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ON A FRAGMENT OF A CERAMIC BEAKED FLAGON FROM THE LATE HALLSTATT TO EARLY LA TÈNE SETTLEMENT IN TUNĚCHODY (OKR. CHRUDIM) IN EASTERN BOHEMIA

This paper presents the assessment of a unique find of a fragment of a ceramic beaked flagon, which was discovered during a rescue archaeological project of a polycultural site in the resource area of a modern brick-kiln on the border between the cadastral areas of Úhřetice and Tuněchody (okr. Chrudim, Pardubický kraj) in eastern Bohemia in 2008 (**fig. 1**). Apart from the basic typological assessment, it also presents the results of the geochemical analysis of the ceramic material, which was undertaken in order to obtain information about the provenance of this important and in Bohemia unique artefact.

The site itself is very extensive with evidence for occupation in a number of periods. Settlement features were uncovered here during the research of 1997-2009 and dated to the periods Ha D2-Lt A (Waldhauser 2008). Some rare evidence for a Neolithic settlement was also found, as well as a cemetery of the Bell Beaker culture and a Roman period settlement on the north-eastern edge of the site (Tichý et al. 2007; Tichý / Thér / Papineschi 2006).

CONTEXT OF THE FIND

The fragment of the beaker jug was found in the feature no. 75/08 on the south-eastern edge of Tuněchody settlement. This structure together with a cluster of four postholes in its immediate vicinity repre-

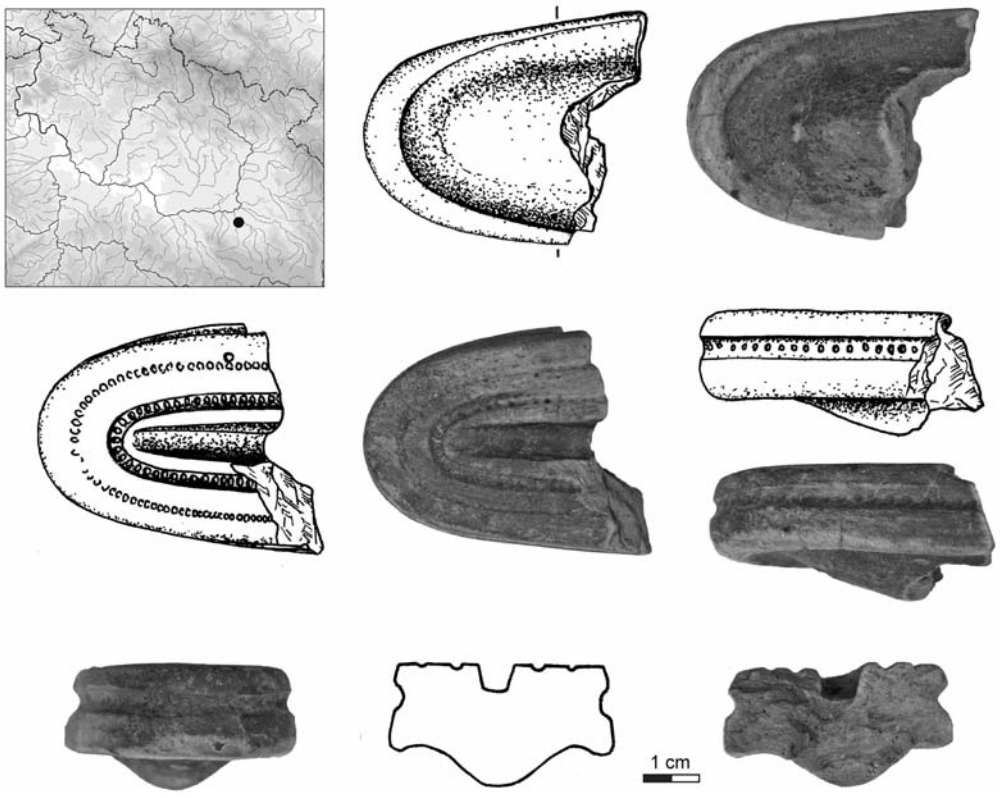

Fig. 1 Tuněchody (okr. Chrudim). A fragment of a spout of a ceramic beaked flagon. – (Photos R. Thér; drawings V. Drnovský).

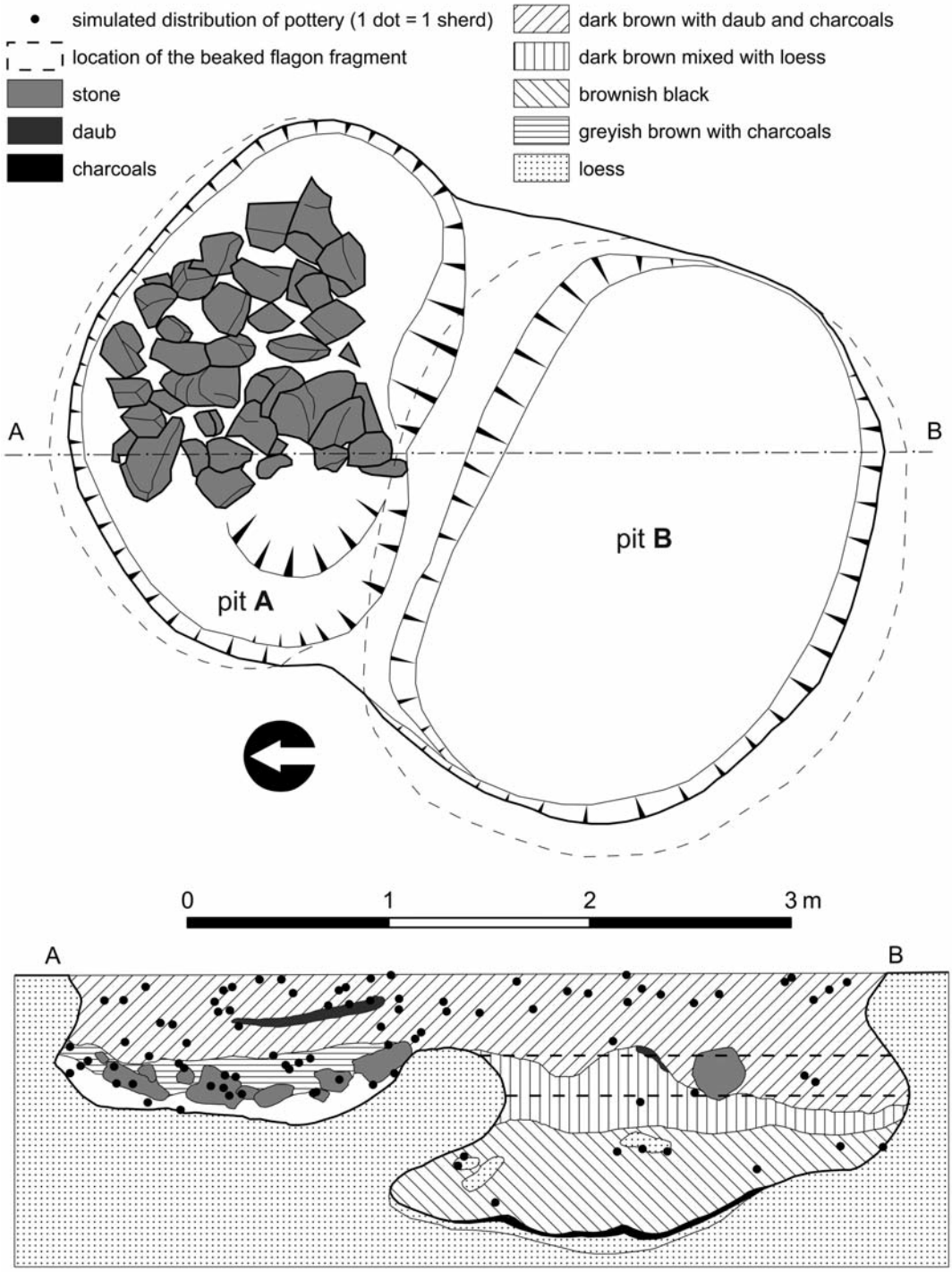

Fig. 2 Tuněchody (okr. Chrudim). Feature no. 75/08 in which the fragment of a beaked flagon was found. – (Illustration V. Drnovský / R. Thér).

sents a solitary group of the southernmost features captured in the 2008-2009 research season. It consists of two pits of oval cut with convexly concave sides (**fig. 2**). In the bottom part of the infill of the shallower pit A (approx. 70 cm depth) there was found a deposit of stones of more than 400 kg total weight together with a greyish-brown layer of charcoal. The bottom of the deeper pit B (approx. 140 cm depth) was covered by a charcoal stratum. The lower part of the infill was a brownish-black layer capped by a layer of dark

part of the feature	layer (cm)	number of fragments	weight (g)	d < 3 cm	d = 3-6 cm	d > 6 cm	wheel-thrown	with graphite incl.
pit A	0-20	14	85	6	8	0	0	12
	20-40	8	90	4	3	1	0	7
	40-60	25	345	6	13	6	1	19
	60-80	2	10	1	1	0	0	2
	total	49	530	17	25	7	1	40
pit B	0-20	1	23	0	1	0	0	3
	40-60	3	20	0	2	0	0	1
	60-80	1	2	1	0	0	0	0
	80-100	8	104	3	5	0	0	7
	100-120	1	10	0	1	0	0	0
	total	14	159	4	9	0	0	11
undefined	0-20	23	200	10	11	2	3	17
	20-40	3	386	0	0	3	0	0
	total	26	586	10	11	5	3	17
total		89	1275	31	45	12	4	68

Tab. 1 Tuněchody (okr. Chrudim). A summary of the basic parameters of the ceramic collection from the feature no. 75/08 with highlighted context of the beaked flagon find.

brown soil mixed with loess. The upper part of the infill of both pits was a dark brown stratum with daub and charcoal. The stratigraphy of the feature infill did not provide evidence for determining the mutual chronological relationship of both pits. Nevertheless, it is clear that their upper part was deposited at the same time.

The ceramic collection from feature no. 75/08 consists of 89 fragments. 80% of the assemblage is represented by ceramics with graphite inclusions and four sherds are of vessels made on a potter's wheel. More than 60% of the total weight of the pottery comes from the upper arbitrary strata of the feature (0-40 cm), which roughly correspond with the layer common to both parts of the feature. The majority of the typical ceramics also comes from this stratum. Further, 28% belongs to the lower portions of the pit A (40-80 cm) in context with the stone layer. The ceramics from this part are much less fragmented and abraded compared to the rest of the collection. In the lower sections of pit B, where we also discovered the fragment of the beaked flagon (found in depth of 40-60 cm), only 10% of the total ceramic weight came to light (tab. 1). However, in the western part of the feature the thickness of the upper layer was almost 70 cm and hence it is not clear to which stratigraphical stratum we can ascribe the fragment of the beaked flagon. The spread of ceramics here demonstrates figure 2. All in all, the ceramic collection from feature no. 75/08 can be dated to the Lt A period (fig. 3; tab. 2).

DESCRIPTION OF THE FIND

The fragment of the spout of a beaked flagon (fig. 1) is decorated on the upper part by curved pearl-band decoration. A similar decoration can be found in the curved groove around the spout and on the side of the rim. The vessel was made of fine clay without any larger amount of macroscopic visible inclusions. The surface of the fragment is a thin layer of very dark grey colour (2.5Y 3/1 according to Munsell colour chart) followed by a thin subsurface layer of light reddish brown (5YR 6/4) which in consequence of abrasion is at many places visible on the surface of the find. The core of the fragment is of grey colour (10YR 5/1). The preserved length is 4.6 cm; the maximum width is 3.6 cm.

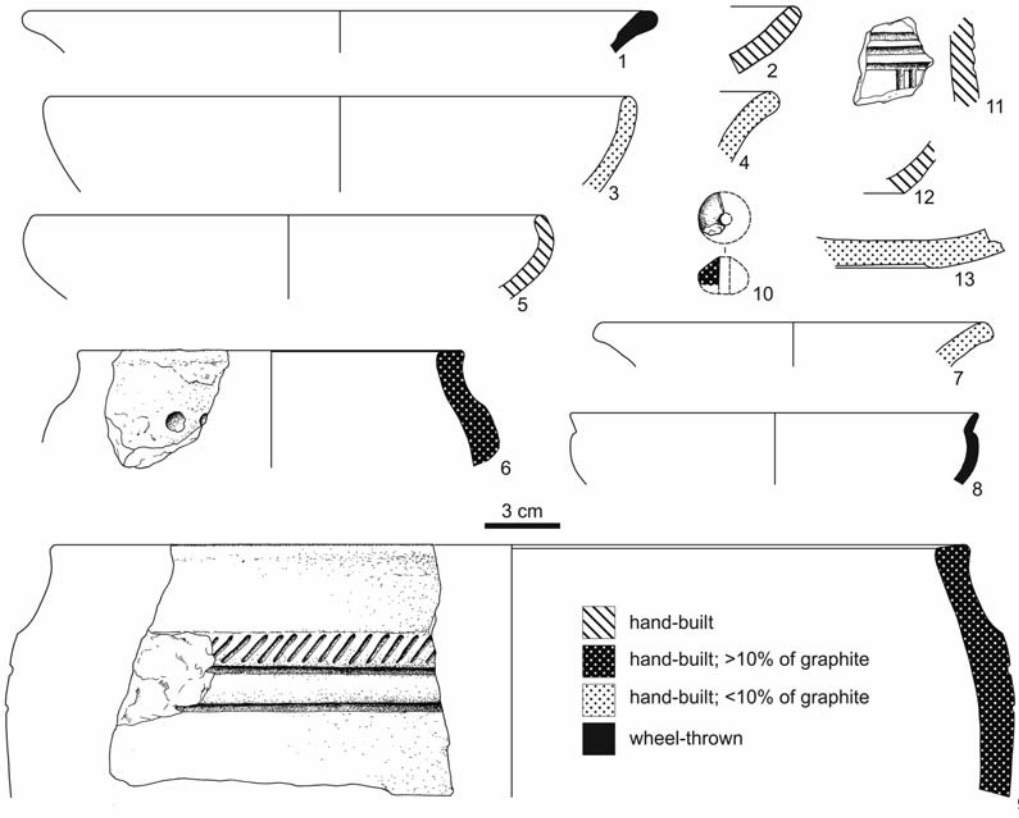

Fig. 3 Tuněchody (okr. Chrudim). A selection of other ceramic finds from the feature no. 75/08. – (Drawings V. Drnovský / R. Thér).

fig.	colour [a]		inclusion [b]	context	
	outer side	inner side		pit	layer (cm)
fig. 3, 1	N3	N3	talc	undefined	0-20
fig. 3, 2	10YR 6/6	10YR 4/2	sand	A	0-20
fig. 3, 3	N3	N3	graphite <10%	undefined	0-20
fig. 3, 4	N3	N3	graphite <10%	A	40-60
fig. 3, 5	2.5Y 6/3-5YR 6/8	2.5Y 6/3	sand	undefined	0-20
fig. 3, 6	N3	N3	graphite >10%	undefined	0-20
fig. 3, 7	N3	N3	graphite <10%	A	40-60
fig. 3, 8	5YR 5/3-3/2	5YR 5/3-3/2	–	A	40-60
fig. 3, 9	N3	N3	graphite >10%	undefined	20-40
fig. 3, 10	N3	N3	graphite >10%	undefined	0-20
fig. 3, 11	10YR 5/3	10YR 7/4	sand	B	100-120
fig. 3, 12	10YR 6/4	N3	sand	A	40-60
fig. 3, 13	N3	N3	graphite <10%	A	20-40

Tab. 2 Tuněchody (okr. Chrudim). A selection of other ceramic finds from the feature no. 75/08. – [a] colour classified according to Munsell colour chart. – [b] macroscopic aplastic component of ceramic material.

TYPOLOGICAL CLASSIFICATION OF THE FIND

The only other known vessel from Bohemia, which has been interpreted as a ceramic imitation of a beaked flagon, is an exemplar from Závist (okr. Praha-západ; Drda / Rybová 1998, 83). However, only a part of the body with a handle survived. The bottom part as well as the spout was not preserved. The vessel was hence

reconstructed as a »beaked flagon« on the basis of the many analogies especially with the Dürrnberg region (Bz. Hallein; see Pauli 1980, 272), where ceramic beaked flagons are found frequently, their characteristic feature being a double conic body. In this respect, as well as for the shape of the handle, the exemplar from Závist resembles those from Dürrnberg. It should be mentioned, however, that jugs with a tubular spout also have a similar shape of the body – the so-called *Röhrenkannen* (Pauli 1980, 236). The find from Tuněchody hence cannot be compared with the »beaked flagon« from Závist because the spout was not preserved and we cannot be sure that we are dealing with a beaked flagon in the first place.

As an example of a site with a frequent appearance of ceramic beaked flagons we have mentioned the Dürrnberg. Here we can point out particularly artefacts from the graves nos 1, 52/2, 71, 77, 85 and 103 (Moosleitner / Pauli / Penninger 1974, fig. 8A, 2 pls 136D, 1; 145A, 8; 151A, 9; 168A, 4; Penninger 1972, pl. 58A, 1). For ceramic beaked flagons from the Dürrnberg, a narrow long and sometimes even pointed spout and the absence of a vertical rim are typical. These spouts also do not tend to be decorated with a pearl-band, as it is the case of the Tuněchody vessel. From this perspective the finds from Dürrnberg differ in the respective features from the fragment of Tuněchody.

The same we can state about other finds of ceramic beaked flagons or their parts from other important centres of the Late Hallstatt and Early La Tène period, such as Mont Lassois (dép. Côte-d'Or), Hallstatt (Bz. Gmunden) or Castaneda (Kt. Graubünden) (Mötsch / Haffner / Müller 2008, fig. 14; Baitinger / Pinsker 2002, 309; Primas 1970, pl. 31A, 1). On the last mentioned site we are more likely speaking of a jar with spout rather than of a beaked flagon.

Nevertheless, we can find some examples of beaked flagons, which have spouts similar to that from Tuněchody, at least in general terms. Such a specimen is the spout of a beaked flagon from the Ehrenbürg (Lkr. Forchheim; Abels 1992), which also has a vertical rim as well as the part of the neck closer to the spout, which is also apparent on the Tuněchody find. Another example, which can roughly serve as an analogy of shape, is the ceramic beaked flagon from Sien (Lkr. Birkenfeld) in Rhineland-Palatinate (Celtes 1991, 161).

From northern Italy we can mention one specimen of a ceramic beaked flagon from Como-Ca'Morta and one from Este, necropolis of Nazari (prov. Padua) (see Bouloumié 1973, figs 270-273; Rittatore Vonwiller 1966, pls 52. 143). Although the spout of the former exemplar differs very much from the find in Tuněchody and is much closer to the specimens from Dürrnberg, the profile of the respective part of the latter one is very similar to our exemplar, particularly as for the vertical rim of the spout. We also find a similarly narrow ridge on the upper part of the spout, although here it goes through the front portion of the rim, differing in this respect from the exemplar from Tuněchody.

We know of more ceramic beaked flagons from Italy, for example from the sites of Magliano Sabina (prov. Rieti), Numana (prov. Ancona), San Vitale di Cagli (prov. Ancona) or Poggio Sommavilla (prov. Rieti) (Bouloumié 1973, figs 274-279; Cantù 2010, 146-147 pl. 1). But only the jug from Magliano Sabina can serve as a general analogy to our find, again because of the vertical rim of the spout. Other jugs differ in this aspect. Generally we can say that these ceramic beaked flagons with the appearance of their whole bodies much more closely resemble the original bronze models of the Etruscan or Italic provenance. This cannot be stated about the exemplars from the Dürrnberg region, for which especially the double conic bodies are typical. This characteristic we most often do not encounter with Etruscan originals or the Celtic metal beaked flagons.

Although in some of the cases described above we can note a certain similarity in shape to the fragment from Tuněchody, in the majority of the finds of ceramic beaked flagons we do not see such a similarity. In order to find a potential model for the shape of the vessel, we can only try to look for it among the original bronze beaked flagons. Some of these, which we consider to be of Celtic origin, have an apparent vertical rim on the spout. That is the case of flagons from Glauberg (Wetteraukreis), Kleinaspergle (Lkr.

Ludwigsburg), Dürrnberg, Borsch (Wartburgkreis) or Basse-Yutz (dép. Moselle) (Paret 1943-1948; Jacobsthal 1944; Megaw 1970; Baitinger / Pinsker 2002, 164. 174. 184. 200-201. 242). The jugs from Dürrnberg and Glauberg also have a very narrow ridge in the spout, which is the same as with the Tuněchody example.

The vertical rim of the spout is a characteristic that we can also find on many Etruscan beaked flagons (for comparison see Bouloumié 1973). However, it seems that the ridge of the spout is on the majority of Etruscan examples much wider than it is the case of Celtic flagons or the ceramic artefact from Tuněchody.

If we were to compare the exemplar from Tuněchody with the finds of bronze beaked flagons from Bohemia, we would have to state that we cannot find a marked similarity between the Tuněchody specimen and the relevant parts of the artefacts from Hradiště u Písku (okr. Písek) or Chlum u Rokycan (okr. Rokycany) (for comparison see Filip 1956, pl. 1). The spouts of both jugs have a vertical rim, but the width of the spout ridge and its shape are completely different. In this respect, as the only approximate similarity we can mention the decoration on the upper and side outline of the spout, which, nevertheless, still differs in details (for comparison see Filip 1956, pl. 1; Sankot 2003, fig. 6).

To conclude, if we consider the shape of the spout fragment of the ceramic beaked flagon from Tuněchody, we can say that proportionally this find is much closer to the original bronze beaked flagons, rather than their ceramic imitations. The characteristic features of the spout and especially its narrow ridge indicate a certain relationship to the bronze beaked flagons of Celtic origin (Dürrnberg, Glauberg) rather than Etruscan, i. e. Italic.

GEOCHEMICAL ANALYSIS OF THE FIND'S PROVENANCE

The results of the geochemical analysis of the beaked flagon fragment's provenance are very important for the interpretation of the artefact. In the case that this analysis would suggest a local provenance, we could consider this find as an important evidence for the imitation of yet another type of vessels of Mediterranean provenance or of vessels heavily influenced by those in Bohemia. This finding would also confirm a more pronounced influence of ancient southern or western European important Late Hallstatt or Early La Tène centres on the domestic production. If the results would suggest an origin from outside the site, then we could understand this as evidence for long-distance contacts of the Tuněchody microregion with other Bohemian regions or with regions outside Bohemia in South or South-western Europe.

Sampling method

The aim of the sampling was to cover primarily the variability of fine table ware on the whole extend of the research area and for all chronological periods. As basic units for this sampling we chose the sunken houses. We selected two sunken houses from the research season 1997, three from 2006 and three from 2008. The selected features represent all preliminarily identified settlement phases on the site in the interval Ha D2-Lt A. Unfortunately, the fragment of the beaked flagon was not found as part of a larger ceramic cluster, which we could consider to be a partially closed collection in the bottom part of a sunken house. This makes the interpretation more difficult.

The ceramic collection of the lower layers of selected features was divided into macroscopically logical technological categories and each category was sampled by several individuals. We focused primarily on the rims, in order to rule out the repetitive sampling of one vessel. The collection was supplemented by several pieces of coarser ceramics with sand inclusions, which we hypothetically classify as a reference example of

homemade ceramic production. So, a collection of 57 ceramic sherds was put together. In the case of fragments with graphite coating the surface layer was taken off before sampling.

The issues connected with the study of provenance

The main prerequisite of provenance analyses is the presumption that differences in the chemical composition of natural resources are higher than differences in the chemical composition of a given source and that these differences are observable (Weigand / Harbottle / Sayre 1977, 24). The chemical composition represents a specific signature of the ceramic material, which theoretically allows us to determine groups of ceramics, which were made using the same clay source and using similar technological processes.
Defining the source of potter's clay is not easy. The clays are usually very common in the landscape. Their representative sampling is more difficult than sampling any rarer materials. Clay formations can be very extensive and determining the origin of clay to a particular source might not bring the key to solving the provenance problem on the required level of spatial scale. The chemical composition of material can also be largely influenced by the technological chain of pottery making and by the formation processes. Very common in pottery making is the alteration of the original clay to suit the needs of the potter. Firing can also change the chemical composition. Nevertheless, experiments studying the influence of temperature during firing on the chemical composition of clay have shown that the majority of elements in clay apart from Br stay stable up to 1100 °C (Cogswell / Neff / Glascock 1996). Also, it does not seem that in consequence of firing any significant changes would occur in the concentration of elements or their migration in ceramic profiles from the core to the surface (Schwedt / Mommsen 2007).
Post-depositional processes can change the ratio of some elements. For example, Na, K, Mg and Ca can be washed out of or deposited in the material due to the effects of the environment where the ceramics preserve (Buxeda i Garrigós 1999; Mommsen / Sjöberg 2007; Tite 2008, 225). Some researchers have demonstrated that changes occur in the composition of all alkaline metals, e. g. Na, K, Rb and Cs (Buxeda i Garrigós / Mommsen / Tsolakidou 2002). As unstable are also considered As and Ba (Mommsen / Sjöberg 2007, 365-366).
From the above it follows that for the analysis of provenance it is especially useful to use trace elements and the elements of rare soils with the primary aim not determining the origin of the clay, but grouping together chemically close samples and ruling out such samples, the composition of which might not relate to the applied technological chain.

Instrumental methods

A range of instrumental methods can be used for determining the chemical composition. When evaluating their usefulness for a particular purpose, we prefer primarily the precision of defining individual elements with respect to the key importance of trace elements and the elements of rare soils. The higher is the precision, the better is the analysis for the interpretation of ceramics' provenance.
In the past, the standard was the neutron activation analysis (NAA). More recently, it is often replaced by inductively coupled plasma optical emission spectrometry (ICP-OES) and inductively coupled plasma mass spectrometry (ICP-MS), which reaches the precision and scope of detected elements comparable to NAA (Tite 2008, 225). This method was selected for the analysis of the ceramic samples from Tuněchody. The geochemical analysis was performed by Acme Analytical Laboratories Ltd. (Code of the used method: 1T-MS – a 0.25 g split is heated in HNO_3-$HClO_4$-HF to fuming and taken to dryness. The residue is dissolved in HCl. Solutions are analysed by ICP-MS.)

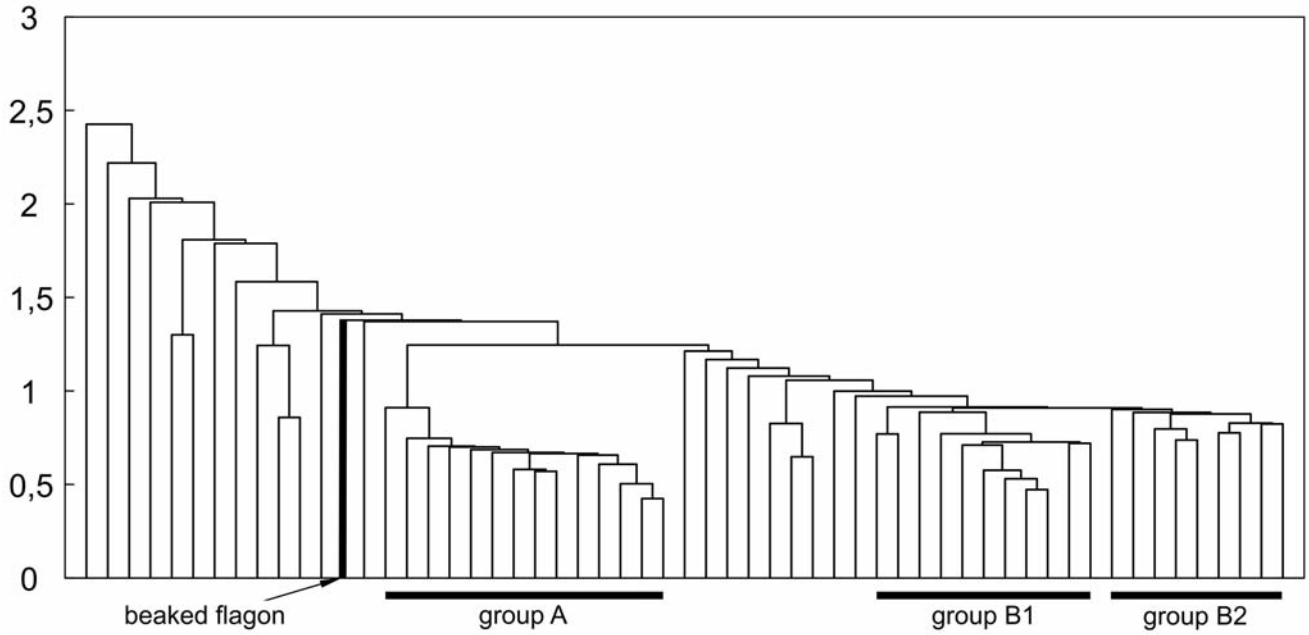

Fig. 4 A dendrogram of the cluster analysis (CA) (divisive hierarchical clustering based on the Euklides distance and the method of the nearest neighbour) of the chemical composition of the samples of Ha D2-Lt A pottery from Tuněchody (okr. Chrudim). – (Illustration R. Thér).

Analysis

The elements, the amount of which is potentially affected by a) the formation processes and b) the ration of the basic aplastic components of ceramic material, were excluded from the statistical analysis. The result is a group of 38 elements (Be, Bi, Cd, Ce, Co, Cr, Cu, Dy, Er, Fe, Ga, Gd, Hf, Ho, Li, Lu, Mn, Mo, Nb, Nd, Ni, Pb, Pr, Sb, Sc, Sn, Ta, Tb, Th, Ti, Tm, U, V, W, Y, Yb, Zn, Zr). The data were log-ratio transformed in accordance with the principles of the Aitchison geometry (Aitchison 1986) using CoDaPack software (Comas-Cufí / Thió-Henestrosa 2011). A cluster analysis (CA; fig. 4) and a principal component analysis (PCA; fig. 5) were performed with the aim to determine the main composition groups of ceramics and the position of the fragment of beaked flagon among them. The analysis was complemented by the identification of outliers on the basis of the robust Mahalanobis distance (RD; fig. 6) based on a minimum covariance determinant (MCD) of the medium distance of the value and variability of data (Rousseeuw 1985). This method is used for the identification of measurements that are not part of the distribution of the given data – hence coming from a different group. The analysis was undertaken using the »R package mvoutlier« (Filzmoser / Garrett / Reimann 2005; Filzmoser / Hron 2008; Filzmoser / Hron / Reimann 2012). For the analysis we used all ceramic compositional data from the region available to date. It represents a collection of 110 samples from Tuněchody, České Lhotice (okr. Chrudim), Slepotice (okr. Pardubice) and Brčekoly (okr. Chrudim), dated from Ha D to Lt D. The aim of this analysis was to estimate whether the fragment of the beaked flagon comes from the Chrudim region.

Results and discussion

On the basis of the CA and PCA analyses we can define three basic classes of Tuněchody ceramics. The classes A and B2 are dominated by wheel-thrown pottery. Class B1 is represented by hand-built pottery dated to the Ha D2 period. The fragment of beaked flagon does not fall into any of these groups. For

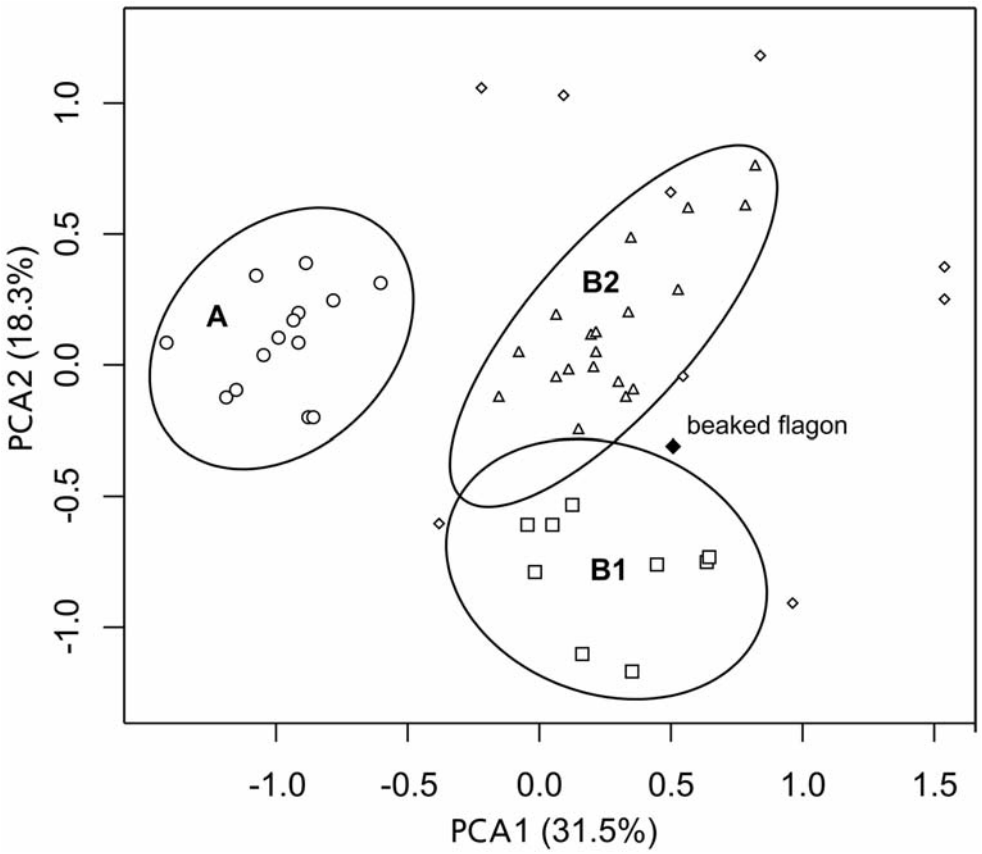

Fig. 5 Plotting of the first two components of the principal component analysis (PCA) of the chemical composition of the samples of Ha D2-Lt A ceramics from Tuněchody (okr. Chrudim). – (Illustration R. Thér).

presenting the results of the PCA analysis we used the first two components that in this case represent only 50% of the variability of data and partially mask the difference in the chemical composition of the beaked flagon from the respective groups (**fig. 5**). The chemical difference of the fragment of beaked flagon from the defined classes is better demonstrated by a dendrogram of the CA analysis (**fig. 4**).

On the basis of the RD calculation the fragment of beaked flagon was classified as an outlier in the total sample of ceramics analysed from the region (**fig. 6**). The interpretation of outliers in the whole category of La Tène pottery in the region is based on the presumption that the majority of pottery was made there. Therefore, the identified distant measurements can be preliminarily ascribed to pottery that does not have its origin in the Chrudim region.

To sum up, it can be stated that the fragment of beaked flagon does not belong into any of the basic chemical classes of ceramics from Tuněchody and hence it can be considered to be an import, which was not made using the material used by Tuněchody potters during the Ha D-Lt A period. On the basis of the comparison of the beaked flagon with La Tène pottery from the region we can put forward a hypothesis that it does not even come from the Chrudim region. A more precise judgement about its provenance cannot be made at this stage of research. The selection of 110 samples from four sites cannot be considered as entirely representative of the geochemical variability of ceramics from the region in question. Further, the sampling of ceramics from the region complemented with the sampling of sediments from the vicinity of the site and petrography and the mineralogical analysis will bring more conclusive results.

To the question put forward at the beginning of this chapter we can state that the presumption about the beaked flagon's local origin from Tuněchody area was not confirmed. In comparison with the distant values

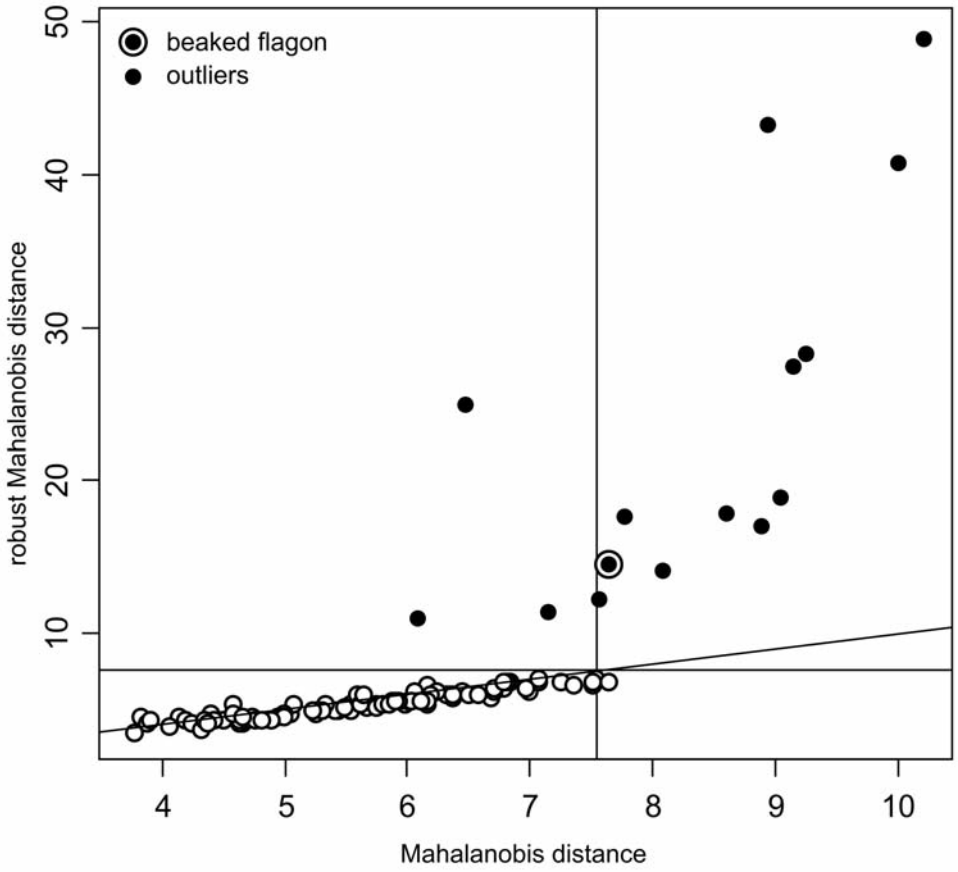

Fig. 6 Point graph showing the classic Mahalanobis distance and the robust Mahalanobis distance of the chemical composition of the La Tène pottery from the Chrudim region with highlighted borderlines for identification of distant values. – (Illustration R. Thér).

of samples of La Tène pottery from the Chrudim region, the beaked flagon does not represent any extremity, which would suggest its unique chemical signature and hence we can classify it into a broader class of products from a wider area of Bohemia and Moravia. Thus, the fragment most probably represents an important evidence for indirect inter-regional contacts, which reflect the knowledge of local potters of foreign metal models. It is also a significant widening of the typological spectrum of vessels of foreign provenance, which were imitated in Bohemia during the Late Hallstatt and Early La Tène periods (see below).

IMITATIONS OF POTTERY OF MEDITERRANEAN PROVENANCE IN LATE HALLSTATT AND EARLY LA TÈNE BOHEMIA

The ceramic imitation of a beaked flagon from Tuněchody is not the first example of imitating the shapes and decorations of southern models found in Bohemia (fig. 7). More than 20 years ago there was recognised a Late Hallstatt or Early La Tène copy of Greek red-figure pottery in Plzeň-Roudná (Bašta / Baštová / Bouzek 1989, fig. 3). A similar fragment with meander shape decoration, common in the Mediterranean region, was discovered in Chržín (okr. Kladno; Chytráček 2007, fig. 17; Chytráček 2008). With the find from Plzeň-Roudná it was also considered that it is a product from the north-western Lower Alps area (Bašta / Baštová / Bouzek 1989, 473), but analyses undertaken more recently have suggested that this frag-

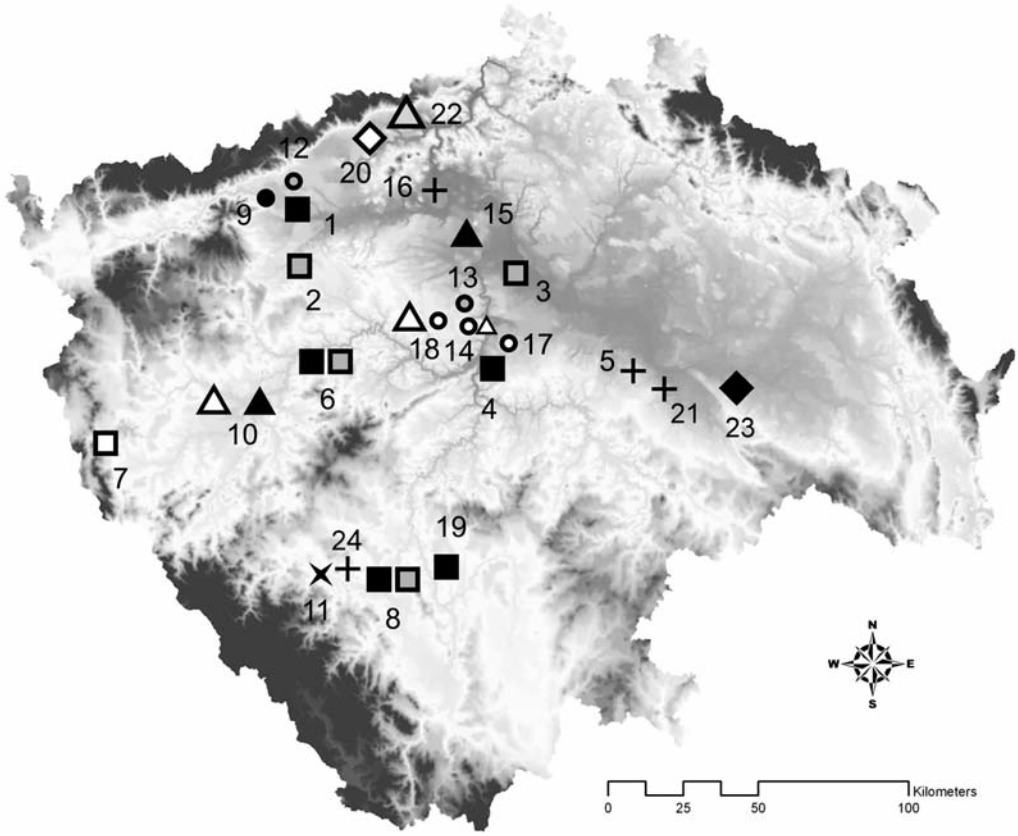

Fig. 7 Greek and Etruscan imports and their imitations in Bohemia in the 6th-5th centuries BC (highlighted also the location of the find of the ceramic beaked flagon fragment from Tuněchody ◆). – Bronze vessels: ■ beaked flagons or their parts; ◘ bowls; □ stamnos-situla; + bowls with a pearl-band decorated rim; ◇ olpe. – Glass vessels: × aryballos. – Ceramics: ●◉○ Attic ceramics; ▲ local imitations of Greek red-figure cups; △ local imitations of developed ceramic forms of Mediterranean provenance; △ painted decoration on local ceramics inspired by southern motives. – **1** Činov. – **2** Hořovičky. – **3** Hořín. – **4** Praha-Modřany. – **5** Hradenín. – **6** Chlum. – **7** Mírkovice. – **8** Hradiště u Písku. – **9** Kadaň. – **10** Plzeň-Roudná. – **11** Strakonice. – **12** Droužkovice. – **13** Tuchoměřice. – **14** Praha-Ruzyně Jiviny. – **15** Chržín. – **16** Slatina. – **17** Praha-Pitkovice. – **18** Dobrovíz. – **19** Hosty. – **20** Lahošť. – **21** Nebovidy. – **22** Radovesice. – **23** Tuněchody – **24** Rovná. – (Illustration M. Trefný).

ment as well as the one from Chržín represent locally made vessels. It has also been shown that the Chržín exemplar displays similarity with some manufacture techniques used in the Mediterranean region (Trefný et al. 2011).

To the pottery, which decoration could have been inspired by the southern parts of Europe with developed figural painting, we can count the well-known bowl from Radovesice (okr. Teplice) in north-western Bohemia with painted swans (Waldhauser 1977, pl. 1, 1; Kruta 2004, 48).

Other features that could have been inspired by Mediterranean motives represent the ornaments resembling meanders or painted elements of palmettes. Variations of meanders on pottery made with stamps we know e. g. from Rubín hillfort (okr. Louny; Sankot 2009, fig. 4) or Želénky (okr. Teplice; unpublished). Here we need to add that the motif of meander in the Mediterranean Late Hallstatt and Early La Tène artistic craft was relatively widespread (see e. g. Pauli 1980, 202; Sankot 1994, 46 fig. 1; Megaw / Megaw 2007, 799; Venclová et al. 2008a, fig. 76, 6-7), so we cannot rule out that the makers of the vessels in question could have been inspired by domestic vessels. Painted elements are represented e. g. on the fragment of a bowl from Plzeň-Roudná (Bašta / Baštová / Bouzek 1989, fig. 4, 1) in the form of a palmette, which is a very common feature on the painted ceramics of the Mediterranean region.

Another phenomenon, which can be related to the practice of imitating southern models, is the painted Hallstatt pottery, which uses red or white colours. In north-western Bohemia we know it from Želenice (okr. Most), Radovesice, Třebenice (okr. Litoměřice) or Kadaň-Jezerka (okr. Chomutov) (Waldhauser 1977; Zápotocký 1963, 163; Kruta 1972, 321; Waldhauser 1974). From the west Bohemian environment we can name a find from Litice (okr. Plzeň-město; Chytráček / Metlička 2004, 35 fig. 3). Painted Hallstatt pottery displays certain similarities with pottery fired in the area between Salzkammergut in the East and north-eastern France in the West, whilst the finds from Ha D-Lt A can be related more to southern Germany, i. e. with the Salzkammergut area (for comparison see Waldhauser 1974, 99-100; Stöllner 1993). The models for the decoration are sought mainly in the south of France or in the Etruscan-Italic area (Kimmig / Gersbach 1971, 29-30; Kimmig / Vacano 1973, 79; Waldhauser 1974, 100).

Imitating the pottery production from the Mediterranean region is not related solely to the decoration. The finds of specific pottery shapes of foreign origin but most probably of domestic provenance, e. g. from Plzeň-Roudná, Praha-Ruzyně or Dobrovíz (okr. Praha-západ), have shown that in the Bohemian Late Hallstatt environment were imitated e. g. cups with long and short stems or the specific handles with supports which are known from certain Mediterranean ceramic classes (see Bašta / Baštová / Bouzek 1989, fig. 4, 2; Trefný 2011, fig. 6, 9). Similarly, at the Heuneburg (Lkr. Sigmaringen) we encounter the imitations of black-figure cups of the so-called Little Masters (Kimmig 1983, fig. 59, 1-2; Pape 2000, 97-98).

The imitations of pottery types of southern provenance in the Czech environment correspond very well with the local more and more numerous finds of Attic pottery (for comparison see Koutecký 1975; Bouzek / Smrž 1994; Trefný 2008; Trefný 2011; Trefný / Polišenský 2008). This pottery could have served as a model to the local potters and in some cases could have been not only the template for decoration but also an inspiration for pottery shapes. An indirect link to the southern European ceramics we find also in the case of the Early La Tène stamped ceramics. Complex circular compositions of engraved and impressed decoration, which are characteristic of Braubach bowls, could have had their origin in the black glazed Attic pottery, where we can encounter similarly made decoration (see Chytráček 2007; Trefný 2011, 298; Polišenský / Trefný 2011, 844). Examples of these complex compositions can be often found in the area of the Dürrnberg (see Stöllner 2002, 229 fig. 103; Moosleitner 1991, 172). From Bohemia we can mention the decoration of a bowl from grave no. 66 from the Manětín-Hrádek cemetery (okr. Plzeň-sever; Kruta 2004, 47).

The examples presented above of imitations of the various vessels from the Mediterranean region and their decoration prove that this activity was not rare in Late Hallstatt and Early La Tène Bohemia. At the same time, this fact can serve as an indirect evidence of the higher value of the imitated originals, because the need to imitate may come from the impossibility to own the original (for comparison see Trefný et al. 2011, 161). In the case of bronze vessels, the material itself suggests their higher value, and in the case of Greek figural ceramics it can be the complete appearance and quality, which differed by far from the fine pottery of local origin. On the other hand, we cannot rule out that in some cases the need to imitate the shapes of Mediterranean pottery might stem from the mere inspiration by interesting and attractive pottery shapes, of which we encounter a wide range among the Greek and Etruscan pottery.

CONCLUSION

We have highlighted above that the classification of the »beaked flagon« from the Závist hillfort in central Bohemia is somewhat problematic. Even if we accepted that we were dealing with a beaked flagon, we would have to state that typologically it is of a form more characteristic of the Dürrnberg area and not so

close with its general proportions to the original metal beaked flagons. It is true that from the Tuněchody artefact survived only a small fragment; nevertheless, we suggest that it was of shape much more similar to the metal models. Thanks to the preservation of the spout, which we are missing for the Závist artefact, we can much more safely interpret this find as a ceramic imitation of a beaked flagon.

Beaked flagons are sometimes considered to be part of sets of drinking vessels (see Chytráček / Metlička 2004, 127; Venclová et al. 2008b, 152). Some authors also claim that the Early La Tène Celts in Bohemia used these sets during feasts or ceremonial drinking similar to the Greek symposia (Bašta / Baštová / Bouzek 1989, 475; Bouzek / Smrž 1994, 581; Smrž 1996, 87-88. 93; Chytráček / Metlička 2004, 127). Already the ancient authors (Diod. V, 26, 3; Athen. IV, 36, 152) described the Celtic consumption of alcoholic beverages. From these descriptions it derives that it could have had a very different form to the customs of the Greek symposia. These descriptions could also be seen as an indirect evidence that the imported Greek pottery or the Greek and Etruscan bronze vessels could have represented prestigious artefacts rather than drinking sets, automatically evoking the imitation of Mediterranean symposia (for comparison see Trefný 2011, 293-294). This does not exclude the option that they were used during feasting or drinking (see Bouloumié 1988; Kraußе 1993; 2003; 2004), which could still reflect rather the Celtic customs and traditions (for comparison see Arnold 1999; Shefton 2000, 30 note 31; Fless 2002, 96-101; Böhr 2005, 222; Trefný 2008, 125; Hansen / Böhr 2011). Deviations from the original use of the symposial vessels in accordance with what has been said above are in the Celtic environment demonstrated by the finds of imported bronze vessels, in which the residues of mead or beer were identified, instead those of wine (Pape 2000, 121. 123) or by the find of a volute crater in Heuneburg, which was probably used for storage purposes (see Shefton 2000, 30 note 31).

Also, the ceramic beaker jug from Tuněchody could have served, except for other purposes, as fine pottery intended for drinking or could have been used more generally during feasts etc. Its presence among the artefacts from this site gives us the hint that the local Celts also found time for some fun in the daily routine.

English by Monika Baumanová

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Zusammenfassung / Abstract / Résumé

Zum Fragment einer tönernen Schnabelkanne aus der späthallstatt- und frühlatènezeitlichen Siedlung von Tuněchody (okr. Chrudim) in Ostböhmen

In diesem Beitrag wird ein bisher einzigartiger Fund einer Scherbe vom Ausguss einer tönernen Schnabelkanne vorgestellt, die während einer Rettungsausgrabung an einem mehrperiodigen Fundort zutage kam. Die Ausgrabungen fanden 2008 im Bereich der Lehmgrube einer modernen Ziegelbrennerei an der Grenze der Gemeindegebiete von Úhřetice und Tuněchody im östlichen Böhmen statt. Die stilistische Einordnung des Stückes macht deutlich, dass es viel besser zu den originalen bronzenen Schnabelkannen passt, als zu ihren keramischen Imitationen. Charakteristische Details der Mündung und besonders der schmale Grat zeigen eher gewisse Beziehungen zu den keltischen Bronzeschnabelkannen (Dürrnberg, Glauberg) als zu den etruskischen bzw. italischen Exemplaren. Die Ergebnisse einer geochemischen Untersuchung des Tons lassen vermuten, dass das Stück lokal in Böhmen gefertigt wurde. Das Fragment kann also als indirekter Nachweis für richtige keltische Bronzeschnabelkannen in Böhmen verstanden werden.

On a fragment of a ceramic beaked flagon from the Late Hallstatt to Early La Tène settlement in Tuněchody (okr. Chrudim) in Eastern Bohemia

This paper presents the assessment of the unique find of a fragment (spout) of a ceramic beaked flagon, which was discovered during a rescue excavation of a multi-cultural site in the clay pit of a modern brick-kiln on the border between the cadastral areas of Úhřetice and Tuněchody in eastern Bohemia in 2008. The stylistic analysis of the shape of the artefact shows that this find is much closer to the original bronze beaked flagons than to their ceramic imitations. The characteristic features of the spout and especially its narrow ridge indicate a certain relationship to the bronze beaked flagons of Celtic origin (Dürrnberg, Glauberg) rather than to the Etruscan, i. e. Italic ones. The results of a geochemical analysis of the ceramic material allow to consider its Bohemian provenance. This fragment can thus be understood as an indirect evidence of the knowledge of real bronze Celtic models in the Bohemian milieu.

Un fragment de cruche à bec en provenance de l'habitat de la fin du Hallstatt/début de La Tène de Tuněchody (okr. Chrudim) en Bohème de l'Est

Cet article présente l'étude d'un fragment pour l'instant unique en provenance d'un bec de cruche en céramique. Le tesson provient d'une opération préventive sur un site multiphasé. Les fouilles ont eu lieu en 2008 à proximité d'un banc d'argile exploité par une tuilerie contemporaine à la limite actuelle des communes de Úhřetice et Tuněchody dans l'Est de la Bohème. L'analyse stylistique de la pièce montre qu'elle est bien plus proche des originaux en bronze que des autres imitations en céramique. Les détails du bec sont caractéristiques, surtout la finesse du bord le rapprochent plus des exemplaires celtiques du Dürrnberg ou du Glauberg que des pièces étrusques ou italiques. Les résultats des analyses géochimiques de la céramique permettent de proposer une provenance locale pour la pâte. Ce fragment peut donc être compris comme une preuve indirecte de l'existence de vraies cruches à bec en bronze en Bohème. *L. B.*

Schlüsselwörter / Keywords / Mots clés

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Czech Republic / Eastern Bohemia / Early La Tène / settlement / imports / beaked flagon / archaeometry
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