white eyes clearly had an apotropaic significance; these artefacts represent derivatives of mask beads and pendants, i.e. glass objects manufactured in the Mediterranean from the eighth century BC that depicted a human or rather divine or demonic face with distinct eyes (*Venclová 1990*, 83–85). Perhaps also serving as amulets were trepanned discs from human skulls, sometimes with three drilled holes, found in settlement contexts (Radovesice feature 55, Tuchomyšl: *Waldhauser et al. 1993*, 314–315, Abb. 151; Tuchoměřice, Chržín: *Chytráček 2007b*, 492–93, Fig. 19: 17), the shells of marine molluscs and possibly other unusual natural objects such as mountain crystal or bizarre ferrous concretions (*Závist: Drda – Rybová 2008*, Fig. 47: 5; 86).

8.5.4 La Tène art

While the Ha D symbolism is tied to the earlier tradition, such elements appear only rarely in LT A.

The depiction of birds, certainly with earlier roots, is represented by painted swans on a “Braubach” bowl from Radovesice, and by bird’s heads on LT A fibulae. Although the motif seems to be related to the symbolism of water birds from the preceding period, it perhaps took on a new religious significance (cf. *Megaw – Megaw 1993*). Birds symbolised a divine messenger or the souls of the dead in many cultures (*Frey 2002*, 199). The gold or bronze discs of fibulae could represent symbolic images of the sun. Lunar symbolism can be considered for at least some finds (*Závist*: a small fragmented ceramic crescent moon with a silvery graphite coating, a silvery six-ray lead amulet, a crescent-shaped sheet metal from a horse harness: *Drda – Rybová 2008*; *Jansová 1983a*, Fig. 15: 7; cf. *Bouzek 1995*).

A bull as an attribute of strength and virility comes

from the East Hallstatt symbolism; its zoomorphic element appears on a fibula from Želenice (*Moucha 2002*) or on the bull horn-shaped end of the handle on a LT A bowl (*Sankot 2003*, Fig. 10: 2).

A significant change in LT A is the emergence of the La Tène style. Although it includes several earlier symbols, La Tène art mostly employs an entirely new symbolism. The style was created among the late Hallstatt “princely” elite, and in the beginning, in a phase of intensive experimentation with new ideas, it was mostly applied to metal ornaments and vessels, but also to pottery (*Chytráček 1990*, 129–131, Fig. 12–13; *2000a*, 375, Fig. 5–12, 16b; *Hase 2000*, 194, Abb. 1). *P. Jacobsthal (1944)*, regarded as the doyen in the field of La Tène art studies, has many followers today (*Bouzek 1997*, 221–22, 253–54; *Kruta 2000*, with refs.; *Jope 2000*; *Megaw – Megaw 2001*, with refs.; *Frey 2002*; *Stöllner 2002*; *Müller 2009*). La Tène art was inspired by Etruscan and Greek art, especially the so-called situla art with its figural ornamentation applied on bronze vessels; eastern elements were also adopted through nomadic groups. While these roots were highly visible at the beginning, they were quickly transformed into an independent and distinct art style expressing the complexity and wealth of the La Tène culture’s own symbolic world.

According to the classification produced by V. Kruta, LT A was characterised by a formative period (i.e. the first or early style in Jacobsthal’s system). Both zoomorphic and anthropomorphic elements and motifs are used, and mostly transformed into fantastic masks and figures; only rarely do realistic human or animal faces, heads or figures appear (Fig. 76: 7; 81: 9, 14–18; 85: 1, 4, 5; Plate 15). Adopted from eastern art, the tree of life and the master of beasts are important compositions. Ornamentation includes plant and geometric elements and motifs (S-shaped elements, palmettes, leaves derived from mistletoe, circles, lyre, a triquetrum, plant tendrils, garlands, spirals, whirling configurations), both on metal artefacts (Fig. 74: 4, 5; 75: 9–11; 76: 4, 5; 79: 14–17) and on the fine LT A pottery decorated with stamps and compass-drawn lines (Fig. 71, 72). Ornament constructed by geometric procedures involving combinations of circles and their segments drawn with a compass achieves intricate compositions (*Schwappach 1973*; *Lernerz-de Wilde 1977*). Although the C-shaped stamps on the outer surface of ceramic vessels are sometimes interpreted as lunar symbols, rather the double semicircular motifs are more likely candidates for that. According to the latest interpretation, the number of crescents on a lenticular flask from Osek near Milevsko (Fig. 71: 2) could be linked to a calendar system involving the lunar-solar cycle (*Fröhlich – Jiřík 2006*, 498). Figural

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images, especially mythical beings and demons, whole figures or, more often, only their heads (masks), were intended as a means for turning away evil with their magical powers, thus ensuring protection of body and soul (*Binding 1993*, 119). It is hardly surprising that glass beads with eyes and other elements of the human (?) face retained their popularity in this period.

Besides the frequent relief ornamentation on metal artefacts such as the bows and feet of fibulae, the bodies and terminals of ring ornaments, belt-hooks, phalerae, appliqués on bronze and pottery vessels (including a relief leaf motif on a bowl from Libkovice: *Jansová 1983b*, 353–355, Fig. 2: 1), LT A stone sculpture also occurs, although very rarely: to date it is represented by only two fragments from the hillfort of Závist (*Jansová 1983b*, Fig. 4), interpreted as parts of

anthropomorphic renderings of the human head, in one case as the parts of the so-called leaf crown. Although the leaf crown and the two-leaf mistletoe motif are usually connected with images of the gods Esus and Lugus (*Jansová 1983b*, 361; *Kruta 2000*, 649), they could also have served as the insignia of power of a real, evidently heroised, individual as is demonstrated, for example, by the stone sculpture of a warrior from Glauberg in Hesse (*Frey – Herrmann 1997*, Abb. 17–20; *Herrmann 2005*, 22, Abb. 8–10) and other sculptures (*Frey 2002*). The much discussed stone head from Závist can be assigned with less certainty to the Ha D – LT A period, although its affinities to Etruscan figural works have been assumed (*Jansová 1966; 1983b*, 356–361; *Bouzek 1995*, 323; *Drda – Rybová 1993*, 66; *1998*, 145, Fig. 27; *2008*).

9 Economy and society in the Hallstatt period

9.1 ECONOMY AND ITS STRUCTURE

Economy of the Hallstatt period was based on agriculture and animal husbandry. The introduction of the iron ploughshare (at the latest from LT A) was a significant innovation that enabled the ploughing of soils of lower quality, for example, at higher elevations, thus enabling settlement to shift toward such locations. Numerous hilltop settlements document the exploitation of these sites. Also appearing in the same period is the iron scythe used to cut grass, indicating the existence of meadows and a fundamental change in the winter feeding regime of livestock. A certain level of forest management can be assumed, despite the fact that the consumption of wood did not increase substantially compared to the preceding Bronze Age, with the exception of the surrounding areas of several sites with vast fortifications featuring elements of wooden construction. Although the development of specialised production, especially entirely new pyrotechnological crafts such as iron smelting and smithing, must have required a considerable consumption of wood for the production of charcoal and wood fuel, greater deforestation in the period has not been reliably documented in Bohemia. Other branches of specialised production probably did not reach a volume requiring an excessive consumption of wood (bronze metallurgy, processing of gold or pottery production).

The importance of the use of iron for the development of the economy in the Hallstatt period in Bohemia and Europe in general should be emphasized. Unlike the production of bronze, the relatively high availability of iron ores in many locations reduced the dependence on raw material imports. The actual volume of iron production is, however, unknown; Hallstatt period iron smelting workshops have not been documented with certainty anywhere in Bohemia yet (despite the existence of indirect evidence), and the alternative scenario in which a certain part of the required amount of iron was imported, either as ingots or final products, cannot be ruled out.

Information regarding the organisation of production is highly fragmentary. Specialised production was conducted in smaller workshops that supplied medium-sized regions. Workshops were in operation both at regular settlements and enclosed settlement sites considered to be seats of the elite. It would be pos-

sible at the latter sites to speculate on the existence of dependent craftsmen who made objects commissioned by the local rulers, and it is plausible that some of these individuals even reached the level of full-time specialisation (i.e. they engaged solely in craft activities, without taking part in subsistence activities). The existence of itinerant craftsmen is sometimes considered. The full specialisation of such producers would explain the mastery and high craftsmanship demonstrated, for example, by the LT A metal ornaments. The elite used a variety of mechanisms to control important production and mainly exchange, particularly the system of gift giving creating a debt; this strengthened the dependency of communities and local elites on the ruling personalities.

9.2 CONTACTS

Material and immaterial, or visible and invisible contacts had diverse forms and were realised by means of mechanisms ranging from gifts, plunder, trade and exchange up to the adoption of ideas and symbols, technologies, and patterns of behaviour. Exchange is often simplistically designated as “trade”, an activity, however, that assumes the use of currency, which has not been documented for the Hallstatt period. Contacts occurred directly between two individuals or groups, or through mediators. The tangible results of contacts are recorded by archaeology as artefacts or ecofacts that are foreign in a given setting and are often referred to as “imports”. Specific alternative mechanisms for the movement of Mediterranean artefacts are suggested for the Hallstatt period: via a chain of intermediaries, through the activity of a single independent middleman, by direct contact between individuals – Greeks and Etruscans arriving at the Hallstatt central places (or, conversely, members of the transalpine population in the opposite direction), or through a wide variety of mutual contacts (for a review, see *Brun 1997*). A mediating role is considered for the population of the Golasecca culture in a north-south direction. Immaterial manifestations of contact (e.g. the adoption of behaviour, art style, manufacturing technology and techniques) can also be identified, albeit with less certainty as to their origin. Exchanged invisible commodities that archaeology is unable to document, including livestock and slaves, can mostly be assumed only on the

basis of written historical sources. Contacts can be divided into regional and interregional, connected either to local or long-distance routes.

The numerous routes that ran into Bohemia from the beginning of the Hallstatt period connected Bohemia with the Danube, enabling west-east contacts, but also ran further south. One of the branches of the main trade route – the Amber Route connecting northern Italy and the Balkans with northern Europe – ran through east Bohemia as early as the Final Bronze Age, as is documented by finds of amber and glass. Its branch possibly followed the River Elbe westward. These routes not only facilitated the quick exchange of goods; they also enabled permanent contacts with neighbouring lands and with the Mediterranean.

The Hallstatt Ha C–D1 cultures have many common traits documenting close ties; however, external contacts were also abundant.

The earliest Ha C1 chamber graves with four-wheeled wagons and horse harness are concentrated in Bohemia, northeastern Bavaria, and Upper Austria (Pare 1992, 136–146, Fig. 100–101d), from where this burial phenomenon spread further westward, as is documented by the Ha D wagon graves in Württemberg, Switzerland, the upper Rhineland and Burgundy (Chytráček 2000, 359, Fig. 1). Apart from burial rite, relations between the Bylany and Hallstatt Tumulus cultures are documented by finds of Bylany-type vessels, for example, at the cemetery in Manětín-Hrádek (Soudská 1994, Fig. 21–23, 25–28), in Plzeň-Radčice (Šaldová 1992) and in Újezd near Radnice (Hralová 1993), or, on the other hand, by the introduction of some decorative elements on pottery (e.g. meanders) from the Hallstatt Tumulus culture to the Bylany culture.

The active contacts between the Bohemian Hallstatt Tumulus culture and the Upper Palatinate Tumulus culture as well as the Württemberg Alb-Hegau culture are documented, for example, by fluted vessels and cups with a pointed base. Contacts with the Bavarian groups are less apparent. The origin of some ornaments (e.g. a west Alpine fibula from Svržno, Fig. 81: 6) can be sought in western Switzerland and eastern France.

The transfer of certain customs from the Bylany culture outside of the Hallstatt zone is attested by finds from the context of the Silesian-Platěnice culture, where the rectangular shape of the grave pits and the wooden coffins are derived from the Bylany culture. Vokolek suggests that the Silesian-Platěnice hillforts built on the assumed border between the two cultures (e.g. Lišice) perhaps had a trading function rather than a primarily defensive one. Contact with lands to the north and northwest can be observed in the contact zone between the Bylany and Billendorf cultures.

Elements of the East Hallstatt culture in the form of artefacts and symbols can be found in Bohemia. They are represented by, e.g., the pottery from grave 129 (Ha C2/D1) in Plzeň-Radčice: especially apparent here besides the pottery forms and decoration typical for the Upper Palatinate and Bylany cultures is a relationship with the middle Danubian Kalenderberg culture with its centre in Lower Austria, Burgenland and in south-west Slovakia (Pichlerová 1969, 185, Tab. VI: 1). It is possible that a vessel with a bull's head (Fig. 34: 3) as well as an amphora-shaped vessel covered with decoration are a direct import from that area (Šaldová 1992, 94, Fig. 2: 1, 10). Relations with the southeast are reflected in small ceramic situlae that obviously imitate bronze models. Hallstatt cultures adopted an important innovation from a common source – from the eastern nomadic milieu: the horse riding and the engagement of riders in warfare. Contacts in this direction are documented by individual artefacts such as the bronze Thracian-Cimmerian chape from Předměřice nad Labem (Fig. 50: 22) and mainly the types of bits and horse harness that were in use (Bouzek 1997, 198–99).

The majority of metal artefacts are universal, and their distribution extends past the borders of cultures within and beyond the Hallstatt sphere. Characteristic bronze objects throughout the whole of central Europe in the first half of Ha C are parts of horse harness and four-wheeled wagon, as well as the sword with a tongue-shaped hilt – objects that not only represent the mutual adoption of artefacts but mainly of ritual customs, symbolism and the behaviour of the elites.

Additional types of imported artefacts provide further proof. Bronze vessels served not only as luxury receptacles; their appurtenance to drinking sets documents the elevation of a significant custom, the ceremonial consumption of alcohol in the form of drinking feasts – banquets during the Hallstatt period, to a prestigious practice in the hands of the elite. The beverage consumed on these occasions was apparently wine imported from the Mediterranean. Bronze vessels in the Ha C period (Fig. 22, 38; e.g. Dýšina – a plate with a decorated rim) as well as at the beginning of Ha D (e.g. Švihov-Červené Poříčí – a cauldron with cruciform handle attachments; Dobřany – situla; Hanov, Střelské Hoštice, Rovná – ribbed buckets) could have been imports from the Danube region or the southeast Alpine zone (Šaldová 1968, 389; Siegfried-Weiss 1991, 109, 116). However, a bucket from Kříše, recently dated to Ha C (Fig. 38: 4), belongs to vessels made in northern Etruria, with parallels in seventh century Populonia and Fabbriano (Chytráček 2012). Certain bronze vessels could also have been central European imitations (Hohmichele type bowls from Hradenín and Slatina:

Bouzek 1997, 252; Chytráček 2002a, 123; Fig. 22: 2, 6; and an Imola-Hundersingen type bowl from Rovní).

Other bronze artefacts such as personal ornaments are probably the products of northern Italian workshops. These include a late form of Ha D1 dragon fibula (Fig. 21: 20), a bow fibula (*Bogenfibel*) with pendants (Fig. 50: 21) and perhaps even a figurine from the Silesian-Platěnice culture barrow in Jaroměř (Plate 7: 5).

The adoption of symbols, expressed in the wearing of ornaments made of specific materials and with specific colours to which a protective role was probably attributed, is demonstrated by black rings imported from southwest Germany or Alsace, by glass beads, mainly blue, in some cases with yellow decoration, from the Adriatic, and by the honey-brown amber beads from the coast of the Baltic Sea.

The growing intensity and scope of local and long-distance contacts can be observed in the following late Hallstatt period, Ha D2 and LT A, a trend documented by foreign artefacts in burial and settlement contexts; the existence of many other imported artefacts that cannot be archaeologically documented can be justifiably assumed.

The importance of Bohemia as a crossroads (Fig. 94) increased once the Amber Route shifted westward at the beginning of the sixth century BC (*Bouzek 1987; 1992*). Contacts were particularly close with northern Italy in connection with the occupation of the Paduan lowlands by the Etruscans after 520/510 BC; there were also close ties with the eastern Adriatic. Trade routes ran through the Alpine passes to “princely” seats in western Switzerland, eastern France, southwest Germany and to Bohemia. The importance of the corridor

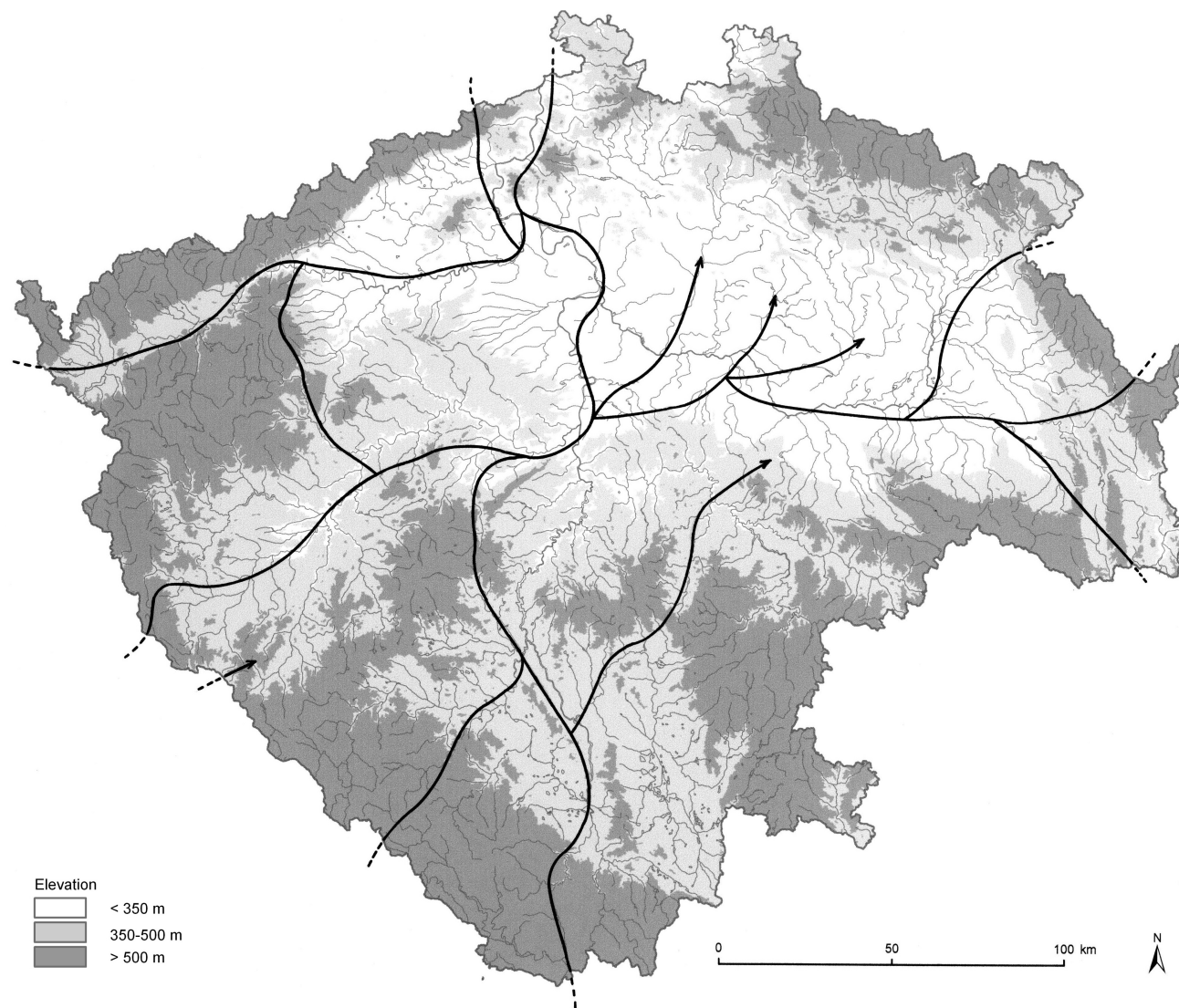


Fig. 94: Late Hallstatt period. Reconstruction of long-distance routes. After *Chytráček 2012*, supplemented.

along the Etsch through Trentino, the south and north Tyrol, along the Salzach (where Dürrnberg was an important centre for the salt trade), the Inn and the Ilz and on through the Kunžvart saddle to south Bohemia (Pauli 1974, 115–59; 1997, 16, Abb. 3, 4; Chytráček 2008, 78–88, Abb. 17–19) increased during the first half of the fifth century BC. A route from the southwest ran through the Všerubský pass and along the River Radbuza to west Bohemia and along the River Berounka on into central Bohemia (Chytráček – Metlička 2004, 125–132, Karte 25). A trail along the River Ohře can be reconstructed even further west. A “Linz route” from Linz and Český Krumlov along the Vltava northward can be assumed, as can a trail running along the later Vimperk branch of the “Golden Path” (Zavřel – Parkman 2004, 391), which probably continued across the Šumava mountains through the Volyňka river basin and along the upper Otava river to the Strakonice region. From here the route ran northward to the Lomnice and Skalice rivers, to the River Litavka and into central Bohemia to the confluence of the Berounka and Vltava rivers (Drda – Rybová 1998, 55). The Vltava and Ohře routes headed to the Elbe route running to the northwest; parallel to the latter, another trail running across the Krušné Hory (*Erzgebirge*) through the Nakléřov pass (*Kulmer Steig*) can also be reconstructed. One branch of the re-routed Amber Route ran across eastern Bohemia along the border between the West and East Hallstatt zones; the route ran from the Adriatic and northern Italy northward up to Silesia and the Baltic (cf. Vokolek – Sankot 2001a, 252–254). The west-east route along the Danube was naturally also important.

The imported luxury objects probably do not reflect regular and direct trade between Bohemia and the Etruscan or Greek centres; instead, the goods probably reached Bohemia occasionally through intermediaries, especially via the population of the Golasecca culture or other cultures from in and around the Alps (Fig. 95).

Contacts with specific regions can be observed from individual artefacts in the late Hallstatt period.

Contacts with the Mediterranean. The main trade articles reached central Europe from Italy, the southeast Alpine regions, the Adriatic and the broader Mediterranean. Prominent among these objects are Etruscan bronze vessels, Greek and other pottery and glass from various Mediterranean workshops; numerous other artefacts have not survived in the archaeological record (e.g. textiles).

Bronze drinking sets (Fig. 84), especially those of beaked flagons (*Schnabelkannen*) and bowls, accompanied wine, probably Etruscan; these and other luxury goods reached transalpine Europe as parts of exceptional diplomatic gifts or based on special com-

missions from central European centres of power, including those in Bohemia. The majority of Etruscan vessels were perhaps manufactured at the production centre of Vulci in northern Italy; other vessels could have come from elsewhere in Italy. One example could be the stamnos-situla from Mirkovice (Fig. 84: 8): this form developed from earlier Este situla forms influenced by the Greek stamnos; the closest parallels are known from cemeteries in central Italy and also from the Golasecca culture context. A silver strainer from Hradiště near Písek (Fig. 84: 6) has a bronze parallel in grave 52 in the Certosa cemetery in Bologna in northern Italy; similar strainers were produced mainly in Etruria, Campania and Picenum (Dehn 1970, 72–81, Abb. 2, Tab. 76–77, with refs.; Drda – Rybová 1998, 46–47).

A bronze foot in the form of a stylised figure with a Negau helmet, from the Vladař hillfort (Fig. 85: 2), probably belonged to a pyxis produced imitating an Etruscan model in northern Italy or in Slovenia, where similar Etruscan imports occur (Drda – Rybová 1995, 63–64; Drda – Chytráček 2005, Abb. 3). The use of heavily leaded bronze to produce the artefact supports an origin in this area (Frána 1997, 26). The contents of the pyxis were probably much more valuable than the container itself.

Although only a small number of fragments of Greek pottery have been found to date, perhaps a result of not having been identified in earlier excavations, finds are increasing lately, in particular fragments of Attic black-figure vessels and vessels with black slip. Their finds are known from sites in northwest and central Bohemia (Kadaň, Droužkovice, Tuchoměřice: Bouzek – Koutecký 1975; Bouzek – Smrž 1994; Sankot 2002b). Also represented is Greek red-figure pottery (Praha-Ruzyně - Jiviny: Bureš – Waldhauser 2005, 726–727; Trefný 2008; Praha-Pitkovice: Trefný – Polišenský 2008; Dobrovíz: Trefný 2011; Trefný et al. 2012a) and its imitations, which probably appeared in central Europe as a result of Etruscan influences (Chržín, Plzeň-Roudná).

Glass artefacts of Mediterranean origin make up a large group of imports. A fragment of a small glass aryballos (Strakonice, Fig. 73: 5; Plate 13: 5) probably came from a workshop on the island of Rhodes in the eastern Mediterranean (Michálek 1992, 123; Michálek – Venclová 1992, 19). Certain glass beads (e.g. a small variant of the bead with stratified blue and white eyes, Fig. 87: 17, 19) may have come from workshops in the southern or eastern Mediterranean, the majority, however, from the Adriatic (Venclová 1990). More intensive contact with this region is demonstrated by the frequency of the glass beads, which increased markedly in Bohemia in the late Hallstatt period. The beads also

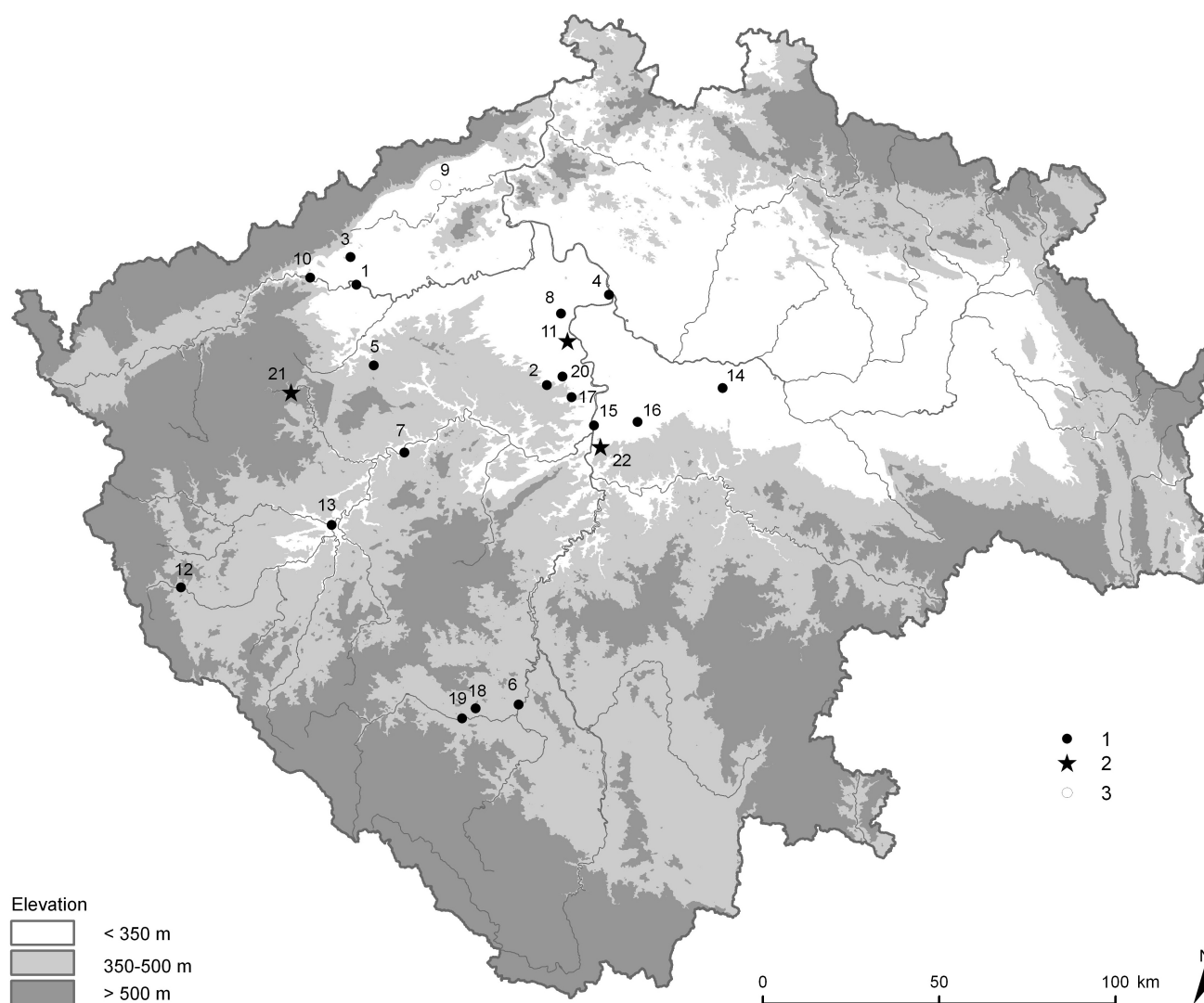


Fig. 95: Late Hallstatt period. Southern imports and their imitations. 1 settlement and cemetery; 2 hillfort; 3 hoard? (uncertain context). 2, 3, 8, 10, 13, 16, 17, 19, 21 Greek or Italian pottery and its imitations; 18 Mediterranean glass vessel; 11, 14 unworked coral; 1, 4, 5, 6, 7, 9, 12, 15 bronze and silver vessels and their imitations; 3, 20 bronze parts of vessels. 1 Čínov (Louny district); 2 Dobrovíz (Praha-západ district); 3 Droužkovice (Chomutov district); 4 Hořín (Mělník district); 5 Hořovičky (Rakovník district); 6 Hradiště near Písek (Písek district); 7 Chlum (Rokycany district); 8 Chržín (Kladno district); 9 Lahošť (Teplice district); 10 Kadaň (Chomutov district); 11 Minice (Mělník district); 12 Mírkovice (Domažlice district); 13 Plzeň-Roudná (Plzeň-město district); 14 Poříčany (Nymburk district); 15 Praha-Modřany; 16 Praha-Pitkovice; 17 Praha-Ruzyně; 18 Rovná (Strakonice district); 19 Strakonice (Strakonice district); 20 Tuchoměřice (Praha-západ district); 21 Vladař (Záhořice, Karlovy Vary district); 22 Závist (Lhota, Praha-západ district). After *Chytráček 2002a; 2007b*, with refs.; supplemented.

document the adoption (or understanding) of Mediterranean symbolism and its protective role: in addition to the colour (most commonly blue) of the imported glass, the bead decoration was also significant, especially the apotropaic symbolism of the blue and white eyes found on the widely distributed beads (see *Kunter 1995*). Coral was also imported from the Mediterranean.

The LT A stone podia of altars or the shrine at the acropolis of the Závist hillfort (Fig. 95: 2), which indicate the adoption of certain ritual customs or social behaviour, are architectural evidence, unique in the

entire “barbarian” lands, of direct contacts with Etruria or Greece. Other practices that were directly introduced from the Greeks (or from even more distant areas in the Mediterranean) include the construction of ramparts with bastions made of adobe bricks at the Heuneburg hillfort on the upper Danube in Baden-Württemberg in Ha D (*Gersbach 1999*, with refs.). Etruscan and Greek influences also contributed to the emergence of La Tène art. The custom of holding feasts and certain dress codes were probably adopted from the Etruscans as well (e.g. the wearing of shoes with raised toes, etc.).

Southeastern and eastern contacts. A small axe with a transverse opening for the handle and a long, hammer-like butt (Skalice in the Tábor region: Fig. 75: 75) is identical to finds from the Býčí skála-cave in Moravia (Parzinger – Nekvasil – Barth 1995, Tab. 29), the cemetery in Chotín in Slovakia and others from the Carpathian Basin, where they represent the local Carpathian version of axes of so-called Scythian-Thracian origin. An iron axe with a bronze butt in the shape of a dragon's head with an open mouth and sharp teeth, from Kaliště-Bezděkov (Fig. 75: 4) has its closest parallel in the Ananino culture in the Kama river basin of eastern Russia and can also be connected with artefacts of that sphere (Šaldová 1974b, 465). The same is true for a bronze spiral temple ring (Břežánky: Fig. 86: 8). A wheel-turned jug from the Ha D2 context at the Minice hillfort was attributed to the Thracian pottery of the Carpathian Basin Vekerzug culture (Chytráček et al. 2010a, 161, Abb. 7–8). An iron axe with a loop from Chlum near Rokycany (Fig. 75: 14) exhibits elements characteristic of axes of the southeastern Alpine type (Parzinger – Nekvasil – Barth 1995, 68, Tab. 50: 317). The disc fibula from Želenice (Fig. 82) has parallels in Bosnia-Herzegovina (Drda – Rybová 1998, 57–58; Parzinger 1988, Tab. 147: 1, 2) and in the Sanzeno region in northern Italy (Adam 1996, 75–76, Fig. 13a). Parallels to the Sanskimost-type iron fibula from the Závist hillfort are also Balkan in origin (Drda – Rybová 2008, 62, Fig. 67; 99: 1).

Some clay figurines (Dražičky in the Tábor region) could be parts of handles from vessels similar to those typical for the East Hallstatt zone (Pichlerová 1969).

Western and southwestern contacts. The contacts of Bohemia through southern Germany, with the central Rhineland, western Switzerland and eastern France are assumed. The Hatten-type (Fig. 84: 14) and Hohmichele-type (Fig. 22: 2, 6) bronze bowls originated in the west Hallstatt zone. Pottery with a white coating and red paint (Radovesice, Hradiště near Písek, etc.) probably comes from the Dürrnberg (Stöllner 1993; 2002, 230, Abb. 105) or southwest Germany (Litice: Chytráček – Metlička 2004, 83, Bild 3, Abb. 57: 16). Individual vessels are regarded as imports from Austria or Bavaria (Tuchoměřice: Sankot 2006, 152, Ill. 4: c, e–g). Small clay figurines (of horses) are known from the Hallstatt Tumulus culture in Bavaria, the Palatinate and Württemberg (Reichenberger 1994b, 110–17; 2000). Certain swords in scabbards (Dražičky, Závist) and fibulae perhaps reached Bohemia from the Marne area in France. Small glass rings (Fig. 87: 22) most probably came from western central Europe, although their production could originally have been related to northern Italian workshops. Black rings (Fig. 21: 12) made of jet and Posidonian shale (“lignite”)

were made somewhere in southern Germany or Alsace. Salt was probably transported from mines in Hallstatt and later from the Dürrnberg; central Germany has also been suggested as the possible place of origin of salt in this period.

Northeastern contacts. Goods were transported both northward and southward along the Amber Route. Analysed amber artefacts from Bohemia were made of Baltic amber; beads were either made here from imported raw material, as documented by discovered workshops, or were imported as finished products. Amber from the North Sea also appeared (Svržno).

Exotic imports. According to natural science, the shells of marine molluscs found at settlements and sporadically in burial contexts come from the Red Sea, the Indian Ocean or even the Pacific Ocean.

Imitations. As previously mentioned on a number of occasions, imported objects were also imitated locally. Imitations of Greek and Etruscan pottery (Fig. 75: 1, 7; Plate 13: 1, 2) are known from west (Plzeň-Roudná) and central Bohemia (Chržín). Certain bronze vessels (e.g. bronze bowls from Chlum near Rokycany, Fig. 84: 12) could have been products of local workshops. Other bronze vessels were imitated in clay (beaked flagon: Závist, Tuněchody; Trefný et al. 2012b). A four-pointed bronze appliqué with impressed decoration from Závist imitates gold Weiskirchen-type ornaments (Motyková – Drda – Rybová 1984, 395–96, Fig. 37: 5; 38: 1), and the bronze disc of a fibula from the same site also exhibits western influence (Drda – Rybová 2008, 64). These imitations clearly illustrate the importance ascribed to certain imported artefacts.

9.3 SOCIETY AND ITS STRUCTURE

The period that marked the transition from the Final Bronze Age to the Early Iron Age has been linked to a crisis in the eighth century BC that could have led to the collapse of the political and economic system in central Europe (Bouzek 1985, 86; 1997, 196). There is little question that the demise of the Urnfield cultures resulted in a distinct change in the behaviour of the European population at the time (Torbrügge 1991, 367).

It can be concluded from written sources (Bouzek 1997; 2002) that in the Hallstatt period the old order broke apart and new relations dependent on ruling personalities outside of the families and tribes were formed. In Ha C it is possible to assume the existence of chiefs of relatively small communities who evidently lived in independent economic units identical to enclosed farmsteads (Štítary nad Radbuzou-Hostětice; the presence of members of the elite occupying this farmstead is deduced, among other things, by traces of bits on the teeth of horses in the local animal bone assemblage, corresponding to the evidence of elite groups of

“knights” at cemeteries). However, heavily fortified hillforts had not been built yet in Ha C, and therefore a great accumulation of power does not seem probable for this period.

The most striking evidence of social stratification is the change in the composition of grave goods in the Hallstatt culture. Richly furnished chamber graves with wagons (Fig. 78) and horse harness as well as graves containing bronze vessels and bronze or iron swords clearly related to individuals of higher social standing. It is probable that burials on wagons belong to chieftains, while graves furnished only with horse harness belonged to “knights” (*equites* of the ancient world) – members of the chieftain’s entourage.

Graves furnished with strictly defined categories of grave goods (swords, sets of horse harness, toiletry items – tweezers, needle holders and needles, the latter perhaps used for tattooing) indicate the existence of social alliances (Pauli 1985, 29) with a uniform hierarchy of (still mainly male) symbols, reflecting the idea of the social and religious order.

It was assumed earlier that simple cremation graves (e.g. in the Bylany culture) may have belonged to the original domestic population in a subordinate position (Koutecký 1968). However, today the remains of the earlier population are no longer connected with the cremation graves and scholars are sceptical of their exclusively social interpretation; instead, it is concluded that the social structure in the given period was probably extremely complex and a satisfactory interpretation has not been attempted (Podborský 2002, with refs.).

The emerging social differentiation can also be observed outside of the Hallstatt zone in the Urnfield circuit. Members of the Silesian-Platěnice culture elite perhaps lived at hillforts, the size of which gradually decreased over time. However, unlike the Hallstatt zone, their existence came to end in Ha D1. Although it was long thought that the demise of the Urnfield culture hillforts was the result of an invasion by Scythian or Cimmerian nomads, these events in east Bohemia are usually ascribed to “proto-Celtic” groups (from the Bylany culture) from lands to the west. The truth is that this change in settlement structure has not yet been satisfactorily explained. The lack of settlement excavations makes it impossible to identify among lowland settlements the assumed chieftain’s enclosed farmsteads that may to a certain extent have replaced hillforts.

Besides rich goods, the graves of warriors and “knights” (of chieftains and their entourages) of the Silesian-Platěnice culture were also furnished with wooden chests (a certain parallel to the chambers in Hallstatt graves) and buried beneath barrows demarcated by a gully or wooden palisade. Even in this milieu it is possible to assume the existence of large

chieftain’s barrows with luxury grave goods (Jaroměř) which, however, were subjected to looting and recent destruction and, hence, are found only rarely today.

Evidence of the social stratification or, more accurately, the complexity of the social structure, is increasing for the late Hallstatt period (Ha D2 to LT A).

First and foremost, there was distinct differentiation of settlements: a great number of enclosed and unenclosed hilltop settlements of various kinds and sizes (naturally only in the territory of previous Hallstatt sphere) and enclosed farmsteads contrast with open, unenclosed settlements. This is typically interpreted as an expression of social differentiation. However, even unenclosed settlements reveal evidence of the higher status of certain individuals or families, for example, in residential structures that differ from the other houses by size and construction techniques (e.g. Plzeň-Roudná, Dolní Břežany), or in the presence of Greek or Etruscan products.

Considering their role, some hillforts are regarded as the seats of the local elite (“princely seats”), or “central places” in the latest concept. Based on the distribution of hillforts it is apparent that many of them are located at key points controlling access routes into important settlement areas with great economic potential (Chytráček – Metlička 2004, 95, Karte 4), for example, with sources of minerals, including gold deposits. It is assumed that hillforts situated on routes and route junctions controlled important trade links (for instance in south and west Bohemia: the Věneč hillfort in the middle Otava river region and the route to the Danube area; Albrechtice-Sedlo on the upper part of the Otava river and crossings through the Šumava mountains; Svržno and the control of the passage through the Radbuza valley, etc.). The role of other hillforts is usually stated as military, guarding, production, ritual, etc.; many of them were probably in fact multifunctional.

Special status is ascribed to large hillforts, which are represented in Bohemia by Závist and Vladař. The extraordinary size of the Závist hillfort, the complexity of the fortification system and the existence of a ritual area in LT A with stone structures, as well as the grand final reconstruction of the site, testify to supra-regional functions and importance clearly transcending central Bohemia and possibly an even greater territory. A supra-regional function can also be surmised for the vast Vladař hillfort, where members of the social elite lived inside the fortified acropolis equipped with water cisterns. This naturally does not mean that smaller hillforts were less significant, proof of which is the residence of the elite at the Heuneburg hillfort in Baden-Württemberg; although small in size, the hillfort was connected to a vast settlement (Kurz 2010, with refs.).

The explanation of reasons why Hallstatt hillforts were built, especially those regarded as “princely seats”, varies according to individual socio-economic European models; the reasons given include contacts with more advanced (Mediterranean) societies, internal factors or a combination of the two. Popular today is the alternative suggesting independent local development, without denying external influences (an overview of research in: *Brun 1997; Kolář 2007*).

Social differentiation is reflected from now on in the late Hallstatt burials. “Princely” graves continue, with an elaborate construction, burials on wagons (Fig. 78), furnished with swords and other fine goods, as well as graves without wagons but with a sword and horse harness. These burials are supposed to belong to the highest ranks of the elite (see *Sankot 2003* for the finds and significance of LT A swords in Bohemia). Typically only fragmentary, the contents of such graves document the existence in Bohemia of social group burying their dead in richly furnished graves of the same category as those represented, e.g., by the finds from Hochdorf (*Biel 1985*) or the Glauberg (*Frey – Herrmann 1997; Hansen – Pare 2008*) in Germany. Considerable differences are now seen even between types of cemeteries, and the significance of barrow cemeteries compared to contemporary flat cemeteries is discussed. The interpretation that flat graves, mostly furnished in a relatively modest manner, contain burials of another ethnic group has been abandoned, but the interpretation in the sense of social differences is not satisfying either.

The growing prosperity of communities and leading families is reflected in burials furnished with imported Etruscan and Greek vessels and other foreign (and exotic) artefacts, as well as in artefacts made of precious metals or manufactured or decorated using sophisticated techniques. Some of these objects are regarded as attributes of high status, for instance swords (but also other artefacts). For example, this category of objects includes the gold Weiskirchen plaques, which are interpreted as having been reserved for a specific group of people, perhaps as some type of order or honour (*Kimmig 1988*, 218, Abb. 19: 3; 146: 2), but also luxurious fibulae, hair ornaments, earrings and finger rings. Another attribute of power and rank may have been the zoomorphic bronze axe from a barrow in Kaliště-Bezděkov (*Šaldová 1974b*, 464) or the iron axe from a barrow in Chlum (*Sankot 2003*, 38–39).

Objects of luxury could have been acquired as a reciprocal article exchanged for gold, other raw materials, livestock or certain products, as well as for slaves – prisoners from local military conflicts. The quantity of articles obtained by raids could have been significant (*Pauli 1997*, 18), and other objects were acquired

as gifts. Certain products need not have been imported, but could have been made by foreign itinerant craftsmen on commission, perhaps directly at the seats of the local elite.

Military campaigns and martial ideology in general brought about marked changes in the social structure of the central European population. The leaders of successful military campaigns were highly esteemed and acquired great wealth, which then had to be shared with their followers. Adopted from the Mediterranean as part of the system of debt-based society, one form of remuneration could have been the drinking feasts. It is probable that Etruscan bronze vessels (mostly drinking sets complete or partial), or even their imitations, served primarily during the ritual of sharing wine with the leader. This social ritual released the members of the warrior groups from their blood alliances and allowed them to form new relationships (*Bouzek 1987*, 21; 1992, 363). Being invited to a banquet and being offered alcohol was a gift that created a debt for the recipients. This debt was repaid through participation in military campaigns or in other joint supra-community events, e.g. the building of fortifications at the hillforts (*Bouzek 1997; Vencl 1994*). Other gifts, for example in the form of Mediterranean imports, strengthened peace treaties or inter-dynasty alliances (*Fischer 1973*, 436). The Hallstatt elite did not differ greatly in their way of life from the highest classes of Mediterranean society, and they easily adopted ideas and innovations from that milieu.

A significant change at the end of LT A was manifested in the demise of hillforts and in the termination of burials at existing cemeteries. At the same time, the influence of (not very marked) climate changes is not ruled out (*Maise 1998*, 220, Abb. 22), as they could have had a greater impact on regions at higher elevations. The historical interpretation of these changes assumes that Bohemia was one of the launching grounds of the historic Celtic expansion recorded in the written accounts of Greek and Roman authors. The Greek historian *Polybius* (III, 17) wrote that the invasion of the Celts in Etruria came as a surprise following the previously friendly relations (*Kruta – Manfredi 1999*, 45–59), and it is thought that the disruption of the peaceful contacts between the Celts and the Etruscans was probably the result of changes in society (*Bouzek 1987*, 24; 1992, 369; *Drda – Rybová 1998*, 88; *Chytráček 2008*).

9.4 THE SIGNIFICANCE AND EUROPEAN CONTEXT OF THE HALLSTATT PERIOD CULTURES IN BOHEMIA

The Bylany and Hallstatt Tumulus cultures are the typical representatives of the Ha C–Ha D1 period within the West Hallstatt zone. Both cultures share numerous basic elements with related contemporary cultures: the

Upper Palatinate culture and southern Bavarian culture to the west, and Horákov culture to the east; among others things, the similarities are apparent in the pottery forms and decoration, expressing the geometric style. Certain phenomena such as the use of the four-wheeled wagon in the Ha C burial rite connect the territory of west-central Europe (Bohemia, Bavaria, Austria), and from there further west. Relations with the east are especially apparent in the universal bronze industry; the initial forms of some of the bronze artefacts came from earlier models from the middle Danube region, while other bronze products were probably imported directly from the southeast. The large number of common traits of the named cultures indicates a close affiliation resulting from a common past in the Urnfield period and from the newly created cultural complex at the interface of the West and East Hallstatt zones. Similarities in the burial rite and grave inventories, naturally with certain differences (e.g. a more diverse burial rite in the Bylany culture), arise from similar traits in spiritual and religious life. Symbolism (sun, bird, horse) is common to the religious notions of both Hallstatt spheres, despite the fact that its origin points to the east and southeast.

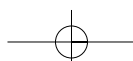
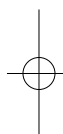
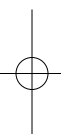
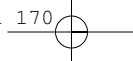
The Billendorf culture, representing the Lusatian Urnfield complex, illustrates the conditions at the northwest border of the Bylany culture, i.e. in the contact zone between the Hallstatt and Lusatian spheres. It appears that Billendorf elements continued in the area of the Podmokly culture in the Elbe gorge at least until LT A, if not longer.

The Silesian-Platěnice culture of the Ha C–D1 period is part of the Urnfield complex and belongs to the same group that characterises northern Moravia and Polish Silesia, regardless of whether scholars there call it the Platěnice culture or the Lusatian culture. Some of its characteristic traits (especially strict adherence to the burial rite) distinguish it from the Hallstatt culture and can be observed even in the subsequent period. On the other hand, similarities arise from the same willingness to adopt elements from southern and southeastern Europe as well as from the Hallstatt culture, mediated by the neighbouring Bylany culture.

In the late Hallstatt period, in Ha D2 - LT A, central Europe, including Bohemia, comes into closer contact with the Mediterranean world. With the founding of Massalia by Phocaeans around 600 BC and the colonisation of the valley of the river Po by the Etruscans, ancient civilisation moved its borders closer to the “barbarian” central Europe. The immediate consequence of these events was closer and more intensive contacts resulting not only in an infusion of goods but also in the adoption of technologies and patterns of behaviour both in the profane world (warfare and martiality, and the forming of military groups; power mechanisms – feasting, debt-based society; attributes of the elite – four-wheeled wagons followed later by the two-wheeled chariots, horse riding and richly decorated horse harness), and in the ritual sphere (the architecture of the ritual area at the Závist hillfort and its spiritual content). However, this does not mean that late Hallstatt Europe became the periphery of the ancient world; to the contrary – all of the ideas and innovations were refined and became part of the Hallstatt culture. Bohemia must be regarded as a full counterpart to other important centres of development at the time, such as southern Germany, the central Rhineland and northeastern France.

The new La Tène art emerges in LT A as a reflection and symbolic expression of ideology, integrating southern and orientalising elements and motifs. It quickly took hold in the milieu of elites, at first on personal ornaments and in toreutics. La Tène art represents a unifying characteristic element for the entire La Tène culture and is even regarded as a type of common language based on a generally adopted ideological and symbolic structure comprehensible to all members of the La Tène world.

These phenomena characterise the vast territory of the newly emerging La Tène culture stretching in LT A from eastern France to Bohemia and even farther; historically this culture is linked to the Celts. Many facts confirm that Bohemia in this period belonged to the most important and fastest developing areas in Europe outside the ancient world.



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Sommaire

L'âge du fer ancien (premier âge du fer) – la période de Hallstatt

D'après la chronologie et la terminologie, la période de Hallstatt correspond à l'âge du fer ancien (premier âge du fer). La période de Hallstatt, et donc cet ouvrage, est divisée en deux parties : la période hallstattienne (Ha C-D1), qui correspond aux cultures de Bylany, des Tumulus Hallstattiens, de Silésie-Platénice et de Billendorf ; et la période hallstattienne tardive qui s'achève sur la période de La Tène ancienne (Ha D2-LT A), plus homogène sur le plan culturel. Le rattachement de la période de La Tène ancienne à la période hallstattienne tardive peut paraître inhabituel et, du coup, discutable, mais la continuité culturelle entre ces deux périodes est évidente, l'introduction du style artistique laténien ne produisant aucune rupture. Ces deux périodes, hallstattienne et hallstattienne tardive, sont traitées séparément ; bien que la première rassemble des cultures qui constituent des ensembles indépendants. L'exposé succinct dans cet ouvrage qui s'appuie sur les faits est complété par des liens renvoyant essentiellement à la littérature archéologique tchèque ce qui permettra au lecteur de trouver des informations ou bien des explications plus détaillées sur les thèmes qui ne sont ici qu'évoqués. La documentation pour la plupart reprise des différents auteurs n'a par conséquent été ni remaniée ni uniformisée. Cela permet de comparer divers types de documentation qui rendent compte de la variabilité des interprétations archéologiques. Le but de ce travail est de présenter l'état actuel de la recherche sur la période de Hallstatt en Bohême et de mettre également en évidence la qualité et l'étendue du fonds inventorié ici. Les données collectées invitent à résoudre de nouvelles thématiques, suscitent de nouvelles questions et devraient constituer un nouveau défi tant pour les étudiants que les chercheurs, et ce, pas seulement de République tchèque.

Le fonds documentaire collecté se rapportant à la période de Hallstatt en Bohême s'est considérablement enrichi ces dernières années grâce aux fouilles extensives réalisées dans le cadre d'une activité intense de construction et à la mise en œuvre de méthodes de terrains perfectionnées, ce qui a permis la mise au jour d'habitats entiers. La prépondérance voire l'exclusivité du rite funéraire de l'incinération à l'époque de Hallstatt a une incidence négative sur la conservation des tombes et des cimetières. Les tombes aux creusements peu profondes sont perdues de manière irrémédiable, ce qui a des conséquences importantes incontestable-

ment pour aussi bien dans le cas de la culture de Silésie-Platénice que dans celui des cimetières plats de la période hallstattienne tardive. Les connaissances relatives à l'étendue des tumulus, qui ne sont pas limitée à la Bohême de l'Ouest et du Sud, comme on aurait pu le penser, mais avait largement gagné d'autres parties du pays marquées par une économie agricole intensive, sont fortement fragmentaires. Les tombes et leur éventuelles enceintes peuvent être identifiées seulement dans un nombre très limité de cas, grâce à la prospection magnétique et à l'archéologie aérienne. Le rite funéraire de l'incinération, la microbiologie du sol, mais aussi les mauvaises méthodes de traitement et de conservation des artefacts en métal ont entravé l'identification de toute une catégorie de sépultures de l'élite de la période de LT A, ainsi que les armes et les éléments de parure qu'elles renfermaient. La situation a commencé à changer ces dernières années grâce aux nouvelles méthodes d'analyse et de conservation. Les sources recensées dans ce volume constituent une sélection non exhaustive provenant des localités les plus importantes ; ne sont retenues que celles dont les données relatives aux analyses archéologiques ont débouché sur une publication, du moins partielle.

La période de Hallstatt est caractérisée par l'adoption de la technologie de la production du fer et son utilisation courante pour la fabrication d'outils, d'armes et d'autres objets. Les armes, l'utilisation de chars tirés par des chevaux et la course de chevaux montés deviennent les principaux attributs distinctifs du statut social. Progressivement, l'intensité des contacts avec le monde classique, en particulier étrusque et grec mais aussi avec les régions et les cultures orientales, s'accroît par l'intermédiaire du cercle hallstattien oriental et des cultures nomades. Grâce aux échanges de matières premières (étain, or, ambre) et, invisiblement, d'esclaves et de bétail, le monde hallstattien, le territoire de la Bohême compris, parvient à concentrer, en tant que l'une des principales régions les plus en puissance de l'époque, des biens prestigieux et, par là même, des technologies et des idées nouvelles. Les élites adoptent les nouveaux modèles de comportement social – la consommation collective de boissons importées du monde méditerranéen (on recense d'importants services de vaisselle en bronze) se développent comme instrument de pouvoir, et des changements technologiques se produisent. La sym-

bolique, exprimée par un style plus ou moins géométrique, dominé par les motifs solaires, se transforme à partir de la période de La Tène ancienne (LT A) en un style abstrait utilisant des motifs végétaux, zoomorphes et anthropomorphes. Les changements idéologiques en cours, perceptibles dans le symbolisme alors utilisé, se manifestent aussi par la disparition des dépôts d'objets en bronze et par le rite funéraire caractérisé progressivement par l'inhumation des corps non incinérés, et plus généralement par une plus grande variété des usages concernant la construction des tombes et la composition de l'équipement funéraire. L'aménagement de certaines tombes avec chambres de bois et de pierre, les dimensions monumentales de certains tumulus, le dépôt d'épées, de char, de selles et d'autres biens importés dans les tombes rend compte d'une structure sociale de plus en plus complexe, ce que documente dans la sphère profane, la plus grande variabilité des formes d'habitats, allant des habitats ouverts ruraux aux habitats fortifiés situés en hauteur caractérisés par un système de fortification élaboré. La complexité de la société de la période de Hallstatt transparait encore à travers le vocabulaire utilisé pour désigner les tombes et les complexes d'habitats les plus imposants, qualifiés de „tombes princières“ (*Fürstengräber*) et de „résidences princières“ (*Fürstensitze*).

La production agricole et l'élevage du bétail constituaient la base de l'économie de la période de Hallstatt. L'utilisation de socs en fer (au plus tard à partir de LT A) fut une innovation importante qui facilita le labour des terres de moins bonne qualité. À la même époque, l'apparition également de la faux en fer utilisée pour couper l'herbe témoigne de l'existence de prés et rend compte de changements essentiels dans la manière de nourrir le bétail en période hivernale. Il dut y avoir une mise à profit de la forêt bien que l'on n'observe aucune augmentation des besoins en bois par rapport à la période antérieure de l'âge du bronze, à l'exception des environs de certaines localités aux fortifications étendues, caractérisées par des éléments de construction en bois. Le développement de la production spécialisée, avec l'apparition en particulier de branches liées aux arts du feu entièrement nouvelles (production du fer) devait certes représenter une plus grande consommation de bois pour la production du charbon de bois, néanmoins on n'a pas pu enregistrer avec certitude d'important recul forestier pour la période en Bohême. Les autres activités spécialisées (métallurgie du bronze, travail de l'or, ou encore poterie) ne semblent pas avoir atteint un niveau justifiant un besoin plus important en bois. La production spécialisée était réalisée dans des ateliers aux dimensions réduites, qui fournissaient de petites régions. Les ateliers se trouvaient soit dans les habitats ordinaires, soit dans des ha-

bitats fortifiés, considérés comme des résidences occupées par l'élite. Dans ce cas précis, on peut envisager l'existence d'artisans dits „dépendants“ qui réalisaient leurs objets sur la commande des maîtres locaux. Parfois on envisage même l'existence d'artisans itinérants. La spécialisation complète de ces producteurs expliquerait la maîtrise de l'artisanat et le haut niveau artistique qui caractérisent les bijoux de la période de LT A. L'élite contrôlait la production la plus importante ainsi que les échanges dont elle faisait l'objet grâce à différents mécanismes.

La période Ha C-D1

Pour cette époque, la distinction établie entre les différentes cultures en Bohême repose sur une tradition de recherches plus que centenaire. L'influence de la culture de Hallstatt comme sa réception tend à effacer une multitude de nuances dans les sphères tant sociale et économique, que rituelle et symbolique. Alors que le cercle des champs d'urnes, auquel se rattachent les cultures de Billendorf et de Silésie-Platénice, tend à se limiter de manière relativement perceptible à l'inverse des autres cultures du cercle hallstattien oriental pour ce qui concerne la structure de l'habitat, le rite funéraire et certains artefacts céramiques, cela ne s'applique pas aux armes, bijoux et autres catégories d'objets métalliques.

Les cultures de Bylany et des Tumulus Hallstattiens sont très similaires, au point qu'on pourrait les considérer comme deux groupes culturels faisant partie du même cercle hallstattien occidental. Les deux cultures ont en commun de nombreux éléments fondamentaux avec les cultures apparentées, présentes dans le voisinage à la même époque, à savoir celles du Haut Palatinat et de la Bavière du Sud à l'Ouest, et celle de Horákov à l'Est. Le grand nombre de caractéristiques communes aux cultures susmentionnées atteste leur parenté étroite, qui s'explique par leur passé commun durant la période des champs d'urnes. Les analogies relevées dans le rite funéraire et l'équipement des tombes, malgré certaines différences inévitables, comme un rite funéraire plus varié pour la culture de Bylany, découlent de la similitude des caractéristiques de la vie spirituelle et religieuse. La symbolique (le soleil, l'oiseau et le cheval) est commune. Certains phénomènes, comme l'utilisation de char à quatre roues dans le rite funéraire à l'époque de Ha C, relient les régions composant une Europe centrale réduite (Bohême, Bavière, Autriche), pour ensuite se diffuser vers l'Ouest. Ces régions entretenaient visiblement des relations avec l'Est, en particulier dans le cadre de l'industrie universelle du bronze ; les formes finales d'une partie des objets en bronze provenaient dans leurs formes plus anciennes de la région du Danube central, les autres

produits en bronze étaient importés du Sud-Est. Les habitats ne présentaient pas d'enceinte dans la majorité des cas ; on rencontre aussi des enclos quadrangulaires entourés d'une palissade de bois et d'un fossé. Les sites de hauteur étaient aussi habités sans présenter de traces de fortifications. Le rite funéraire est marqué par le phénomène typique de la biritualité (coexistence des rites d'inhumation et d'incinération) ; des funérailles selon les deux rites peuvent se côtoyer dans une même tombe. Certains types de tombes étaient apparemment placés sous des tumulus, qui ne se sont toutefois généralement pas conservés sur le territoire de la culture de Bylany, si bien que les documents les concernant sont indirects. Dans la culture des Tumulus Hallstattiens, les tumulus nous sont parvenus en bien plus grand nombre et les cimetières comptaient jusqu'à cent tumulus. On peut distinguer les types de tombes suivants : les tombes sous des tumulus à chambre en bois ou de pierre, placées au niveau du terrain ou enterrées ; les tombes à fosses, apparemment sous des tumulus ; et les petites tombes à fosses et à urnes. L'équipement caractéristique des tombes à chambres est constitué d'un char en bois à quatre roues, d'un harnachement et de vaisselle en bronze importée.

Dans la Bohême orientale, la culture de Silésie-Platènice fait partie du complexe culturel des champs d'urnes et dans son cadre, elle est également rattachée au groupe qui caractérise la Moravie du Nord et la Silésie, quoique, pour cette région, les chercheurs préfèrent utiliser le terme de culture de Platènice ou bien, dans son ensemble, de culture lusacienne. Certains de ses traits caractéristiques (en particulier, la stricte observance du rite funéraire) la différencie des cultures du cercle hallstattien occidental et peuvent être observés jusqu'à la période suivante. En revanche, les ressemblances avec elles découlent de leur faculté commune à assimiler les éléments de l'Europe du Sud et du Sud-Est, ainsi que de leurs contacts respectifs à la même époque avec le cercle hallstattien occidental, particulièrement par l'intermédiaire de la culture voisine de Bylany. Les habitats ouverts prévalent mais on rencontre également des sites fortifiés présentant des remparts de pierre ou bien de terre avec une construction de bois et un fossé. Contrairement à la culture de Bylany et à celle des Tumulus Hallstattiens, les sites fortifiés de la culture de Silésie-Platènice disparurent durant le VI^e siècle avant J.-C. et ne réapparurent pas durant la période hallstattienne tardive. Comme partout ailleurs à la même époque, on rencontre une dichotomie entre la céramique domestique et funéraire dans la culture de Silésie-Platènice. Les récipients sont beaucoup moins décorés que dans les cultures situées plus à l'Ouest. L'inventaire d'objets en fer et en bronze

ne diffère en rien de ce que l'on recense habituellement pour l'époque. Le rite funéraire est exclusivement l'incinération, avec des tombes à urnes, mais aussi à fosses. Elles sont généralement équipées de cercueils en bois et parfois de chambres en bois. Certaines tombes étaient apparemment cachées sous des tumulus à l'origine. Récemment, on a découvert dans des tombes de la culture de Silésie-Platènice des chars jusqu'alors inconnus, qui avaient été probablement brûlés en marge en même temps que le mort.

Rattachée au cercle lusacien des champs d'urnes, la culture de Billendorf s'était diffusée en Saxe et en Lusace, sans doute également dans la Silésie voisine, et les découvertes la concernant atteignent même la moitié Nord de la Bohême. En Bohême, on n'a trouvé jusqu'alors aucun cimetière entier relevant de cette culture ; pour ce qui est de l'habitat, les découvertes se distinguent difficilement des éléments relatifs aux habitats lusaciens ou bylaniens. Le mobilier correspond presque exclusivement à la céramique en Bohême. Toutes les tombes connues sont à incinération, renvoyant ainsi à la tradition de la culture lusacienne. La culture de Billendorf illustre bien les rapports prévalant alors dans la région frontalière de la culture de Bylany, plus précisément dans la zone de contact entre les cercles hallstattien et lusacien. Il semble que les éléments billendorfiens aient perduré dans la région de la culture de Podmokly, sur la brèche de l'Elbe, au moins jusqu'à la période de LT A et il n'est pas exclu que cela ait duré plus longtemps encore. Cette problématique concerne cependant la période de La Tène (voir le volume 6 de cette série – période de La Tène, chapitre 10.1).

La période Ha D2 – LT A

Durant la période hallstattienne tardive, l'Europe centrale, et par conséquent la Bohême, se trouve en contacts plus étroits avec le monde méditerranéen. Ces contacts réciproques plus intenses ne signifiaient pas seulement un afflux de biens, mais aussi l'adoption de technologies et de modèles comportementaux nouveaux dans la sphère profane comme dans la sphère religieuse. Cela ne signifie cependant pas que l'Europe de la culture hallstattienne tardive soit devenue une sorte de périphérie du monde classique ; au contraire, ces nouvelles impulsions ou innovations sont toutes systématiquement transposées pour devenir partie prenante d'un discours culturel propre.

La densité du peuplement a généralement augmenté par rapport à la période antérieure. Cela ne vaut pas néanmoins pour toutes les zones en Bohême. La Bohême orientale fait en effet exception, avec une densité en habitats plus faible qu'à la période précédente ; toutefois, dans la mesure où leur taille se réduisit égale-

ment, on peut les qualifier à présent de petits hameaux. La continuité entre l'habitat de la période hallstattiennne tardive et la précédente a été prouvée à plusieurs reprises, jamais cependant pour la Bohême orientale ; cela est apparemment lié aux changements des structures de l'occupation dans cette région après la disparition des sites fortifiés au Ha D1. Contrairement à la période précédente, les formes et la quantité des habitats changent dans une certaine mesure. Le nombre d'habitats ouverts composés de fermes individuelles, et aussi des enclos séparés augmente. Les cas d'utilisation de sites de hauteur dépourvus d'enclos, pas nécessairement pour l'habitation, sont de plus en plus nombreux, tandis que la construction de forteresses atteint son apogée (à l'exception de la Bohême orientale). Les dizaines de sites fortifiés de hauteur que nous connaissons pour le moment peuvent être réparties en trois types : 1. les grandes forteresses d'une superficie allant jusqu'à 115 ha au système complexe de fortifications, installées sur des collines surélevées ; 2. des forteresses de plus petite taille d'une superficie de 2 à 9 ha composées d'un (plus généralement deux ou trois) complexe fortifié ; 3. les très petites forteresses d'une étendue maximale de 2 ha. Les forteresses de Závist en Bohême centrale et de Vladař en Bohême occidentale relèvent du premier groupe. Alors que certaines forteresses disparaissent au Ha D2-3, d'autres perdurent jusqu'au LT A ; de nouvelles forteresses sont même construites seulement au LT A. Le type de sépulture sous tumulus, qui perdure en Bohême du Sud et occidentale depuis l'âge du bronze ancien, disparaît durant LT A. À partir du Ha D2/3, il est concurrencé par des tombes superficielles, disposées généralement dans un cimetière séparé, parfois aussi dans les cimetières à tumulus. Les deux types de sépultures sont tous deux dominés par le rite d'incinération ; les cas d'inhumation demeurent exceptionnels. Cependant les nouvelles trouvailles indiquent que les tombes d'inhumation étaient plus courantes qu'on ne le pense, dès le début du LT A. Les tombes masculines sous tumulus les plus riches renfermaient le char et les pièces de harnachement des chevaux et des armes (coutelas et lance ; à partir du LT A, aussi des épées, et parfois aussi des boucliers, des haches et des flèches). Les tombes masculines sans char mais avec des épées constituent un groupe important. À plusieurs reprises, l'équipement renferme des récipients en bronze importés ou encore des services à boisson en bronze. L'inventaire des tombes caractérisées par un tumulus plus petit comprenait généralement seulement une urne. Parmi les complexes rituels non funéraires, l'espace situé sur l'acropole de la forteresse de Závist est le plus remarquable : quatre lieux de cultes y avaient été fondés successivement. Des bâtiments de pierre y avaient été construits

au LT A, à quoi avaient succédé une terrasse artificielle et de nouveaux bâtiments. L'ensemble de ce complexe est considéré comme l'expression de l'influence de la région méditerranéenne (Étrurie ou Grèce).

Alors que la symbolique de la période Ha D se rattache à l'ancienne tradition, un style laténien complètement nouveau, reflet et expression de l'idéologie de l'époque, apparaît au LT A. Il intègre des éléments méridionaux et „orientalisants“. Le style laténien consiste en un principe unificateur pour l'ensemble de la culture laténienne ; il est d'ailleurs considéré comme une sorte de langue commune, provenant de la structure symbolique et idéologique généralement adoptée et compréhensible à tous les ressortissants du monde laténien. L'art laténien était apparu dans le milieu des „princes“ de l'époque hallstattiennne tardive et s'était tout d'abord manifesté à travers les bijoux et la vaisselle métallique, ainsi que la céramique typique au décor estampée et au compas. L'ornementation est constituée d'éléments et de motifs zoomorphes et anthropomorphes, souvent figurés sous forme de masques ou de créatures imaginaires, et de motifs végétaux et géométriques. On n'a conservé que de très rares témoignages de la sculpture sur pierre laténienne en Bohême : seulement deux fragments ainsi qu'une tête dont la datation n'a pu être déterminée avec précision, provenant de Závist.

Contacts. De nombreuses routes qui conduisaient à la vallée du Danube, permettant des contacts entre l'Ouest et l'Est tout en se dirigeant aussi vers le Sud, affluaient vers la Bohême à partir du début de la période de Hallstatt. Dès l'âge du bronze tardif, l'une des branches secondaires de la voie principale (Route de l'Ambre) reliant le Nord de l'Italie et les Balkans au Nord de l'Europe passait par la Bohême orientale, comme le montrent entre autres les découvertes d'objets en ambre et en verre. L'une de ses déviations conduisait vers l'Ouest en longeant l'Elbe. Ces voies de communication permettaient non seulement des échanges rapides de biens, mais encore des relations permanentes non seulement avec les territoires voisins, mais aussi avec la culture méditerranéenne.

Les cultures du cercle Hallstattiennne de la période Ha C-D1 ont beaucoup de traits communs, témoignant de relations réciproques étroites ; toutefois, les contacts avec l'extérieur sont aussi très riches. Les tombes à chambres les plus anciennes présentant des chars à quatre roues et des harnachement de cheval de Ha C1 sont concentrées en Bohême, en Bavière du Nord-Est, en Haute-Autriche ; c'est à partir de cette zone centrale que ce phénomène se répandit plus loin vers l'Ouest, comme le montrent les tombes renfermant des chars à quatre roues de Ha D du Württemberg, de Suisse, de Haute Rhénanie et de Bourgogne. La culture des Tu-

mulus Hallstattiens avait des contacts intenses avec la culture du Haut-Palatinat, comme avec la culture württembergienne de Alb-Hegau. Quelques bijoux isolés semblent provenir de la Suisse occidentale ou bien de l'Est de la France. L'adoption de symboles, exprimés par le port de la parure de certains matériaux et de certaines couleurs, visiblement indiqués pour leur pouvoir protecteur, transparait à travers les bijoux noirs circulaires importés d'Allemagne du Sud-Ouest ou d'Alsace, ou encore les perles en verre majoritairement bleu, parfois ornées d'un décor jaune, provenant de la région adriatique, ou encore les perles d'ambre rappelant la couleur du miel provenant des rives de la mer Baltique.

Durant la période hallstattienne tardive qui suivit (Ha D2 – LT A), on peut observer une intensité grandissante des contacts, aussi bien proches que lointains. La plupart des articles arrivant en Bohême provenaient du territoire de l'Italie, de la région du Sud-est des Alpes et de l'Adriatique ainsi que de l'ensemble de la Méditerranée. Parmi eux, les plus importants étaient les services à boisson en bronze étrusques et la céramique grecque à figures rouge et noire. Les aryballes en verre et surtout les perles ornées d'ocelles proviennent des ateliers du Sud ou de l'Est de la Méditerranée, pour la plupart cependant de la région adriatique. Les podia en pierre des autels de l'acropole de la forteresse de Závist du LT A constituent toutefois un témoignage architectural exceptionnel dans toute l'Europe barbare de contacts directs avec l'Étrurie ou la Grèce. L'organisation de banquets ou encore certaines habitudes vestimentaires (fermeture de la tunique à l'aide de fibules, port de chaussures au bout relevé, etc.) semblent avoir été reprises des Étrusques. Localement, les objets importés étaient aussi imités comme le montre la reproduction de poterie ou bien de récipients en bronze grecs ou étrusques.

La société et sa structure. D'après les sources historiques, on peut déduire que l'ordre ancien s'est effondré durant la période de Hallstatt ; de nouvelles relations de dépendance vis-à-vis à des personnalités dirigeantes n'appartenant ni à la famille ni à la tribu apparaissent alors. Au Ha C, on peut vraisemblablement observer l'existence de chefs commandant des communautés relativement petites habitant des entités économiques indépendantes – des enclos quadrangulaires. Cette période n'était pas encore caractérisée par l'apparition de sites fortifiés de hauteur ni par une grande concentration du pouvoir. Les changements survenus dans la composition de l'inventaire des tombes du cercle de Hallstatt est la preuve d'une stratification plus importante de la société. Les tombes à chambres richement équipées de chars et de harnachements, renfermant des récipients en bronze et des

épées appartenaient apparemment à des personnes caractérisées par un statut social supérieur, tandis que les tombes qui renfermaient tout au plus des harnachements, appartenaient à des cavaliers (*equites*) – aux membres des suites de ces hauts personnages. Jusqu'à très récemment on estimait que les tombes à incinération (comme celles de la culture de Bylany) devaient avoir été celles de la population locale originelle, qui s'était retrouvée dans une relation de dépendance. A présent, on ne reconnaît pas les traces d'une population plus ancienne dans ces tombes et les chercheurs sont sceptiques quant aux interprétations exclusivement sociales à leur sujet, préférant insister sur le fait que la structure de la société était très complexe à cette époque et qu'il n'est pas possible pour le moment de l'interpréter d'une manière univoque. On peut remarquer des indices d'une différenciation sociale naissante, également dans le milieu des champs d'urnes. Longtemps, on a pensé que la disparition des sites de hauteur fortifiés des populations des champs d'urnes était la conséquence d'attaques de la part des tribus nomades scythes et cimmériennes, mais dans le cas de la Bohême orientale, on estime aujourd'hui que ce sont les incursions de troupes proto-celtiques (du milieu de la culture de Bylany) qui sont responsables.

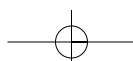
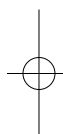
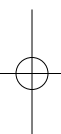
La complexité de la structure sociale est encore plus apparente durant la période hallstattienne tardive (Ha D2 – LT A). Il se produisit une différenciation très nette des lieux de résidences : les nombreuses forteresses de types et de tailles différents et les enclos contrastent avec les habitats ouverts. Certaines forteresses sont considérées comme des centres et des résidences de l'élite locale; d'après les conceptions plus récentes, il s'agirait plutôt de lieux centraux. Les importantes forteresses, matérialisées en Bohême par les sites de Závist et de Vladař, occupent une position particulière. La taille extraordinaire de la forteresse de Závist, la complexité de son système de fortification et l'existence de lieux de cultes présentant l'architecture en pierre au LT A, tout comme la grandiose reconstruction de ces lieux de culte témoignent de fonctions suprarégionales et d'une importance dépassant les frontières de la seule Bohême centrale et peut-être même d'un territoire plus grand encore. L'étendue forteresse de Vladař, où les élites sociales vivaient sur une acropole fortifiée, équipée d'un réservoir d'eau, évoque également une fonction suprarégionale. La différenciation est encore perceptible à travers les sépultures. On retrouve les tombes à chambres "princières" caractérisées par des funérailles sur char, et les tombes sans char, renfermant épées et harnachements de cheval, reliées aux couches sociales élevées. Le contenu de ces tombes conservé généralement de manière seulement fragmentaire témoigne de l'existence d'une couche sociale

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de même catégorie que celle qui a enterré ses morts à Hochdorf ou Glauberg en Allemagne. À la fin de LT A se produisent d'importants changements qui se manifestèrent à travers la disparition des sites fortifiés en hauteur et par la fin des cimetières qui étaient en usage jusqu'alors. L'explication historique de ce changement suppose que la Bohême appartenait aux territoires originels de l'expansion celtique. Ces phénomènes sont

caractéristiques du vaste territoire de la culture de La Tène, historiquement liée aux Celtes. De nombreux faits confirment que la Bohême était un centre comparable aux foyers importants qui se développèrent en Allemagne, en Rhénanie centrale et dans le Nord-Est de la France.

Traduction : Eloïse Adde



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