



Trade, use, offer. The hoard of Bánov – “Skalky” (CZ)

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ABSTRACT

Hoards disappeared from the regions of the “heart” of Hallstatt Europe. As for the peripheral areas, which include Moravia, the situation was different. The elite Hallstatt hoard from Bánov – “Skalky”, Uherské Hradiště District (CZ), dating to 575–550 BCE, proves that some regions did not abandon their “old Bronze-Age habits”. The hoard is among the most exclusive set of discoveries dating to the Hallstatt Period found in the Czech Republic. Its 1.500–2.000 pieces of amber beads represent the largest individual prehistoric set of amber in the Czech Republic. In the 6th century BCE, the eastern part of what is now the Czech Republic (Moravia) was the primary transit region of the Baltic amber to the Mediterranean. Extensive barter trade took place along the route of the Amber Road. Included in the Bánov hoard were exclusive women's jewellery items which were evidently exchanged for amber. It is a set of dragon fibulae from contemporary Slovenia. This article describes the circumstances of the discovery, offers a detailed catalogue of the findings, introduces a chronological-typological analysis of the inventory and proposes the origin of the artefacts. An analysis of the composition and origin of glass by Scanning electron microscopy (SEM-EDS) and of amber by IR spectrometry was carried out in this study. Chemical analysis of glass determined the colouring agents and the composition, which points to the possible origin of the analysed items. While amber corresponds to the Baltic spectrum, analysis of the glass revealed surprising findings. Most of the beads do not correspond to the expected natron glass type but to an older mixed alkali type. Furthermore, an overview of the deposition of hoards in Moravia and the methodology of studying the deposition is presented. A model of long-distance trade on the Amber Road and its chronological background are also outlined. The authors discuss the social structure, elites, long-distance trade on trade routes north of the East Hallstatt culture region, and the assumed ceremony surrounding the creation of hoards.

1. Introduction

The Hallstatt Period is not only a period of a common use of new and readily available domestic metal – iron, but it also witnesses the continuation of widespread socio-economic changes. Society is visibly stratified, and a gradual political assertion of individuals and their communities – centralisation processes – can be observed. Privileged magnates of both sexes (and later princes and princesses) accumulate power and wealth in their hands, which is represented in the landscape

unevenly. The prominent class stands at the top of the social pyramid, using wealth to strengthen its status and consolidate power. In the Hallstatt Period, Moravia (22.349 km²), i.e., the Eastern part of the Czech Republic, is fully integrated with the East Hallstatt Culture (adopting the Hallstatt style). There are not only contacts with the West Hallstatt Culture, with the pre-Alpine Cultures of Golasecca and Este in North Italy, the Picenum area, and Etruscan Italy, but also with Early Ancient Greece. An important Central European phenomenon affecting the frequency of long-distance contacts is the Amber Road leading

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through Moravia (Chytráček et al., 2017), along which not only amber flowed from north to south but also luxury goods/imports in the opposite direction. Such products then eventually appeared not only in richly furnished graves but also in hoards. East Hallstatt culture in Moravia is represented by two cultural regions – Horákov and Platěnice groups (Golec and Fojtík, 2020). The use of hoards is characteristic of the Platěnice group only.

One such case is also the hoard from Bánov – “Skalky”. It is an important source of women’s jewellery attributed to the Platěnice group of the East Hallstatt culture dating to 575–550 BCE (Ha D1b; according to Golec and Fojtík, 2020, Fig. 68). The scientific potential of the discovery is substantial. The current study aims to assess the hoard from the cultural and chronological perspective, reconstruct the original placement of the jewels on the body, and evaluate the social status of the owner of the jewellery – a female magnate. The authors also aim to present the findings of the amber and glass chemical analyses. In the current paper, the hoard is classified within the framework of other hoards from the Hallstatt culture in Moravia. The authors evaluate the hoard as a set of items traded via the network of routes connected to the main corridor of the Amber Road leading from the Baltic Sea via Moravia to the Adriatic Sea. In this article, the authors additionally outline trade mechanisms of barter. Three-stage method of the creation of hoards is presented as well.

2. Materials and methods

2.1. The circumstances of the Bánov hoard discovery

On 24 April 2017, archaeologists Jaroslav Bartík and Tomáš Chrástek studied and documented a Hallstatt Period hoard discovered by accident by Pavel Man near the village of Bánov, Uherské Hradiště District (CZ; Bartík, 2017; Golec, Bartík and Chrástek, 2021). The hoard finder immediately contacted archaeologists, who conducted a rescue archaeological excavation on the site and assessed the situation. Owing to the floating of the material, it was possible to trace all the fragments of the hoard.

The Bánov hoard was found in a local forest, at a site locally known as “Skalky”, approximately 1.2 km east of Bánov, Uherské Hradiště District, at 366 m ASL (supplement 1:1). Bánov is located in the foothills of the White Carpathians approximately 5 km from the city of Uherský Brod. The “Skalky” site is a flat, uphill site; some 500 m from the SW edge of a forest, there is the Skalky Hill at 387 m ASL, the highest point of the area (supplement 1:2). The hoard was placed in the ground at the top of a prominent undulation element which, at first glance, appears to give the impression of an intentionally created mound. It is a natural element formed by a vein of trachyandesite. Located near the Skalka forest are the springs of several smaller streams. One is a carbonic mineral spring known as Bánovská kyselka [acidic mineral water] at the SW edge of the Skalka forest.

The hoard (Fig. 2) was placed in a pit in the shape of an imperfect (irregular) circle (diameter: 45 cm; depth: 36 cm) (supplement 1:3). The pit was slightly wider towards the bottom; the bottom was flat, and the walls were slightly convex. The artefacts were divided into two groups. The first group was placed directly in the pit; the second was stored in a pottery vessel. The infill of the pit around the hoard differed significantly from the otherwise yellow-and-grey subsoil. The infill of the pit contained 52 smaller stones covering the hoard prior to the filling (supplement 1:3); the reconstruction of the volume showed 25 × 25 (area) × 12 (depth) cm. The vessel (Fig. 4:3) containing the second group of findings was not placed on the bottom; it was placed on top of the first group along with two iron belt rings (Fig. 4:2), which had left imprints of corrosion at the bottom. There, the first group of amber beads (Fig. 5:20–30, 75–77) was located around the bottom of the pit (both groups mixed). Bronze and glass jewellery (Fig. 3; 5:1–17) and the second group of amber beads (Fig. 5:31–74) were found in the second group inside the vessel. An iron axe (Fig. 4:1) was placed next to it inside

the vessel. A bronze pin (Fig. 4:4) was, at least according to traces of corrosion (supplement 2b:3/29), probably placed under the vessel and was once a part of a massive belt ring.

2.2. The chemical analyses of the Bánov hoard

2.2.1. Glass

The set from Bánov – “Skalky” contained 40 pieces of glass beads (Fig. 5:1–3; supplement 2b:1/1–2) and narrow ring beads (very delicate ring beads, in local literature referred as “subtle”; Fig. 5:4–19; supplement 2b:1/3–4). Seventeen intact pieces were subjected to measurements to prove: production technology, colouring and origin. In terms of typology, the specimens can be divided into four groups based on size, type and colour: 1 – one medium blue bead (Fig. 5:1; Table 1: #1); 2 – two medium yellow beads (Fig. 5:2–3; Table 1: #2–3); 3 – seven narrow blue ring beads (Fig. 5:4–10; Table 1: #4–10) and seven narrow green ring beads and two halves (Fig. 5:11–19; Table 1: #11–19).

The Scanning electron microscopy (SEM-EDS) VEGA3 LMU with secondary electron detector of the Everhart-Thornley type (TESCAN, Brno, Czech Republic) and the XFlash silicon drift detector 410-M (Bruker Nano GmbH, Berlin, Germany) was used for the analysis of glass beads. The software used for microscope control is VEGA3 control software and QUANTAX Esprit 1.9 for spectrum analysis. The detector is in take-off angle of 35° and the primary electron beam was employed with an accelerating voltage of up to 30 kV. The spot size was set at 74 nm, and the current of 1.8nA was measured by a Faraday cage. The acquisition time was set to 300 s to obtain quality eds profiles. The samples were measured in a vacuum at a pressure of 10⁻² Pa. The beads were placed on a carbon strip and then measured in SEM in several locations (Fig. 7). The size of the area for measuring the elemental composition was determined by the width of the beads themselves so as not to obtain an interference signal from the pad. The data were visualised using the ggplot2 package (Hadley, 2016) in R statistical software (R Core Team, 2020). The elemental concentration in oxide form is shown in Table 2.

It should be noted that the surface of the samples can be significantly affected by corrosion – the washing out of light elements. Based on this fact, the ratios of significant elements (Na, K, Mg and Ca) were calculated. To demonstrate the correctness of the measured values, two pieces of broken beads were selected and subsequently analysed on the surface and the fracture (inner part) (i.e., beads no. 18 and 19). The results (i.e., the ratios of selected elements) from the surface of the beads were found to be in good concordance with values from the inner part. Such results, therefore, highlight the correctness of the data measured. Information on additional measurements was supplemented in the current text. The ratios were also used to compare obtained results with previously published studies (Table 1). The majority of studied glass beads corresponded to a Na₂O/K₂O ratio of mixed alkali glass beads (Table 3).

2.2.2. Amber

Six samples were taken from the Bánov – “Skalky” for chemical analysis, where its purpose was to prove the samples’ provenance. To date, all samples analysed showed Baltic origin (Chytráček et al., 2017, pp. 177–178).

The amber samples were measured using an IR spectrometer iS50-FT-IR with Fourier transform (FTIR, Thermo Fisher, MA, USA) within the spectral range of 4000–600 cm⁻¹. The ATR technique was applied, and the final spectrums were obtained via the accumulation of 25 spectra measured. They were processed using the Omnic 9 programme (Thermo Fisher). The IR spectra of the measured samples of amber from the hoard were compared.

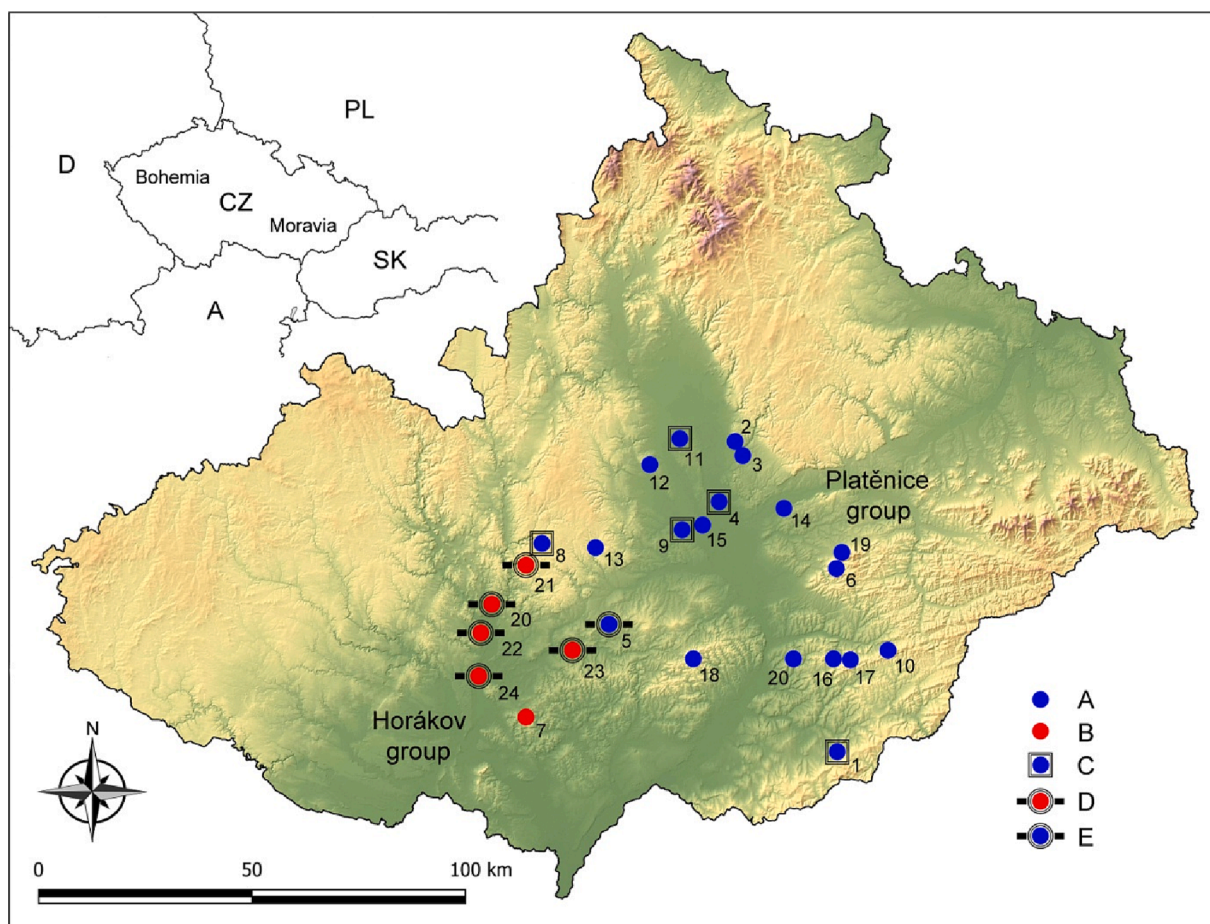


Fig. 1. Morava during the Hallstatt Period - Platěnice and Horákov groups. A - hoards of the Platěnice group: 1 – Bánov – “Skalky”; 2–3 – Bělkovice-Lašany 1–2; 4 – Blatec – “Kocanda”; 5 – Bohdalice-Pavlovice – “Ve Zlebcách”; 6 – Brusné – “Křídlo”; 8 – (central sanctuary with graves and hoards) Habrůvka – “Býčí skála”; 9 – Kralice na Hané – “Kralický háj”; 10 – Loučka – “Doubrava”; 11 – Náklo – “Pod Dědinou”; 12 – Náměšř na Hané – “Džbán”; 13 – Podomí – “Zajbot”; 14 – Prosenice; 15 – Prostějov-Cechůvky – “Kopaniny”; 16–17 – Provodov – “Rysov” 1–2; 18 – Roštín – “Vlčák”; 19 – Slavkov pod Hostýnem – “Homole”; 20 – Šarovy – “Hluboček”; B - hoard of the Horákov group: 7 – Diváky – “Burberk”; C – luxury hoards of the Platěnice group (without compound belts): 1 – Bánov – “Skalky”; 4 – Blatec – “Kocanda”; 8 – (central sanctuary) Habrůvka – “Býčí skála”; 11 – Náklo – “Pod Dědinou”; D – compound belts of Horákov group from graves: 20 – Brno-Zábřovice – “ul. Příkop”, grave H214/19; 21 – (central sanctuary with graves and hoards) Habrůvka – “Býčí skála”; 22 – Modřice – “Sádky”, grave H818; 23 – Slavkov u Brna – “Auto Bayer”, grave H1; E – compound belts of the Platěnice culture from a hoard: 5 – Bohdalice-Pavlovice – “Ve Zlebcách” (sites after Golec and Fojtík, 2020, Fig. 68; hoards in supplement 3).

3. Results

3.1. Chronological analysis of the inventory and the origin of artefacts

Bronze fibulae (supplement 2a:10–11, 2b:3/20,22–28) – six bronze dragon fibulae with rosettes and four thorns – were classified as serpentine fibulae Grundform S2 after Mansfeld (Mansfeld, 1973, p. 6, Abb. 2), as dragon fibulae, Form B with rosettes and four thorns after Glunz (Fig. 3: 1–6; Glunz, 1997, pp. 80–81, Taf. 29:2) and as serpentine fibulae IIIa4 type after Tecco Hvala (Tecco Hvala, 2014, Fig. 3a). These very specific fibulae do not occur in the northern part of the East Hallstatt culture. This discovery represents the first instance they were found in Moravia, indicating that they might constitute imports from the southeast pre-Alpine region (Slovenia). These artefacts are also common in northern Italy, in the Este and Golasecca cultures. As for Slovenia, this type dates to Ha D1 to the earlier part of the serpentine fibula horizon (Tecco Hvala, 2014, pp. 127, 144, Fig. 3a, 9, Map 4). An important example is the chronologically crucial site Stična, mound 48, in which 20 fibulae were found in grave 27 from Ha D1b, which represent fitting analogues in Moravia, among which were found four serpentine/dragon fibulae (Gabrovec et al., 2006, pp. 33–34, Taf. 16, 18:38–39; Gabrovec et al., 2008/2010, p. 288), two of them belonging to type IIIa4. Such

fibulae arrived in Moravia via the Amber Road. In Bohemia, there exists a typologically similar dragon fibula with rosettes with four thorns from Mochov (serpentine fibula IIIa3 type after Tecco Hvala) dating to Ha D1 (Chytráček Hrgš., 2021, p. 235, Abb. 133:9, 134:1). A similar fibula (serpentine fibula IIIa3 type after Tecco Hvala) comes from Zebrzydowa, Poland, grave 3, also dating to Ha D1 (Gedl, 2004, p. 90, Taf. 55:259, 118:259). Not far from Bánov – “Skalky”, at the central site of the Fürstentzitz type at Smolenice – “Molpír” in Slovakia, bottom fragments of serpentine (dragon) fibulae were found in houses number 16 (serpentine fibula VIIb type after Tecco Hvala) and 18 (Dušek and Dušek, 1984, Taf. 118:14, 140:24). Based on the inventory of the houses, these artefacts date to Ha D1. As for Bavaria, we are aware of two dragon fibulae with rosettes and four thorns (serpentine fibulae IIIa4 type after Tecco Hvala), from grave number 132 in Beilngries, dating to Ha D1b to horizon 6, i.e., 610/600–570/560 BCE, after H. Parzinger (Parzinger, 1988, p. 94, Taf. 111:4). An example of significant influence in the north via long-distance routes can be found in the West Hallstatt culture, e.g., Baden-Württemberg, namely a collective burial mound with the remains of 129 individuals dating to Ha D1, i.e., Magdalenenberg bei Villingen, grave 81, where a serpentine fibula (Vače-Uffing type) was discovered and attributed to be of Slovenian origin, IIIb type after Tecco Hvala (Koch, 2017, p. 44, Abb. 3:7). Other similar imported serpentine/dragon



Fig. 2. General view of the Bánov – “Skalky” hoard.

fibulae all date to Ha D1; and, owing to their southern origin, serve as key evidence of chronology in the northern parts of the Hallstatt cultures.

One bronze harp-shaped fibula – type Roggendorf (Fig. 3:9). Bronze and iron harp-shaped fibulae are typical for the northern part of the East Hallstatt culture, especially Moravia (which is regarded as the epicentre of the occurrence of this item; Chytráček et al., in preparation). In total, in the Horákov group, we are aware of seven bronze specimens and 39 iron specimens. As for the Platěnice group, we are aware of three bronze specimens and 19 iron specimens. The ratio is approximately 1:6. However, there are also known discoveries of larger quantities of fibulae, for example, in Poland (Gedl, 2004, 81–86; Gediga et al., 2020, 95). With the Late Bronze Age tradition, their popularity grew and culminated in Ha C2-D1. We are unaware of any discoveries of fibulae from Ha D2, as they were replaced by other types. Fibulae are almost exclusively found in graves, typically only one or two pieces, on the chests or shoulders of women. Chamber graves are the dominant type, i. e., those of elites or the upper middle class. Serving as social analogies to the hoard, there exist graves of four magnates from the Horákov group with compound belts: Brno-Zábrdovice – “ul. Příkop”, grave H214/19 with two iron specimens on both shoulders of the deceased (Čizmarová and Holubová, 2011, Fig. 135) dating to Ha D1 (Golec and Fojtík, 2020, Fig. 68); Modřice – “Sádky”, grave H818 with two iron specimens on both shoulders (Golec and Kos, 2020, Fig. 5) dating to Ha D1b (Golec and Fojtík, 2020, Fig. 68); Slavkov u Brna – “Auto Bayer”, grave H1 with two iron specimens on the right side of the chest (Dobisíková et al., 2010, Fig. 12) dating to Ha D1 (Golec and Fojtík, 2020, Fig. 68) and Vojkovice – “Vojkovičké nivy”, grave H111 with one bronze specimen on the left side of the chest (Golec, 2005, Tab. 88) dating to Ha D1 (Golec and Fojtík, 2020, Fig. 68).

In Moravia, the dominant type in Ha D1 graves is the domestic harp-shaped fibula. The shift to foreign fibulae is extremely rare. The onset of navicella fibulae can be found in the central sanctuary (unknown contexts, burials or hoards) Habrůvka – “Býčí skála” in Ha D1–D2a, i. e., horizon 6–7a = 610/600–540/530 BCE (Parzinger, Nekvasil and Barth, 1995, Taf. 1). Only two graves (out of several hundred examined) of Horákov/former Horákov group demonstrate such tendencies. Similar to the case of the Bánov – “Skalky” hoard, fibulae are found in larger quantities. Four navicella fibulae of the Šmarjeta type dating to Ha D1–D2a were found in a cremation grave at Bučovice-Marefy – “Člupy” H20 (Říhovský, 1993, Taf. 14:146–147, 15:148–149), as were three bronze sheet metal ones with four rosettes and two or three iron navicella fibulae, with one featuring winding from Ivančice-Budkovice –

“Knotkova zahrada” dating to Ha D2 (Nekvasil, 1992, Taf. 1:1–3,6,8–9; Říhovský, 1993, Taf. 13:119–121) – the shift from the harp-shaped fibulae and the arrival of new types dates to Ha D2–D3.

Bronze bracelets/armlets and iron plate (supplement 2a:14–15,18, 2b:4/30–31,35) – two full bronze ribbed bracelets/armlets. The first one features smaller D-shaped ribs (Fig. 3:15). The second one features larger, narrower and pointed D-shaped ribs (Fig. 3:16) with traces of organic material and a small round iron plate of unknown purpose (Fig. 4:5). Bronze cast ribbed bracelets/armlets appeared in Moravia in Ha D1–D2, and were analysed recently in a study by Golec and Fojtík (2020, pp. 121–122). As in the case of the Bánov – “Skalky” hoard, these bracelets/armlets are commonly found in Moravian hoards. A set of 13 pieces (one unpublished) from the sanctuary in Habrůvka – “Býčí skála” from Ha D1b–D3 (Golec and Mírová, 2020) is an exception. In this case, it is unclear as to whether the pieces were in graves or hoards. H. Parzinger dates them to horizon 6 (Ha D1b), i. e. 610/600–570/560 BCE (Parzinger, Nekvasil and Barth, 1995, pp. 36–39, 181, Abb. 1, Taf. 10). He identifies two variants: one with alternating sizes of ribs – a Hallstatt variant, which is the case of the first bracelet/armlet (Fig. 3:15) with the ribs of identical sizes; with ribs of identical sizes – Býčí skála variant, which is the case of the second bracelet/armlet (Fig. 3:16). Both pieces are relatively analogous to the ones in Habrůvka – “Býčí skála”. Ribbed bracelets/armlets have been discovered in Moravia, always appearing in even numbers in five hoards dating to Ha D1–D2 (see supplement 3) from the area of the Platěnice group (Golec and Fojtík, 2020, Fig. 68): two pieces from Bělkovice-Lašťany 1 (Martínek, 2019, Fig. on p. 145); four pieces from Loučka – “Doubrava” (Čizmar and Čizmarová, 2014, Fig. 8:10–12, 9:1; Golec and Fojtík, 2020, Fig. 40:12–15), two pieces from Prostějov-Čechůvky – “Kopaniny” (Golec and Fojtík, 2020, Fig. 40:17–18), four pieces from Provodov – “Rysov” 2 (Čizmar and Čizmarová, 2014, Fig. 9:2–5; Golec and Fojtík, 2020, Fig. 40:27–30) and two pieces from Šarovy – “Hluboček” (Dohnal, 1977, Fig. 973–974 on p. 163; Golec and Fojtík, 2020, Fig. 40:20–21). This type of jewellery is not found in graves outside of settlements. In addition to the fibulae, both ribbed bracelets/armlets are of key importance for dating the Bánov – “Skalky” hoard.

Bronze wire head decorations (supplement 2a:8, 2b:3/21) – five bronze wire spiral-shaped rings (Fig. 3:13–14) have been identified as head decorations. The burial site of the Platěnice group, where these items are quite common in the graves of females (Golec and Fojtík, 2020, pp. 132–134), is a cremation site, and the placement of the jewellery on the bodies of the deceased is unidentifiable. This type of jewellery demonstrates that the owner of the jewellery from Bánov – “Skalky”,

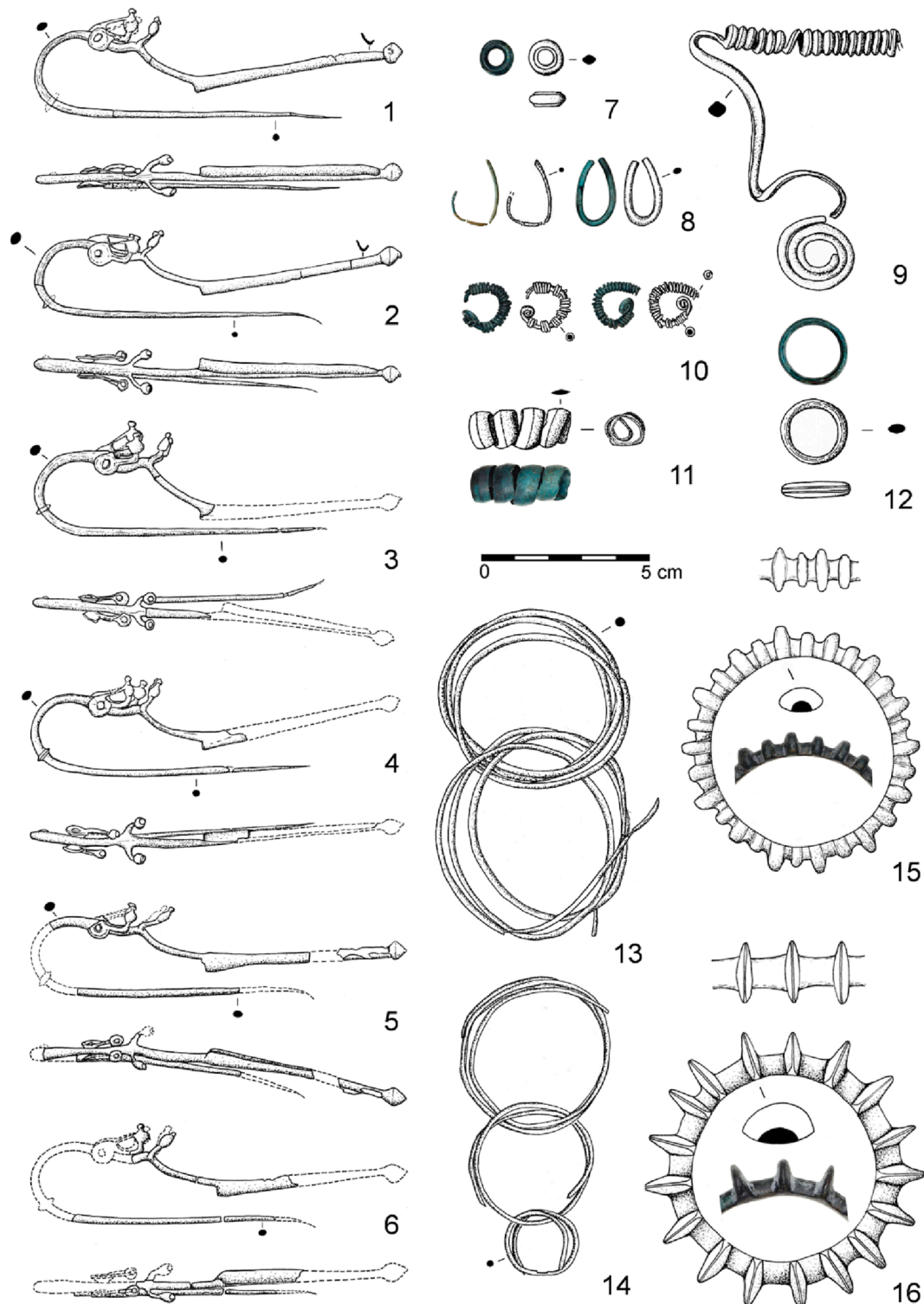


Fig. 3. Bronze items from the hoard at Bánov – “Skalky”. 1–6 – dragon fibulae (supplement 2a:11, 2b:3/22–28); 7 – bead (supplement 2a:5, 2b:2/14); 8, 10 – earrings (supplement 2a:6–7, 2b:2/16–18); 9 – harp-shaped fibula (supplement 2a:10, 2b:3/20); 11 – spiral (supplement 2a:9, 2b:2/19); 12 – ring (?) (supplement 2a:13, 2b:2/15); 13–14 – wire head decorations (supplement 2a:8, 2b:3/21) and 15–16 – ribbed bracelets/armlets (supplement 2a:14–15, 2b:4/30–31).

would dress “in the Platěnice style”. As for the Horákov group, with its inhumation burials, this type of jewellery is almost non-existent in many burial grounds, a fact that is likely related to differences in attire and head decoration. The specimens from Bánov show a trend of gradual increase in diameter, which may suggest the use, after disconnecting, as jewellery in a ponytail or bun. The connection of individual items into

two chains cannot be explained with absolute certainty, but it might suggest the original purpose of such design; or an attempt to avoid misplacement once the items had been removed, which is what women do to this day.

Bronze earrings (supplement 2a:6–7, 2b:2/16–18) – in total, we identified two pairs, i.e., four pieces. In terms of the Hallstatt Period in

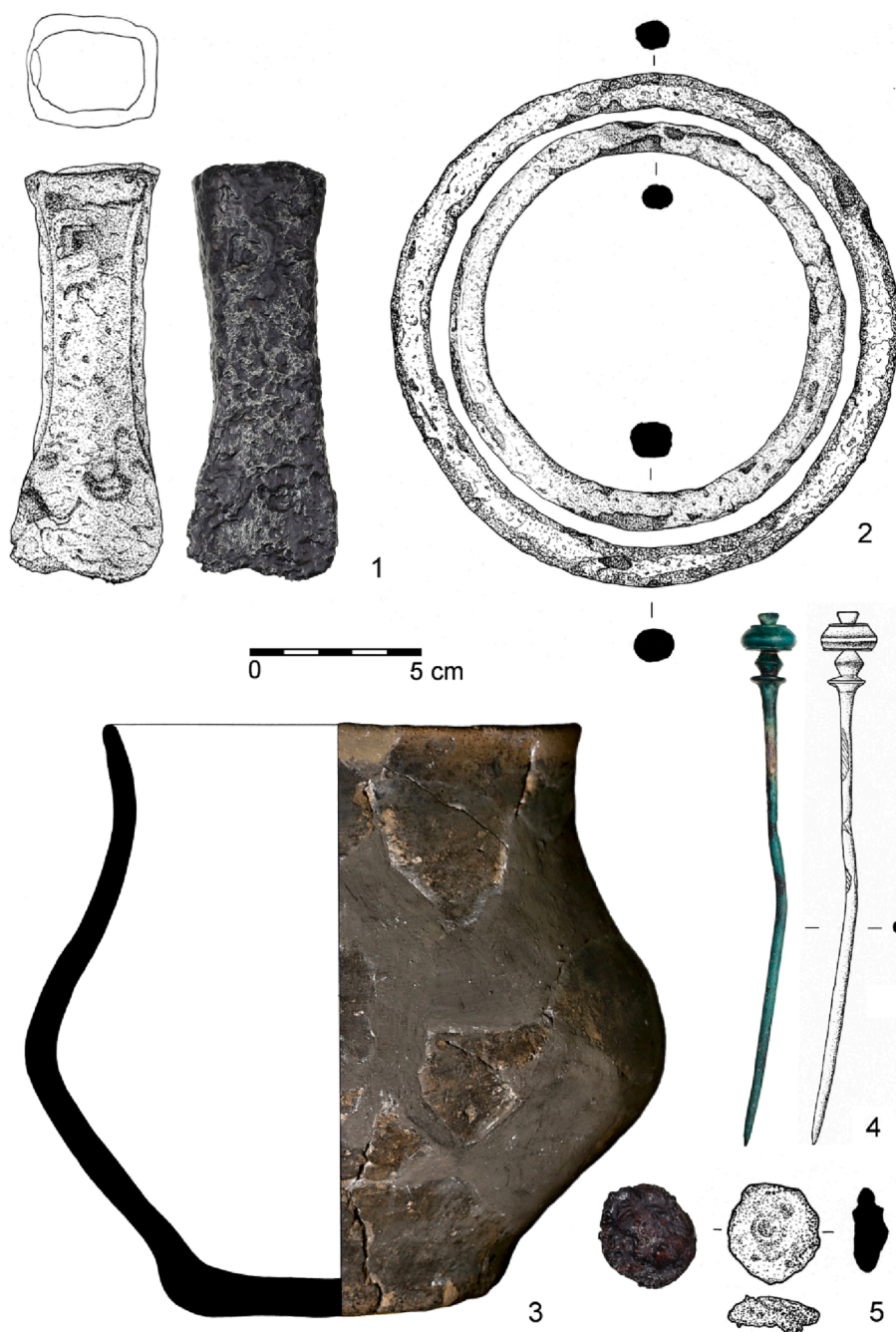


Fig. 4. Bronze, iron and ceramic items from the Bánov – “Skalky” hoard. 1 – iron axe (supplement 2a:19, 2b:4/34); 2 – iron massive belt rings (supplement 2a:16–17, 2b:4/32–33); 3 – ceramic amphora (supplement 2a:1); 4 – bronze pin (supplement 2a:12, 2b:3/29) and 5 – iron round plate (supplement 2a:18, 2b:4/35).

Moravia, it is a relatively unknown piece of jewellery for which analogies are very hard to be found. It may be a new type of jewellery during Ha D, which drew inspiration from foreign lands. The first pair is represented by crushed earrings made from a simple wire (Fig. 3:8). These earrings are quite common with the Vekerzug culture in SW Slovakia and eastern Hungary. The crushed specimens belong to the II group, according to A. Kozubová (Kozubová and Golec, 2020b, p. 214). The second pair is represented by two bronze earrings made from a wire with a spiral at the end, where another piece of wire is wound to form a spiral (Fig. 3:10). These earrings have no analogies in Moravia. They may constitute a local invention inspired by foreign tradition.

During Ha D, serpentine earrings of the eastern type started to appear in Moravia. This type played a vital role in the occurrence of types of

earrings that are commonly found in pairs, especially in areas attributed to the Platěnice group and former Platěnice group in the Late Hallstatt Period (Bartík et al., 2017, Fig. 5:9,14,57,59,64,79–80,108–109,111–112,123,127,132,134,146,156; Kozubová and Golec 2020a, p. 353, Abb. 2:24–25; 2020b, 214) Such types were imitated in Moravia as well (Kozubová and Golec 2020a, p. 253, Abb. 2:27–29).

Bronze ring (?) (supplement 2a:13, 2b:2/15) – Rings were scarce in Moravia. However, they were typically discovered with some members of top elites. It is unclear whether or not the specimen from Bánov (Fig. 3:12) was, in fact, a ring. In terms of size, it would be consistent with that of a ring; the inner diameter is 16 mm, corresponding to the dimensions of women’s rings. A bronze ring was found on the left hand of a female magnate (compound belt-woman) from the Horákov group

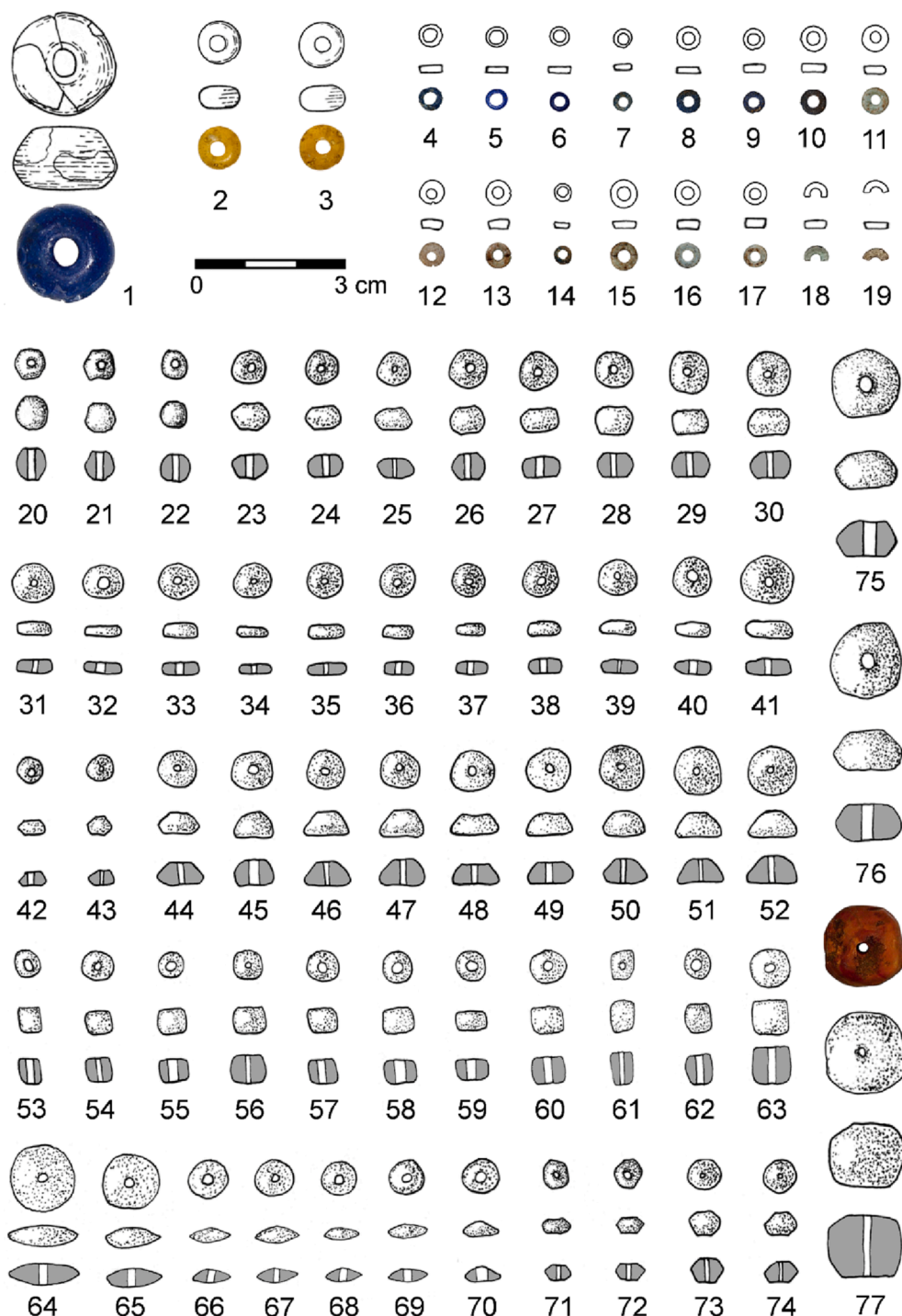


Fig. 5. Glass and amber items from the Bánov – “Skalky” hoard. 1–19 – glass beads and ring beads (supplement 2a:2–3, 2b:1/1–4) and 20–77 – amber beads (supplement 2a:4, 2b:1/5, 2/6–13).

at Vojkovice – “Vojkovické nivy”, grave H111 dating to Ha D1 (Golec, 2005, Tab. 88:5; Golec and Fojtík, 2020, Fig. 68), with inner diameter of 16 mm. Two bronze rings and two gold spiral-shaped rings resembling snake rings were found in two graves of magnates of the Platěnice group at Jevíčko III, A/39 and B/39 – “Na Panském”, dating to Ha D1 (Jarůšková et al., 2014, p. 162, Fig. 62; Golec and Fojtík, 2020, Fig. 68). Only a drawing of one gold ring has been preserved, the inner diameter of 15 mm suggests it was worn by a woman. Eight gold spiral wire rings with rosettes on both ends were found in the Habrůvka – “Býčí skála” sanctuary used by both groups; two of them were said to have been found on forefingers (Wankel 1882, p. 398; Novák, 2020, Fig. on p. 167;

Wankel and Koudelka, 2022, p. 222), but they have not been preserved. One bronze ring stored in the vicinity of a green-coloured finger bone remains unpublished in the NHM Wien depository. The timeframe of the site was identified as Ha D1b–D3 (Golec and Mírová, 2020), and the specimens probably belonged to female members of the elite. The Bánov specimen again alludes to a female member of an elite class.

Bronze spiral (supplement 2a:9, 2b:2/19) – this item (Fig. 3:11) is known from several sites in Moravia. It was likely used along with glass or amber beads. This use was attested in a grave of a magnate from the Horákov group at Modřice – “Sádky”, grave H818. Pendants on compound belts with a double cross were combined with glass beads with

Table 1

Calculated ratios of oxides of published data.

| | Na ₂ O/K ₂ O | Na ₂ O/CaO | K ₂ O/MgO | Site | Period | Reference |
|--------------|------------------------------------|-----------------------|----------------------|---|---------------------------------------|---------------------------------------|
| K-rich | 0.15–1.16 | 1.94–2.26 | 3.08–3.22 | Podleże | LT C1b | Purowski and Wagner 2015 |
| | 0.25–0.28 | 0.34 | 2.32–3.86 | Chotín | 4 th –2 nd BC | Brill 1999 |
| | 0.22 | 0.17 | 1.86 | Glastonbury | 9 th –10 th AD | Brill 1999 |
| Mixed Alkali | 1.00–2.17 | 0.46–2.44 | 10.06–90.00 | Sofievka | 3000 BCE | Klochko and Stolpiak 1995 |
| | 5.62 | 2.02 | 0.62 | Nuzi | 15 th –14 th BC | Brill 1999 |
| | 0.68 | 2.38 | 10.06 | Elateia-Alonaki | 13 th –10 th BC | Nikita, Nightingale and Chenery, 2016 |
| | 0.47–0.75 | 2.54–4.24 | 12.44–22.19 | Frattesina | 11 th –10 th BC | Brill 1999 |
| Na-rich | 0.61–0.89 | 1.11–2.43 | 1.80–2.74 | Ljubljana, Dobova | LBA | Šmit, Laharnar and Turk 2020 |
| | 0.63 | 0.14 | 1.35 | Glastonbury | 9 th –10 th AD | Brill 1999 |
| | 4.94–8.64 | 2.81–4.60 | 0.00–0.77 | Bakony-vicinity | LBA | Ilon and Kasztovszky 2016 |
| | 3.55–332.00 | 0.45–5.77 | 0.04–1.11 | Mokronog, Stična, Valična vas, Novo mesto | LBA-EIA | Šmit, Laharnar and Turk 2020 |
| | 4.69–8.08 | 5.02–5.58 | 2.52–4.22 | Chojno-Golejewko | Ha C/D | Purowski et al. 2014 |
| | 2.19–11.65 | 3.83–9.31 | 3.20–8.16 | Domasław | Ha C/D | Purowski et al. 2014 |
| | 6.47–8.20 | 5.57–6.75 | 3.00–3.74 | Kietrz | Ha C/D | Purowski et al. 2014 |
| | 11.17 | 2.68 | 0.90 | Kraków-Bieżanów | Ha C/D | Purowski et al. 2014 |
| | 9.29 | 10.61 | 1.93 | Orzech | Ha C/D | Purowski et al. 2014 |
| | 2.39–22.66 | 1.80–8.32 | 1.00–6.92 | Świbie | Ha C/D | Purowski et al. 2014 |
| 4.82–12.92 | 5.63–5.71 | 2.47–4.21 | Gorszewice | Ha C/D | Purowski et al. 2014 | |
| 8.77–65.00 | 1.41–3.44 | 0.65–2.32 | Chotín | 4 th –2 nd BC | Brill 1999 | |
| 9.23–27.00 | 2.79–9.11 | 0.37–1.79 | Podleże | LT C1b–C2 | Purowski and Wagner 2015 | |

Table 2

Oxide concentrations in mass %. Slashes (-) denote non-detected elements below the detection limits. The numbers # refer to glass beads shown at Fig. 5:1–19. (s – surface; i – inner part).

| # | Colour | Na ₂ O | MgO | Al ₂ O ₃ | SiO ₂ | P ₂ O ₅ | SO ₃ | Cl | K ₂ O | CaO | TiO ₂ | MnO | Fe ₂ O ₃ | NiO | CoO | CuO | ZnO | PbO |
|------|--------|-------------------|------|--------------------------------|------------------|-------------------------------|-----------------|------|------------------|-------|------------------|------|--------------------------------|------|------|------|------|------|
| 1 | Blue | 2.80 | 1.04 | 1.44 | 68.88 | 0.13 | 0.73 | 2.47 | 1.35 | 17.34 | 0.26 | 0.05 | 1.29 | 0.03 | 2.11 | 0.07 | – | – |
| 2 | Yellow | 4.04 | 0.70 | 1.53 | 69.80 | 0.31 | 0.47 | 2.06 | 0.47 | 19.78 | 0.12 | 0.05 | 0.67 | – | – | – | – | – |
| 3 | Yellow | 4.88 | 0.76 | 1.26 | 68.65 | 0.02 | 0.48 | 2.25 | 0.41 | 20.41 | 0.14 | 0.01 | 0.72 | – | – | – | – | – |
| 4 | Blue | 2.97 | 0.35 | 0.02 | 80.73 | 0.00 | 0.55 | 0.47 | 1.31 | 3.30 | 0.00 | – | 6.33 | – | 0.22 | 3.75 | – | – |
| 5 | Blue | 2.49 | 0.57 | 1.21 | 69.18 | 0.06 | – | 1.27 | 0.22 | 13.16 | 0.27 | 0.28 | 2.74 | – | 0.26 | 0.36 | – | 7.94 |
| 6 | Blue | 5.15 | 1.55 | 6.13 | 70.95 | 0.20 | 0.69 | 0.91 | 2.89 | 6.11 | 0.60 | 0.44 | 3.65 | – | 0.33 | 0.34 | 0.06 | – |
| 7 | Blue | 0.88 | 0.11 | 1.07 | 89.63 | 0.00 | 0.37 | 0.34 | 0.55 | 2.13 | 0.00 | 0.07 | 2.92 | – | – | 1.91 | – | – |
| 8 | Blue | 0.62 | 0.26 | 1.20 | 85.17 | 0.19 | 0.29 | 0.34 | 0.60 | 1.94 | 0.00 | 0.15 | 7.57 | – | 0.27 | 1.40 | – | – |
| 9 | Blue | 0.38 | 0.18 | 1.08 | 90.25 | 0.00 | 0.63 | 0.34 | 0.45 | 1.48 | 0.00 | 0.42 | 3.12 | – | 0.32 | 1.35 | – | – |
| 10 | Blue | 1.27 | 0.14 | 1.57 | 88.18 | 0.00 | 0.10 | 0.35 | 0.69 | 1.56 | 0.00 | 0.70 | 3.06 | – | – | 2.38 | – | – |
| 11 | Green | 0.88 | 0.12 | 0.50 | 86.44 | 0.00 | 1.17 | 1.01 | 0.32 | 1.58 | 0.00 | 0.08 | 6.68 | – | – | 1.22 | – | – |
| 12 | Green | 0.37 | 0.22 | 2.45 | 88.91 | 0.00 | 0.32 | 0.45 | 0.44 | 2.12 | 0.20 | 0.12 | 2.47 | – | 0.03 | 1.90 | – | – |
| 13 | Green | 0.74 | 0.54 | 6.23 | 79.71 | 0.86 | 0.71 | 0.18 | 1.10 | 2.88 | 0.80 | 0.11 | 4.46 | 0.09 | – | 1.30 | 0.31 | – |
| 14 | Green | 3.87 | 0.74 | 5.74 | 61.68 | 0.19 | 0.38 | 0.65 | 1.87 | 8.76 | 0.40 | 0.00 | 7.74 | – | – | 1.49 | 6.49 | – |
| 15 | Green | 0.86 | 0.47 | 9.51 | 56.41 | 0.02 | 0.48 | 0.49 | 1.42 | 3.28 | 0.75 | 0.06 | 24.73 | – | – | 1.42 | 0.10 | – |
| 16 | Green | 0.82 | 0.04 | 0.48 | 85.24 | 0.04 | 0.15 | 0.78 | 0.16 | 2.07 | 0.00 | 0.22 | 1.06 | – | – | 8.82 | 0.12 | – |
| 17 | Green | 1.14 | 0.34 | 2.72 | 80.27 | 0.15 | 1.16 | 0.90 | 0.72 | 4.54 | 0.22 | 0.13 | 2.41 | – | – | 5.04 | 0.27 | – |
| 18.s | Green | 1.39 | 0.95 | 5.60 | 81.47 | 1.88 | 2.28 | – | 1.10 | 0.71 | 0.84 | 0.31 | 1.76 | – | – | 1.71 | – | – |
| 18.i | Green | 1.11 | 1.30 | 2.44 | 85.25 | 2.08 | 2.28 | – | 1.12 | 0.67 | 0.80 | 0.39 | 1.66 | – | – | 0.91 | – | – |
| 19.s | Green | 1.58 | 1.38 | 8.96 | 77.44 | 2.04 | 2.24 | – | 0.91 | 1.00 | 1.19 | – | 2.25 | – | – | 1.02 | – | – |
| 19.i | Green | 1.39 | 1.44 | 17.27 | 66.20 | 2.16 | – | – | 0.90 | 2.62 | 3.13 | 0.24 | 4.18 | – | – | 0.47 | – | – |

identical bronze spirals (Golec and Kos, 2020, Fig. 5:10). However, the true purpose of use of this item in the hoard at Bánov – “Skalky” cannot be determined.

Bronze bead (supplement 2a:5, 2b:2/14) – the specimen has rims on both sides (Fig. 3:7). Bronze beads were not produced during this period in Moravia, the reason for the item’s uniqueness. Bronze beads occur in other regions (e.g., Poland, Gediga et al., 2020, 98) but are typologically different. Glass and amber beads with rims did not become widely used in this period. In Moravia, among thousands of amber beads, only one piece with rims on both sides was found in a hoard at Provodov – “Rysov” 2 (supplement 3; Čizrnář and Čizrnářová, 2014, Fig. 10:21). Factually speaking, bronze jewellery with rims corresponds to Ha D1–D2. As for Moravia, they are associated, for example, with sheet-metal melon-shaped bracelets/armlets from the Habrůvka – “Býčí skála” sanctuary from Ha D1b (Parzinger, Nekvasil and Barth, 1995, pp. 179, 181, Abb. 1, Taf. 3–4).

Bronze pin (supplement 2a:12, 2b:3/29) – the exact location of the bronze pin measuring 15.4 cm (Fig. 4:4) within the hoard is unclear. Traces of corrosion (supplement 2b:3/29) from massive iron belt rings

(Fig. 4:2) suggests that it must have been a part of a leather belt decorated with amber beads. The use of this pin for the purpose mentioned above represents an entirely novel discovery in the context of Moravia; there arise, however, essential questions regarding its typology and the period of production. The shape of the pin does not conform to any kind of Hallstatt Period pins. The pin corresponds to the type with the conical head of “Czech” origin, according to J. Říhovský, the Drhovice-Beckern type. The surprising fact is the dating of this item to the early stage of the Urnfield culture (13th–12th century BCE) (Říhovský, 1979, pp. 159–162, Taf. 50:1230–1259, 87). Bronze and iron pins attributed to the Hallstatt Period have been summarised quite recently (Golec and Fojtík, 2020, Fig. 36–37), and the assessment shows that it is indeed a pin that is at least 500–600 years old. A similar scenario occurred with the placement of a “Czech” pin in the Horákov group in the Brno region, specifically a grave of a female member of the elite with a four-wheeled wagon dating to Ha C2a (675–650 BCE) at Modřice – “Rybničky”, grave H3815 (Golec and Fojtík, 2020, Fig. 36:36, 68), it contained a bronze pin of similar shape, identified as the Platěnice type, with seal-shaped head (Říhovský, 1979, pp. 162–164, Taf. 51:1259–1284, 87) whose dating, according to

Table 3

Calculated Na²O/K₂O, Na²O/CaO and K²O/MgO ratios. (s – surface; i – inner part).

| # | Color | Na ₂ O/K ₂ O | Na ₂ O/CaO | K ₂ O/MgO |
|------|--------|------------------------------------|-----------------------|----------------------|
| 1 | Blue | 2.08 | 0.16 | 1.29 |
| 2 | Yellow | 8.63 | 0.20 | 0.67 |
| 3 | Yellow | 11.84 | 0.24 | 0.54 |
| 4 | Blue | 2.27 | 0.90 | 3.74 |
| 5 | Blue | 11.53 | 0.19 | 0.39 |
| 6 | Blue | 1.78 | 0.84 | 1.86 |
| 7 | Blue | 1.59 | 0.41 | 5.00 |
| 8 | Blue | 1.04 | 0.32 | 2.31 |
| 9 | Blue | 0.85 | 0.26 | 2.50 |
| 10 | Blue | 1.84 | 0.81 | 4.93 |
| 11 | Green | 2.72 | 0.56 | 2.67 |
| 12 | Green | 0.82 | 0.17 | 2.00 |
| 13 | Green | 0.67 | 0.26 | 2.02 |
| 14 | Green | 2.07 | 0.44 | 2.54 |
| 15 | Green | 0.60 | 0.26 | 3.02 |
| 16 | Green | 5.02 | 0.40 | 4.00 |
| 17 | Green | 1.58 | 0.25 | 2.12 |
| 18.s | Green | 1.46 | 1.16 | 1.21 |
| 18.i | Green | 1.82 | 0.89 | 0.58 |
| 19.s | Green | 1.27 | 1.54 | 1.11 |
| 19.i | Green | 1.04 | 1.36 | 1.22 |

J. Říhovský, is similar to that of the Drhovice-Beckern type. The common attribute of both contexts is the elite origin of their assumed owners. This situation also occurred in the Platěnice group with a grave of magnates (male and female) at Seloutky – “Na Šťastných”, grave H2/1926 with the four-wheeled wagon. Grave Ha C2b (650–625 BCE) contained two bronze pins with a large vase-shaped head dating to the 10th century BCE (Říhovský, 1979, pp.191–207, Taf. 58:1561–1562, 87; Golec and Fojtík, 2020, Tab. 30:2a, 19). The two examples can so far be explained as denoting the *family silver* of a female member of the elite associated with the burial rite.

Iron belt rings (supplement 2a:16–17, 2b:4/32–33) – two full iron massive rings with outer diameters of 14 and 12 cm, respectively (Fig. 4:2) formed a functional unit under the ceramic vessel according to the circumstance of the discovery. According to an analysis report prior to conservation, the set also included a bronze pin (Fig. 4:4) and several amber beads (Fig. 5:20–30, 75–77). Double iron rings on one item constitute an exception in Moravia, as isolated discoveries of one piece serving as the front piece of a belt are more typical. The rings were found on the skeletal remains of the Horákov group in the Brno region; however, we are not aware of any inhumation burial rites within the Platěnice group. The topic of belts in Moravia has been summarised quite recently (Golec and Fojtík, 2020, pp. 125–132). Their occurrence culminates in the Ha D1 phase. A very unique item associated with the Horákov group is a compound belt with approximately 15.000 bronze narrow rings and other elements. Situated in the front part of a belt belonging to a female magnate from Modřice – “Sádky”, grave H818 dating to Ha D1b, was a 12-cm massive iron ring (Golec and Kos, 2020, Tab. 5:7; Golec and Fojtík, 2020, Fig. 68). The burial ground in Modřice, at sites locally known as “Sádky” and “Rybníky”, is the largest Horákov group necropolis with approximately 100 graves. Massive iron belt rings, one piece each, were found at “Sádky”, even in graves attributed to middle classes – H835 (iron), H878 (iron); H1801 contained oval-shaped decorated bronze belt hook in the shape of an armband/bracelet (Kos, 2004, Fig. 2:2, 3:1–2). Grave H1801 dates to Ha D1 (Golec and Fojtík, 2020, Fig. 68). Another full iron massive belt ring is known from a compound belt of a female magnate from Brno-Zábrdovice – “ul. Příkop”, grave 214/19, burial I (Čizmarová and Holubová, 2012, Fig. 125:8, 126, 135:38, photo 69–70) dating to Ha D1 (Golec and Fojtík, 2020, Fig. 68). A bronze massive open belt ring, 14 cm in outer diameter, was probably placed in the central sanctuary at Habrůvka – “Býčí skála” (dating to Ha D1b–D3) (Parzinger, Nekvasil and Barth, 1995, Taf. 14:127; Golec and Mírová, 2020). Also found at this site was a



Fig. 6. Assumed original placement of jewellery from the hoard at Bánov – “Skalky” on a female magnate’s body.

compound belt on a skeleton where the front decorative piece was a bronze ribbed plate (erroneously referred to in the past as cardiophylax); it is the most luxurious female item of the Horákov group. The same object was found in a pottery vessel hoard attributed to the Platěnice group found in Bohdalice-Pavlovice – “Ve Žlebcách” (supplement 3); both belts date to Ha D1 (Golec and Fojtík, 2020, Fig. 42:1,5, 68). The centre of analogies to these belt rings from Bánov – “Skalky” is in Ha D1 and inclines to the Brno region in the Horákov group. The tying mechanism using two rings is a novelty in this environment (this system is used to this day on belts or backpack straps). A different tying method consists of rings with gaps where the loop would slide similarly to keys sliding on a key ring. The safety measure preventing the belt from unbuckling was probably a bronze pin, which is a unique feature for

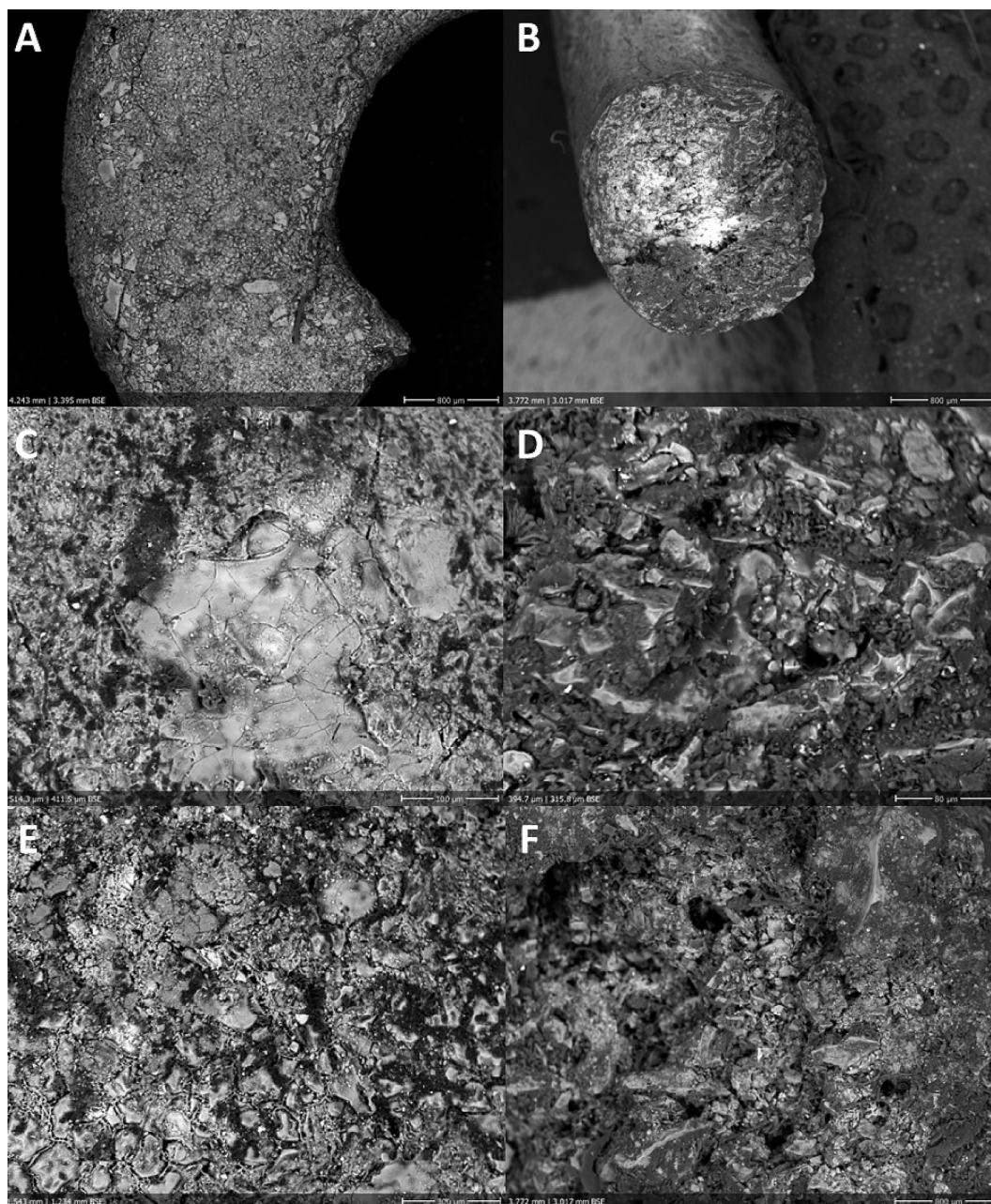


Fig. 7. SEM images of the surface and inner part of glass beads in BSE mode (A and C – surface of bead no. 18, B and D inner part of bead no. 18; surface (E) and inner part (F) of bead no. 19).

which there is no analogy in Moravia, as far as the authors are concerned.

Iron axe (supplement 2a:19, 2b:4/34) – with quadratic socket and slightly fan-shaped blade. It is an item (Fig. 4:1) which is a rarity compared to the context of women's jewellery, and it is assumed that its significance is symbolic. The axe was discovered without a shaft, which confirms storage in a vessel. As for typology, it is a northern Alps-type axe. This is only the second instance where an axe was found at a site in Moravia; so far, we have only been aware of five pieces from the sanctuary at Habrůvka – “Býčí skála” from Ha D1b–D3 (Parzinger, Nekvasil and Barth, 1995, pp. 68–69, Taf. 29:318, 30:320–322; Golec and Mírová, 2020). Also preserved was the description of the context of the so-called small cremation ground where two iron axes of unknown type were placed outside of human skeletons, which suggests that they had been placed there as votive items in the sanctuary (Wankel 1882, p. 382). In the case of Bánov – “Skalky”, owing to the dating of the entire

hoard as Ha D1b, it is the oldest classified piece in Moravia. Axes with sockets would later become popular during the La Tène Period when they suddenly had prominently fan-shaped blades. The occurrence of these axes during the Hallstatt Period is noted along the entire pre-Alpine region from France to Slovenia. Still, they were rare during the Ha D in the region of the present-day Czech Republic. The social status of the owner can be deduced from a specimen found in grave I, burial 2 in Skalice nad Lužnicí, Tábor District, with a wagon, harness, bronze metal-sheet vessels (toreutics), Vekerzug chakan axe, an iron knife and jewellery, which dates to LT A (Michálek, 2017, pp. 380–387, Fig. 265, Tab. 297–309). As for Moravia, we are aware of three pieces from the Provodov – “Rysov” hillfort (Čizmar, Golec Mírová and Golec, 2021, Fig. 2:30–32, 3:30–32) whose dating is roughly Ha D1 – LT A. The placement in hoards is very prominent. We are aware of two pieces from hoard 1/1987 z LT A from the hillfort at Jezkovice – “Černov” (Čizmar, 1993, Fig. 254:1,7–8); a third one was found along with other LT A

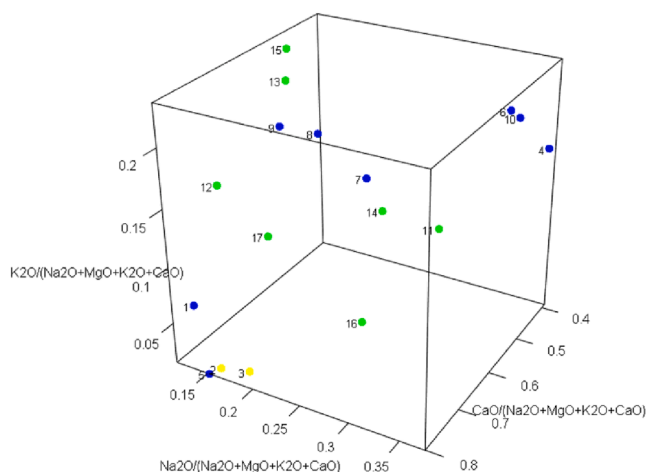


Fig. 8. The distribution of glasses according to the fraction of Na₂O, K₂O and CaO in the total sum of earth and earth-alkaline oxides.

items. As for Bohemia, we are aware of one iron piece from a hoard containing four iron items from the mound at Vráž/Zlivice, Písek District, dating to Ha D (Michálek, Fröhlich and Chvojka, 2015, Fig. 8). They are more common in western Slovakia, namely five hoards: two iron pieces out of 21 items from Krásna Hôrka, Tvrdošín District, dating to Ha D2 – LT A (Novotná, 1984, pp. 52–56); one iron piece out of 12 items from house number 2 – Smolenice – “Molpír” 1, Trnava District (Dušek and Dušek, 1984, pp. 13–14, Taf. 9:1–2, 5–13, 18); one iron piece of nine items – Smolenice – “Molpír” 3 (Studeníková, 2007, Abb. 6:1–9); one iron piece out of 28 items – Smolenice – “Molpír” 4 (Čambal and Makarová, 2020b, Fig. 6–7) and two iron pieces out of seven items from Zástranie – “Stránk”, Žilina District (Studeníková, 2007, Abb. 7). Hoards from the acropolis of the central hillfort (six hoards in total: no. 1–6, Čambal and Makarová, 2020b) from Smolenice – “Molpír” date to Ha C2b–D1: hoard no. 1 is the oldest of all, its dating is possible because of a harness – as belonging to Ha C2b; hoard no. 4 is more recent, its two navicella fibulae place it to Ha D1 and it coexists with the Bánov – “Skalky” hoard.

Ceramic vase (locally an earless “*amphora*”; supplement 2a:1) – it is a vessel without handles (Fig. 4:3). Its design and style do not correspond, in terms of craftsmanship, with the high artistic quality of jewellery as there is further evidence of discoveries of more

sophisticated pottery in Moravia from the same period. Furthermore, the vase reveals a significant geographical fact – despite having possibly been produced locally, its shape corresponds to the neighbouring Kalenderberg group in western Slovakia. Such vessels can be found in the central fortified hillfort at Smolenice – “Molpír”, approximately 60 km to the south (Fig. 10). Similar vessels are found in dwellings in the acropolis in large quantities (Dušek and Dušek, 1984; 1995). Such concentration of findings has been unheard of in Moravia till the present day. As for the Moravian centre in the Habrůvka – “Býčí skála” sanctuary, dating to Ha D1b–D3, there is only one known specimen of this kind of vessel (Parzinger, Nekvasil and Barth, 1995, Taf. 64:634), and it is considered an exception. The shape of the vase from Bánov – “Skalky” corresponds, in Moravia, to Ha D.

Glass beads (supplement 2a:2–3, 2b:1/1–4) – 40 pieces of glass beads and ring beads in four groups of colours. One large blue bead (Fig. 5:1), two medium-sized yellow beads (Fig. 5:2–3), seven narrow blue ring beads (Fig. 5:4–10) and 30 light green narrow ring beads (which are very compared to other; in local terminology called “subtle”; Fig. 5:11–17), some of them in fragments (e.g., Fig. 5:18–19). The term ring bead refers to the terminology defined by N. Venclová (Venclová, 1990) and earlier by T. E. Haevernick (Haevernick, 1995). The large beads (Fig. 5:1–3) are visibly uncorroded, some of the blue and green narrow ring beads are uncorroded or slightly/unevenly corroded (Fig. 5:5–6, 11–19), and some blue beads show more extensive surface corrosion (Fig. 5:4, 7–10). The blue and yellow pieces are translucent glass, and the green pieces are opaque glass. The production technique was not determined. Typologically, individual pieces were classified according to N. Venclová, 1990 – large blue beads (type 130), medium-sized yellow beads (type 136), small narrow annular blue ring beads (type 155) and narrow light green ring beads (type 159).

Glass beads are found in the graves of Moravia’s elite and more affluent middle-class members, hence their common presence in the hoards. The sudden spike in numbers is attributed to phase Ha D (Golec and Fojtík, 2020, pp. 135–137). The prevalence of glass coincides with the culmination of long-distance trade with the strategic amber along the Amber Road; let us believe it possibly served as a barter commodity. As for glass during the Hallstatt Period, our primary focus is on the origin of glass semi-products and the place of production of the final products. In both categories, we searched for foreign origin, and for this reason, chemical analyses were carried out. An exception in terms of Moravia is a set of 4.500 pieces of beads and narrow ring beads from the Habrůvka – “Býčí skála” sanctuary dating to Ha D1b–D3 (Golec and Mírová, 2020). Due to a large quantity of local types of beads, T. E.

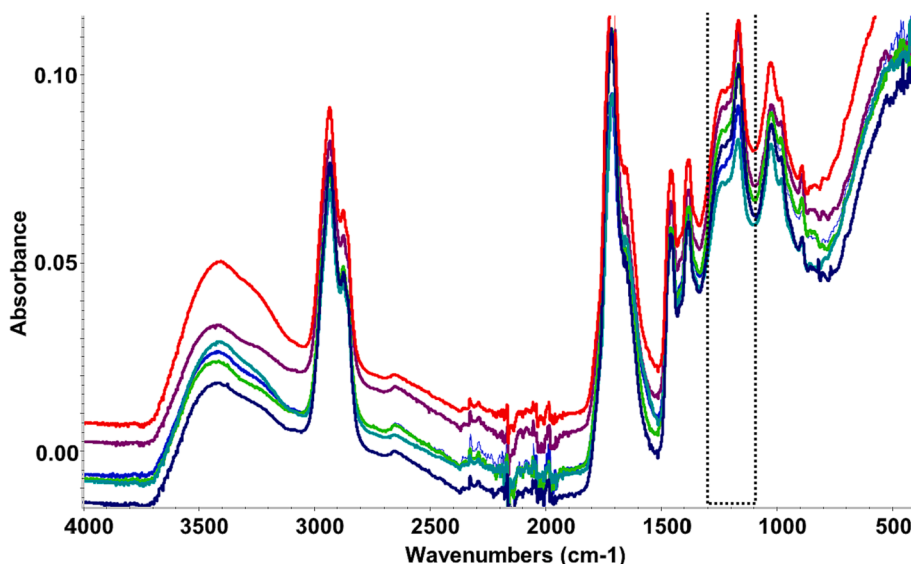


Fig. 9. FTIR spectra of six samples of amber from the Bánov – “Skalky” hoard proved Baltic provenance.

Haevernick predicted the existence of a local glass workshop (Haevernick, 1995, pp. 93-97). However, this hypothesis was not confirmed via chemical analyses. In addition to graves, the beads were found in five hoards and one sanctuary (supplement 3) – Bánov – “Skalky” (40 pcs); Bohdalice-Pavlovice – “Ve Žlebčách” from Ha D1 (10 pcs); Diváky – “Burberk” from Ha D1-D2 (? pcs – set is not available); sanctuary with burials and hoards at Habrůvka – “Býčí skála” from Ha D1b-D3 (about 4,500 pcs, possibly from multiple contexts); Prostějov-Čechůvky – “Kopaniny” from Ha D1-D2 (164 intact specimens and 70 pcs of fragments) and Provodov – “Rysov” 2 from Ha D1-D2 (29 pcs). More detailed information on the dating of the sites can be found in (Golec and Fojtík, 2020, Fig. 68; Golec and Mírová, 2020). All findings suggest sets of women’s jewellery. When focusing on the larger monochromatic beads, equivalents of the blue beads from Bánov – “Skalky” (Fig. 5:1), in the Platěnice group area, from graves of the largest burial ground at Moravičany – “Dílečky” (330 graves), are of particular importance. Glass beads of all sizes were found in 16 graves, large plain beads with outer diameter of 17–27 mm (1–8 pcs) were found only in six graves (Makarová, 2017, 31–37, Figs. 12–13), which approximately corresponds to 2% of the total number of graves. Only a handful of graves allowed for more precise dating due to their metal inventories. We identified eight chamber graves at the burial site; large beads were found in graves H114 and H1145 dating to Ha D1-D2. Pit grave H1154, diameter 65 cm, dating to Ha D2b, contained fragments of 2–4 pieces of monochromatic beads of blue, green or yellow colour, which possibly underwent the cremation process (Nekvasil, 1982, pp. 339, 341, 346, Tab. 313:6–7, 15–17, 314:15–17). Chamber graves were identified as graves of women from the upper middle class (Golec and Fojtík, 2020, 82, Figs. 26, 32, 68). It can be surmised that glass beads and narrow ring beads appeared in the local redistribution network, which was built in the direction from the elites down to the lower classes.

Glass is found unevenly throughout the whole Hallstatt culture and is found only in some regions. The research on the Hallstatt Period glass in Moravia is currently in its early stages, and it will require further extensive research in the future. The East Hallstatt culture is well represented at its southern edge in Slovenia and its southern neighbourhood in northern Italy. Moravia forms a very distinct group in the northern part of the area mentioned above (Fig. 9). A considerable volume of glass material is also evident to the north of Moravia, in the territory of Poland. At this point, we draw our attention to two areas – Slovenia and Poland, among which we identified Moravian glass mainly due to chemical analyses (for more details, see 4.1). The chronology of Moravia has recently been synchronised with large regions of the Hallstatt culture (Czech Republic, Germany, France, Austria, Hungary and Slovenia) through the comparison of magnate/prince graves with wagons and horse harnesses (Golec Mírová, Golec and Fojtík, 2023). Slovenia is significantly represented by the chronology of the central Stična site, mound 48 (Gabrovec et al., 2008/2010, Abb. 42), and analogies with the dragon/serpentine fibulae from Bánov in Ha D1b in the magnate/princely female grave 27 have already been pointed out above. The dynamics of the glass occurrence in Stična follows the Stična 2 horizon (Ha D1a; 620–580 BCE; a sharp increase with a varied typological spectrum is recorded in the serpentine fibula horizon (Ha D1b-D2a; 580–540 BCE) and then the Certosa fibula horizon (Ha D2b-D3; 540–450 BCE); these are differently sized beads, similarly narrow ring beads of different colours and other new specimens in the Certosa fibula horizon (see Gabrovec et al., 2006; Hvala, 2012, pp. 287–289, Fig. 107). The hoard from Bánov – “Skalky” (Ha D1b) is in line with the dynamics of increasing discoveries of fibulae in this area; the peak of occurrence corresponds to the serpentine fibula horizon (Golec and Fojtík, 2020, pp. 135–137, Fig. 68), while in the central site Habrůvka – “Býčí skála” with about 4,500 pieces of glass corresponds to Ha D1b-D3 (Golec and Mírová, 2020). A different situation is monitored in Poland, where the opposite is pointed out for the occurrence of glass material in Ha C (e.g. Purowski, 2013; Purowski et al., 2014, Table 1). However, the Polish chronology does not quite correlate with other regions of Europe,

including and especially the neighbouring Czech Republic. Crucial for the chronology is the large burial site of Domasław south of Wrocław, whose previous conception of chronology (Goslar, 2019) is now being re-evaluated (A. Josefowska). The overall extent of the site corresponds to the continuous Ha C1 – LT A range. The preliminary results point to the fact that the local occurrence of glass (mainly glass faience) can already be dated to the Ha C2–D1 (e.g., graves 1022, 3330 and 5977; see in Gediga and Josefowska, 2018a, 2018b), which corresponds to the Stična 1–2 horizons and the serpentine horizon 1 in Slovenia.

Amber beads (supplement 2a:4, 2b:1/5, 2/6–13) – 1,500–2,000 pieces of amber beads (Fig. 5:20–77) are the largest set of findings from the same era from prehistory, Middle Ages and Modern Era within the territory of the Czech Republic. The circumstances of the discovery suggested that the set was divided into two groups: one was discovered underneath a vessel (Fig. 5:20–30, 75–77), and it may have been a part of a belt along with massive iron rings (Fig. 4:2) and a bronze pin (Fig. 4:4), while the second group was placed inside the vessel (Fig. 5:31–74) and constituted a necklace along with glass beads and ring beads (Fig. 5:1–19). One part of the amber beads has remained shiny (supplement 2b:1/5, 2:6–9), while the other group shows significant corrosion (supplement 2b:2/11–13). We cannot fully determine whether the groups had separated due to specific conditions inside and underneath the vessel.

As for typology, the hoard contained ordinary handcrafted items typically associated with settlement workshops. The basic typological classification was created based on Chytráček et al. (2017, Table 4): A1 – sphere-shaped (ϕ about 0,6 cm; Fig. 5:20–22), A2a – oval-shaped (ϕ 0,7–0,8 cm; Fig. 5:23–30), A2b – wheel-shaped (ϕ 0,7–0,9 cm; Fig. 5:31–41), A2c – loaf-shaped (ϕ 0,5–1 cm; Fig. 5:42–52), A2d – cylindrical (ϕ 0,5–0,8 cm; Fig. 5:53–63), A2e – disc-shaped (ϕ 0,7–1,3 cm; Fig. 5:64–70) or A2f – lentil-shaped (ϕ 0,5–0,6 cm; Fig. 5:71–74) beads of small sizes under 1 cm. Larger specimens of around 2 cm or larger are extremely rare in Moravia. In terms of typology, the three pieces are identical to irregular types A2f (ϕ 1,4 cm; Fig. 5:75–76) and A1 (ϕ 1,5 cm; Fig. 5:77). The beads were found to have been cut and ground by hand; no utilisation of lathe was identified.

Amber from Moravia, dating to the Hallstatt Period, has recently been the subject of several findings, with 34 sites identified (Chytráček et al., 2017, pp. 146-160; Golec and Fojtík, 2020, pp. 137–139). Amber is typically found at burial grounds (19 sites), settlements (nine sites) and hoards and sanctuaries (six sites). All sites refer to sets of women’s jewellery. Of particular significance were discoveries of workshops at five settlements dating to Ha D1–D2 (Brno-Ivanovice – “Na Dílech”, Brno-Řečkovice – “Díly”, Kralice na Hané – “Kralický háj”, Kuřim – “Pod Toskou”, Tišnov – “ul. Dlouhá”). Another specific feature of central and eastern Moravia is the creation of hoards (21 sites; supplement 3; Golec et al., 2022), some of which did contain amber. They include six sites – Bánov – “Skalky” (1,500–2,000 intact pcs a fragments); Bohdalice-Pavlovice – “Ve Žlebčách” (three pcs and one fragment) dating to Ha D1; Diváky – “Burberk” (? pcs) dating to Ha D1–D2, sanctuary with graves and hoards Habrůvka – “Býčí skála” (more than 1.800 of beads, ring beads, dividers; as well as several pieces of raw material and semi-products from a variety of contexts) dating to Ha D1b-D3; Prostějov-Čechůvky – “Kopaniny” (75 pcs and 80 fragments) dating to Ha D1–D2; Provodov – “Rysov” 2 (33 pcs) dating to Ha D1–D2. A luxury set was found at the hillfort in southern Slovakia in the hoard at Sklabinský Podzámok – “Katova skála” 2 (seven dividers and 1.613 pcs of other fragments of beads) dating to Ha D1 (Pieta and Veliacik, 2014, p. 16, Fig. 9). Amber set from the Bánov – “Skalky” hoard ranks among the top individual discoveries in the regional Hallstatt groups in the northern part of the East Hallstatt culture. The dynamics of amber occurrence in the eastern part of the Hallstatt culture (e.g. Bohemia, Slovakia or Austria) corresponds to the situation in Moravia. A breakthrough increase in the quantities of amber is recorded from the Ha D1 phase onwards in both graves and hoards (Chytráček et al., 2017; Golec and Fojtík, 2020, pp. 137–139, Fig. 68). Large sets of amber beads from the

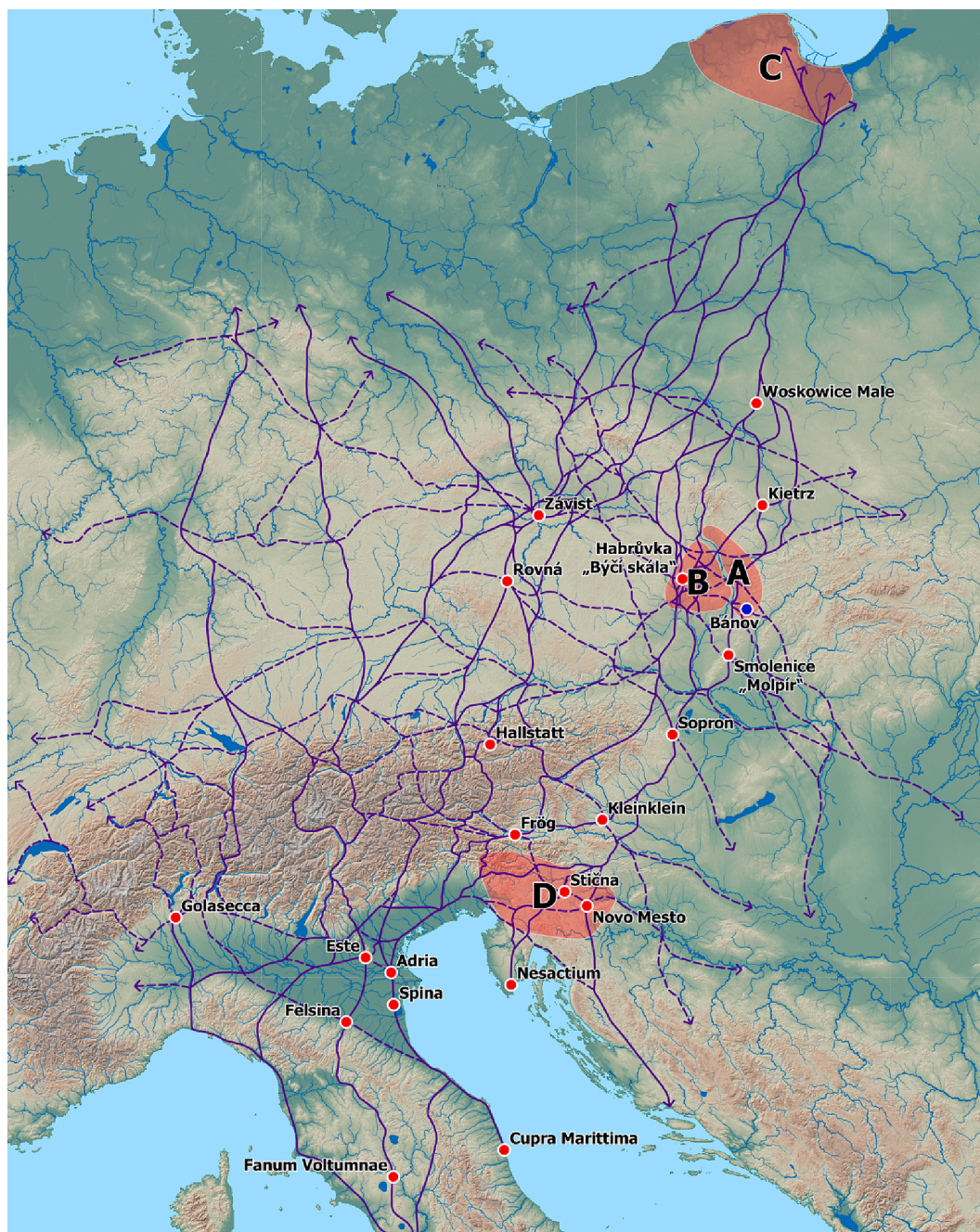


Fig. 10. Basic network of branches of the Amber Road through the eastern part of Central Europe (via the East Hallstatt culture through Moravia) showing the position of the Bánov – “Skalky” hoard (blue dot). A – Platěnice group in Moravia (CZ); B – Horákov group in Moravia (CZ); C – Pomeranian group of the Lusatian culture at the Baltic Sea (PL); D – Slovenia (SLO). (For interpretation of the references to color in this figure legend, the reader is referred to the web version of this article.)

“north” are found mainly in the serpentine and Certosa fibula horizons in Slovenia together with glass beads (see Gabrovec et al., 2006; Hvala, 2012, pp. 181–287, Fig. 106).

Dating of the Bánov – “Skalky” hoard – included in this set were items associated with Ha D, with varying degrees of precise dating: bronze dragon fibulae to Ha D1(b); bronze harp-shaped fibulae to Ha C2–D1; bronze ribbed bracelets/armlets to Ha D1b; spiral wire head piece to Ha C2–D1; amber and glass beads to Ha D1–D2; iron massive belt rings to Ha D1; iron axe and ceramic vase (locally an earless “amphora”) to Ha D. Based on the most precisely dated items (dragon fibulae and ribbed bracelets/armlets), in terms of time and social status, correlations of the Bánov – “Skalky” hoard can be made with graves of female magnates

from the Horákov group (Brno-Zábrdovice – “ul. Příkop”, H214/19; Modřice – “Sádky”, H818; Vojkovice – “Vojkovické nivy”, H111 and Slavkov u Brna – “Auto Bayer”, H1) and the BS1 horizon (Ha D1b–D2a = 575–525 BCE) in the central sanctuary at Habrůvka – “Býčí skála”. The hoard dates to Ha D1b = 575–550 BCE (Golec and Fojtík, 2020, Fig. 68). The discoveries at Bánov – “Skalky” correspond with other hoards of the Platěnice group in Ha D1–D2 in Moravia (see **supplement 3**), with exclusive women’s jewellery identified among them – Bohdalice-Pavlovice – “Ve Žlebách”, Brusné – “Křídlo”, Loučka – “Doubrava”, Prostějov-Čechůvky – “Kopaniny”, Provodov – “Rysov” 1 and Šarovy – “Hluboček” (see Fig. 1).

Assumed origin of items from the Bánov – “Skalky” hoard – four

Table 4
Implementation of the three-phase methodology on the Bánov – “Skalky” hoard.

| three-phase methodology | Bánov – “Skalky” hoard |
|--|---|
| Phase 1 – a plurality of values | 1 – material (value of bronze, iron, amber and glass); 2 – artistic (exceptional composition and craftsmanship in Moravia/Central Europe); 3 – social (elite set - the amount of amber); 4 – religious (the act using hoards itself, item related to ritual use – axe); 5 – personal (inherited item referred to as <i>family silver</i> – pin associated with a particular owner, a member of the elite class (woman)) |
| Phase 2 – context of the hoard | 1 – content (not determined); 2 – “packaging” (pottery vessel); 3 – context (round pit; stone structure above the hoard; in the proximity of springs, wells and streams; placement away from an inhabited area used for agriculture; the location of the site next to a branch of the Amber Road) |
| Phase 3 – motivation for the use of hoards | 5 – social-religious motivation (can be assumed based on the ownership of the items by the elites; jewellery transfers from woman to goddess/woman; fibulae are damaged (by axe?), and the axe alludes to symbolic/religious role) |

distinctive source areas can be identified in a more precise manner: A – domestic origin in the Platěnice cultural region (Fig. 1; 8:A) – bronze ribbed bracelets/armlets; bronze wire head decoration, bronze spiral and bronze ring (?); B – the neighbouring Horákov group (Figs. 1, 8:B) – bronze harp-shaped fibula and massive iron belt rings; C – long-distance origin from the Baltic sea (Fig. 10:C) and domestic Platěnice processing – amber beads; D – long-distance origin from the eastern pre-Alpine region (Fig. 10:D) or northern Italy (northern Adriatic) – bronze dragon fibulae. The bronze earrings may be traced to the Vekezug culture in southwestern Slovakia and eastern Hungary. The pottery vessel is analogous to vessels discovered in western Slovakia. The iron axe can be found in abundance in the southern pre-Alpine region. The origin of glass and ring beads was not determined satisfactorily, but it can be assumed they may be local rather than imported (see chapter 4.1).

3.2. Results of the chemical analyses of the Bánov hoard

3.2.1. Glass

Faience beads began to appear within the territory of the modern-day Czech Republic during the Early Bronze Age (Únětice culture; Venclová, 1990, p. 35) and became increasingly more popular as time progressed, towards the Late and Final Bronze Ages (12th–8th century BCE). There exist several analyses of prehistoric glass in the Czech Republic (Bohemia, not Moravia) from this period. There can be distinguished three types of glass materials – faience, glassy faience, and true

glass (the primary criterion for their distinction is their inner material structure and component melting; Angelini et al., 2004; Purowski et al., 2014; Purowski, 2019). True glass, mixed-alkali type, from Frattesina in northern Italy, appeared in Late and Final Bronze Ages. Similar data appears in Western and Central Europe. Still, new local workshops were not documented (Venclová et al., 2011, Fig. 1). However, more data is available from the La Tène Period. Contrastively, many analyses showed secondary local workshops; primary ingots of natron glass come from the Mediterranean (Egypt). Data from Moravia is currently available, namely from central sites at Němcice nad Hanou and Staré Hradisko, dating to the 3rd–1st centuries BC (Venclová, 2016). Hallstatt glass has not yet been analysed and published in Moravia, with the set from Bánov – “Skalky” being the first. Both periods brought significantly different data on the provenance, attesting that the research of Hallstatt glass entails significant scientific potential.

The glass itself consists of the prepared mixture and additives which cause the colouration of the glass or contribute to increased stability and durability. The basic glass (before the addition of the colouring agent) consists of sand, flux and stabilisers. Essentially, three types of flux are thought to have been used during prehistory: 1 – ash from halophilic plants (algae), 2 – ash from forest vegetation – trees or fern and 3 – evaporite mineral – natron. Where ash from halophilic plants is used (1), it results in soda-lime-silica glass (or precisely soda-potassium-lime-magnesium-silica glass) with high magnesia levels of about 3–7%, but sometimes even lower at around 2% (hence HMG = high magnesium glass; see Mildner et al., 2015; Purowski, Kepa and Wagner, 2018);

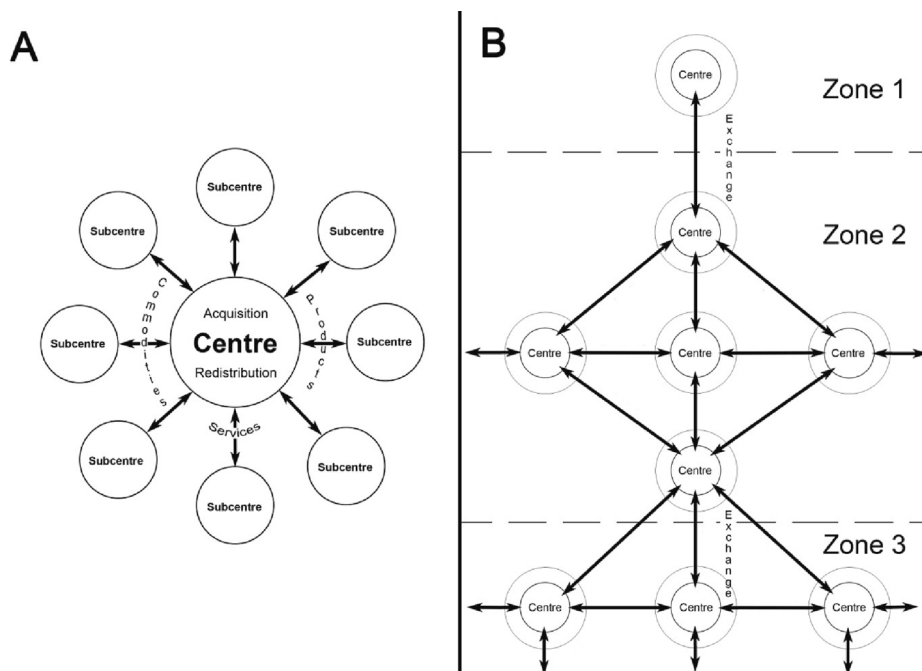


Fig. 11. Scheme of multilateral long-distance barter along the Amber Road based on the active role of social centres. A – scheme of redistributive chiefdom system with the centre and subcentres; B – scheme of long-distance barter among centres in zones 1–3 of the Amber Road.

where ash from forest vegetation is used (2), LMHK (low magnesium-high potassium glass with low magnesia of about 0.4–1%, high potassium oxide of about 6.5–14%, similar Na₂O levels as K₂O), otherwise known as mixed alkali. If sodium-rich minerals or natron are used (3), it results in natron glass (the soda-lime-silica type glass with low contents of magnesia, about 0.5–1.0%; i.e. LMG = low magnesium glass (all: Henderson, 1988, 2000, 2013). The stabiliser in the mixture is lime which also facilitates smelting. Interestingly, as far as the set from Bánov – “Skalky” is concerned, lime as a stabiliser in higher concentrations was only identified in beads #1–3 and #5; it is also not low in samples #6 and #14. These beads differ from the rest in chemical composition and other parameters (Table 2; for more details, see below).

Another interesting fact is the relatively high aluminium content in the samples. Two possible reasons exist for such occurrence, as explained by Polish authors (Purowski et al., 2014). Aluminium was either added intentionally to facilitate smelting in the form of feldspar, or it occurred naturally in feldspar-infused sands. However, these sands would have to be chosen deliberately as levels of Al₂O₃ only occur in LMMK glass, or possibly natron glass, but not in the case of LMG_{gf} (low magnesium glassy faience).

Copper and cobalt can be identified as colouring agents in the set. Both large yellow beads, number 2 and 3, are free from said elements. The yellow colour probably reflects the pure mixture, which always contains natural iron. The yellow colour of some of the beads and narrow ring beads from Poland (Purowski et al., 2014) was achieved using lead antimonate. As for the set in question, lead was found in the narrow blue ring bead #5; therefore, the higher lead content is not related to the use of colouring, but for some other reason, whose purpose is unknown. Green narrow ring beads #11–19 contain copper as the colouring agent. The blue colour of narrow ring beads #4–10 was caused by copper and cobalt (5 of 7 pieces). The large blue bead number 1 does not contain almost any copper. Its blue colour was achieved by the presence of cobalt, of which it contains ten times more compared with the cobalt content in the narrow blue ring beads (all Table 2). The cobalt was added deliberately and was either sourced from a local mineral deposit (as suggested by Henderson, 1985, p. 280; Purowski, Syta and Wagner, 2016, p. 116) or imported from the Mediterranean (Šmidt, Laharnar and Turk, 2020, p. 10), but its provenance cannot be precisely determined without further analysis.

The study of technologies for producing glass requires special attention to three compounds: Na₂O, K₂O and CaO. Ž. Šmid, B. Laharnar and P. Turk (2020) analysed 74 samples of glass beads from different periods in Slovenia (Table 1). Most Late Bronze Age (LBA) and Early Iron Age (EIA) glass beads could be characterised as natron-type glass. However, some LBA glasses were classified by the authors above as mixed-alkali type with low magnesium and high potassium glasses (LMHK). Such glass beads were characterised by inverse correlation in a plot of sodium and potassium oxides in ratio to the sum of earth and earth-alkaline oxides concentration (i.e. Na₂O, MgO, K₂O, CaO). This glass type (LMHK) is not recognised in Slovenia in the EIA anymore. Our glass beads produce the same pattern (inverse correlation) in the 3D plot (Fig. 8) as mixed-alkali glass, except for glass beads #2–3 and #5, which correspond more to natron-type glass. This would suggest the use of unspecified plant-origin ash in the production of most glasses. The situation is different in the case of glass from the Hallstatt Period, analysed on 48 samples from Polish sites by Purowski et al. (2014). The team managed to identify two types. First, LMG_{gf}, i.e., low magnesium glassy faience. Interestingly, the use of faience was already considered obsolete during the Hallstatt Period. And second, glassy faience, a type similar to LMMK but with high Na content. It is a specific type of glass recognised in Poland or Slovenia. Based on this technology, the authors refer to glass of local provenance with unclear flux. The increased Na content in glass with higher K content may have been caused by the addition of potash, as it does contain Na (Purowski et al., 2014). Purely natron glass was not identified. The mixture is assessed in relation to the published results for which ratios of oxides were calculated (Table 3). K-rich glass,

Na-rich glass and mixed alkali glass were considered. Beads #1, #4 and #6–19 from the Bánov – “Skalky” set, in terms of said ratio, belong to the mixed alkali glass group. Beads #2–3 and #5 belong to the Na-rich glass group. It should be pointed out that in the Hallstatt Period in Slovenia, the dominant type of glass was the Na-rich glass. Therefore, beads #2–3 and #5 are closest to Slovenian glass or glass from later periods from Chotín, Slovakia. The remaining beads fully conform to mixed alkali types of glass. Interestingly, this type of glass did not exist in the Hallstatt Period and was considered archaic similar to glassy faience from Poland. The production of LBA is thought to have been fully transformed into Na-rich glass (or HMG) during the Hallstatt Period. The production of mixed alkali glass at Fratessina ended in the 9th –8th century BCE (Venclová et al., 2011, p. 565). The values of ratios (Table 3) for mixed alkali beads from Bánov – “Skalky” #1, #4 and #6–19 were as follows: Na₂O/K₂O 0.60–5.02, Na₂O/CaO 0.16–1.3 and K₂O/MgO 1.29–5.0. These ratios do not conform to the ranges for the beads from Fratessina or other groups; their provenance is, therefore, different. The case of the Hallstatt Period beads from Poland is similarly interesting. Three groups can be identified: LMG, LMG_{GF} and LMMK. The occurrence of glassy faience beads is archaic. The LMMK beads do correspond to mixed alkali glass in terms of chemical composition, but their Na content is high. Therefore, the Polish beads are recognised as a separate category (Purowski et al., 2014). It can therefore be assumed that the mixed alkali glass from Bánov – “Skalky” is also a special chemical group with unclear provenance.

Chemical data is supported by archaeological typological methods. With the exception of a large round bead #1, the mixed alkali glass in the hoard is limited to narrow ring beads with a max. 5 mm diameter. Apart from Moravia (Golec and Fojtík, 2020, pp. 135–137), small glass ring beads occur in various European regions. In this paper, we concentrate on units that can be well defined chronologically and also those where chemical analyses have been performed. Thousands of narrow glass beads were found, especially in the southern regions (e.g., necropolis in Verruchio, I, Koch, 2015; Magdalenska gora, SLO, Tecco Hvala, 2012; Stična, SLO, Gabrovec et al., 2006; Garbovec and Teržan et al., 2008/2010; Prozor, HR, or Novo mesto, SLO, Bakarić, Križ and Šoufek, 2006) or in the north of Poland (e.g. Chojno-Golejewko, Domasław, Górzewice, Swibie; Purowski, 2013, 2019; Purowski et al., 2014); with occasional rare pieces in the West Hallstatt culture (e.g. Altheim-Heiligkreutztal – “Hochmichele” in the central grave with 1.000 pcs and Nachbestattung VI with 2.300 pcs (Kurz and Schiek, 2002, p. 53).

So far, we can only say that the Moravian narrow ring beads have a different chemical composition; their exact equivalent has not yet been found, and further analyses will be needed. An interesting example is a specimen from Bánov number 5, which at first looks like the other narrow ring beads, but in terms of chemical composition (Na²O/K²O ratio; Table 3), it is Na-rich glass. We can say with certainty that visually identical types of beads were made from different raw materials, using various techniques.

Another significant issue is the provenance of cobalt dye in the mixed alkali beads and the Na-rich beads in the Bánov set. Cobalt dyeing was identified in Poland (Purowski et al., 2014), Slovenia (Šmit, Laharnar and Turk, 2020), or even Greece. The origin of cobalt can be traced, in most cases, to present-day Egypt or Iran (Nikita et al., 2016); and additionally, most probably from local mineral deposits found in present-day Austria, Czech Republic, Germany, Slovakia or Switzerland (Henderson, 1985, p. 280; Purowski, Syta and Wagner, 2016, p. 116). The presence of the chemical group of mixed alkali glass in the hoard alludes to local production. To ensure the confirmation of this theory, it would be necessary to study a much larger data set. For future analyses, a prospective set of 4.500 glass beads could be available (of which about 4.000 are narrow ring beads) from the central sanctuary at Habrůvka – “Býčí skála”. In this case, it was said by T. E. Haevernick at the end of the 1970 s that a local workshop must have existed there, based on an analysis of the typological spectrum (Haevernick, 1995). Conclusively,

research into the Hallstatt glass has significant scientific potential for, among other things, the study of the Amber Road.

3.2.2. Amber

The IR spectra of the measured samples of amber from the hoard were compared. Pictured below are the spectra of all beads (Fig. 9). In all of these samples, the 1160–1250 cm^{-1} signal was detected, which, according to sources, is attributed to the maximum of the so-called Baltic shoulder (Nejman et al., 2018). Based on these results, we could identify the Baltic provenance of the amber material.

Recently, new findings of amber in the territory of the Czech Republic have initiated several studies monitoring the expansion of amber and changes in its distribution over a more extended period of time in the Bronze Age and the Early Iron Age. Amber in the Bohemian Únětice culture and the beginnings of the Amber Road in the Early Bronze Age were studied by M. Ernée (Ernée, 2012). The analysis of Bohemian findings of Middle to Late Bronze Age amber was published a few years later (Chvojka et al., 2017). In the Early Iron Age, the demand for amber raw material was growing (Chytráček and Michálek, 2016); a study on the occurrence of amber in the Central European area of the Early Iron Age (Chytráček et al., 2017, pp. 121–256, Fig. 12–13, 16–17) analyses the discoveries of amber from the Czech and Slovak Republics while taking into account the current state of research in Hungary, Austria, Bavaria, Thuringia, Saxony, Brandenburg, and a large part of Poland. The extensive study is based on a detailed catalogue of amber findings in the territories of these countries; locations with documented amber are marked on the maps of Central Europe in the early (the 8th to the first half of the 6th centuries BC) and the younger phase (the second half of the 6th to the 5th centuries BC) of the Early Iron Age (Chytráček and Golec et al., 2017, pp. 200–256, Fig. 12–13; 16–17). In the Czech Republic, about 3.250 amber objects from 88 locations were known from the Early Iron Age in 2017; newly performed spectral analyses are available from 28 sites. The vast majority of amber objects have been proven to have Baltic origin by infrared spectroscopy (Chytráček et al., 2017, pp. 177–178, Graph 1). The only exception is the amber ring from the late Hallstatt Hillfort near Svřžno in western Bohemia, where spectral analysis indicated the origin of the raw material in the North Sea (Chytráček and Golec et al., 2017, p. 178, Graph 2). Therefore, the analysis from the Bánov – “Skalky” hoard corresponds to the framework of the central European studies on amber.

4. Discussion

4.1. Evaluation of chemical analysis

Chemical analysis shown as some interesting results. Colouring agent were identified in the glass beads. Both large yellow beads, #2 and #3, are free from colouring element (copper and cobalt) and yellow is natural color of the primary material. Lead antimonate was used for in the ring bead #5 which can sometimes be used as a colouring agent, but its purpose in this case is not clear. Green colour of the narrow ring beads #11–19 was obtained using copper. The blue colour of narrow ring beads #4–10 and large blue bead #1 was caused by copper and cobalt. However, the origin of cobalt is unclear and needs further discussion. Concerning chemical type of the glass, we can distinguish two types in the studied set. Mixed-alkali type glass with low magnesium and high potassium glasses (LMHK) is suggested for all the glass beads in the studied set from Bánov – “Skalky”. However, they do not correspond chemically to the other groups of glass types studied. It can therefore be assumed that the mixed alkali glass from Bánov – “Skalky” is also a special chemical group with unclear provenance. The only exceptions are glass beads #2–3 and #5, which correspond more to natron-type glass. It is unclear if it suggest the use of unspecified plant-origin ash in the production. This glass beads are closest to Slovenian glass or glass from later periods from Chotín, Slovakia.

We could identify the Baltic provenance of the amber material, base

on the IR spectra of the measured samples and the presence of the so-called Baltic shoulder.

4.2. Hoarding in the Hallstatt Period in Moravia

As previously mentioned, the use of hoards is characteristic of the Platěnice group only. In total, 21 sites with known hoards are known (supplement 3). Only one site is located within the Horákov group in South Moravia (supplement 3:7), where inhumation burial became the norm with the elites and middle classes. The remaining sites are a part of the Platěnice group in Central and Eastern Moravia. An exception is represented by the central sanctuary in a cave at Habrůvka – “Býčí skála” (supplement 3:8), which is attributed to both groups and serves as evidence of centralisation and concentration of elite-related discoveries associated with both graves and hoards (Golec and Mírová, 2020). Six sites are associated with elite items (methodology based on Mírová and Golec, 2018), and Bánov is one of them. The situation in Moravia clearly suggests that the decision whether to use hoards is a part of the cultural paradigm of the regional Platěnice group. Furthermore, in the Horákov group, the identical items (e.g., luxury items such as belts etc.) that were found in Platěnice hoards were found in individual graves of magnates and princes; the exception being the aforementioned Habrůvka – “Býčí skála” sanctuary which, between Ha D1b and Ha D3, was associated with both groups and therefore proved the combined use of graves and hoards.

4.2.1. Hoards and deposition methods

The issue concerning the use of hoards, especially during the Bronze Age, is a continuous and significant methodological topic in European archaeology (most recently, e.g. Hansen, 2013; Bradley, 2017; Fontijn, 2019; Pare, 2019). The previously mentioned authors prefer a more complex approach, evident in their recently published work on Moravia. The research is highly salient and entails a debate of international scope (Mírová and Fojtík, 2021; Golec et al., 2022). Methodologically speaking, the authors study the hoard using a predefined three-phase methodology to determine an interpretation framework: A – a plurality of values; B – context of the hoard and C – motivation for using hoards. This approach effectively minimises the subjective approach of the researcher to the sources. The combination of all the above-mentioned stages is important.

The general attitude of people (social groups) towards goods is expressed via the *plurality of values* (values accepted across societies and over time); they are the following values: 1 – material value (economic value of material); 2 – artistic value (technological and aesthetic); 3 – social value (status); 4 – religious value (sacral) and 5 – personal value (archaeologically mostly elusive value in the form of, e.g., *family silver* or trophies). No goods within the prehistoric society would remain outside this classification; only the weight and ratio of the values changes over time. *Context of the hoard* is important: 1 – content; 2 – packaging; and 3 – nearer and more distant context. *Motivations for the use of hoards* can be many, as there is often more than one. The most frequently discussed motivations are expressed in profane × sacral duality (Bradley, 2017). However, the authors of the present paper consider this duality insufficient and rather represent a postmodern man’s view. Prehistoric man did not perceive the world in black-and-white duality; the sacred was entailed in almost all activities, including those wholly profane (Eliade, 1961). Opinions on hoard deposition motivation vary, and they are often based on the individual or collective need to do so. The following motivations have been identified: 1 – political (crisis, wars, migration, etc.; see Reinecke, 1930; Mozsolics, 1988; significant value of material, lower artistic value, temporarily non-existent social, religious and personal value); 2 – craftsmen/traders (hidden assets; see Schumacher, 1904; related to the value of material or artistic value; the items with not yet acquired social, religious or personal value); 3 – economic (shredding of the material, increase in demand and the subsequent increase in value of metals; the value is purely embedded in the value of the material; see

Huth, 2000; Fontijn, 2019); 4 – religious (votive purposes without the intention to boost personal prestige, “*do ut des*” – I give something you to be given something by you, other expressions of gratitude; sacrifices; see Colpe, 1970; Soroceanu, 2005; significant religious value); 5 – social and religious (votive purposes with an increase in personal prestige of the donor, see e.g., Bradley, 1990; Hänsel, 1997; Gori, 2014; the value of material, social, religious and perhaps personal value can be identified); 6 – placement of sacrificial items to avoid desecration (an item used on a daily basis may become sacrificial but never vice versa, which is why items used in rituals are sometimes destroyed in order to not be desecrated by a repeated use, see e.g., Hansen, 1994; the value of material and artistic value is reduced, while the religious value is significant); 7 – burial (grave goods/hoards related to the burial ritual; it is possible that some cultures place the personal effects of the deceased outside their grave; see e.g., Schütz-Tillmann, 1997; Bradley, 1990, 2017; Fontijn, 2002; and most recently Cooper, Garrow and Gibson, 2020); 8 – status/prestige (placement of valuables as an act of self-praise without religious connotations; i.e., doing something to show the ability to afford it; all values may be present here; see e.g., Hansen, 1994; Pare, 2019); 9 – other (e.g., accidental loss, disasters – shipwrecks, accidents, death etc.). These indicators must be closely monitored to detect any of the motivations described above. Additionally, it should be emphasised that this system is simplified, as the motivations can intermix and complement each other, with the categories not having to be defined precisely (see the debate on hoards and graves as separated categories in Cooper, Garrow and Gibson, 2020; Golec et al., 2022).

4.2.2. Interpretation

The three-phase methodology allowed for the general monitoring of information about the hoard at Bánov – “Skalky” and for collating the facts that were identified (Table 4):

Phase 1 – Firstly, the high value of the material is represented in the hoard, namely metals (bronze, iron), amber (1.500–2.000 pcs) and glass (40 pcs). As for amber and glass, it should be emphasised that these were imported materials whose value increased with increasing distance. The significantly high artistic value of women’s jewellery is immediately evident, be it the delicate craftsmanship of amber beads (machining, drilling, polishing) and beads or the complicated production of dragon fibulae and other items. The religious background can be deduced from the placement of the hoard, as well as the presence of the axe and its symbolic meaning. The essential information is the intentionally six broken-off dragon fibulae. This procedure is also recorded for metal objects in other hoards in Moravia – a typical example being six pendants damaged (by axe?) from Roštín – “Vlčák”, Kroměříž District (supplement 3; Golec and Kos, 2020), or intentional damage of a bronze bowl by axe from Kralice na Hané – “Kralický háj”, Prostějov District (supplement 3; Golec et al., 2022), or a similar hammer blow to a bronze small cauldron from Habrůvka – “Býčí skála”, Blansko District (supplement 3; Parzinger – Nekvasil – Barth, 1995, Taf. 39:348, 76:348). The second most abundant grave of the Platěnice group Seloutky – “Na Šástných”, grave H2/2019, contained a large metal inventory, including two iron spears with a tooth intentionally broken off (not published). In the contemporary region of Bohemia, there is evidence of destruction of bronze vessels or swords bending in LT A graves (Sankot, 2003, Fig. 2:1A–B, 4:1A–C, 6:2–3, 7:1C, 20:1D, 21:1A–B, 25:5A–E, 26:1A–B, 27:1C, 28:1, Pl. 6:1B, D). Destruction in the form of slashing was identified on bronze figurines of animals, e.g., one of a horse at Modřice – “Sádky”, H1800 (Mírová, 2019, Pl. 48:17) and one of a bronze bull at Habrůvka – “Býčí skála” (Wankel 1872; 1882, p. 381). Axes are prominently featured in relation to the elites (Benvenuti, I, Lucke and Frey, 1962, Taf. 65; Montebelluna, I, grave 244; Serafini and Zahnetto, 2019), as well as ritual marches on situla-related artwork (Certosa, I, Lucke and Frey, 1962, Taf. 64; Magdalenenberg, SLO, Lucke and Frey, 1962, Taf. 68; Stična mound 6/grave 30, SLO, Rebay-Salisbury, 2016, pp. 220–221, Fig. 7.36; Vače, SLO, Lucke and Frey, 1962, Taf. 73; Welzelach, A, Lucke and Frey, 1962, Taf. 76) – see supplement

4. Therefore, it seems evident that the presence of an axe is related to extraordinary religious significance in the Hallstatt world. Concurrently, axes are occasionally found in West Hallstatt graves of women, e.g., Saint-Pierre-Eynac – “La Mouleyre” or Bourges – “Saint-Martin-des-Champs, Place Malus” (Milcent, 2004, Pl. 29, 84). Identical to this, in the Villanovan culture or the Etruscans, axes are commonly found in women’s graves, e.g., at the burial grounds at Bologna or Tarquinia. Therefore, such facts do not support the significance of axes as purely a man’s weapon; the author proposes that it was used in rituals and made accessible to both men and women. Regardless, it is the demonstration of social status (Bauer, 2020).

The social aspect is undisputable; the set from Bánov is connected to the elites (based on the amount of amber, the context of over 1.000 pcs according to the methodology in Mírová and Golec, 2018), and ownership by a specific woman/magnate can be assumed as well. The symbolical (personal) level of the *family silver* is alluded to via a particularly archaic-looking pin of a very old origin (13th–12th century BCE). The circumstances of the acquisition by the owner remain unclear, but the use of archaic items as the act of legitimisation of power is not a unique phenomenon. Fashion, typically dictated by the elites, contributes to the cohesion of classes and, at the same time, distinguishes them from other classes. Lower social classes would attempt to imitate the style worn by the elites, which is why the elites were forced to change the styles frequently. They would use older, valuable and archaic items which the lower social classes could not acquire with ease. Simultaneously, the ownership of archaic items serves as evidence of the duration of the social status, which legitimises the power of the elites (Simmel, 1957). It is possible that this was the case of the owner of the Bánov – “Skalky” hoard.

Phase 2 – the hoard was placed in a pit of an irregular circle shape (diameter 45 cm and depth of 36 cm); the artefacts were placed in a pottery vessel and outside of it (belt). No organic matter residue was found in the pit, which was intentionally covered with a layer of stones. A *layer of stones* above the hoard itself is the first discovery ever recorded in Moravia. With quadratic stone structures known from chamber graves in Moravia (Golec and Fojtík, 2020, pp. 84–87), the stones may indicate a funeral ritual, but in these cases, a burial is absent. A wider context of the hoard links the parameters of a hill in the form of a large mound with nearby springs (in some cases, mineral springs). The hoard was found outside the established settlement area; however, a mention should be made regarding the existence of three nearby hillforts. Approximately 1 km to the SE, the hillfort Bystrice pod Lopeníkem – “Ordějov”, whose age has not yet been determined (Čizmar, 2004, p. 106) is located; 2 km to the NW lies the hillfort Bánov – “Hrádek” (along with a medieval castle) where dating to the Early Bronze Age has been proved (Čizmar, 2004, p. 79); and approximately 4 km to the east is the hillfort Komňa – “Bučník” which has since been completely destroyed by a growing quarry and only fragments of pottery dated to general prehistorical times have been preserved (Čizmar, 2004, p. 150). Regarding long-distance routes, the site is located near a branch of the Amber Road connecting Moravia with western Slovakia (Fig. 10). Due to the presence of other hoards in the wider area and the position of the hoard, such as in the foothills of the White Carpathians, it is possible that the Bánov – “Skalky” hoard was placed, on purpose, in the border/transition zone between traditionally populated settlement area and a permanently uninhabited highland zone (see Mírová and Fojtík, 2021).

Phase 3 – based on the aforementioned study of the hoard, the possible motivations for its creation can now be discussed. The method of creation alludes to intentional irreversible placement. All of the values above were identified in the hoard (material, artistic, social, religious and personal); therefore, 5 – social-religious motivation (votive gifts to deities; combined with increased prestige of the donor) or 7 – funeral motivation (grave goods /hoards related to the burial ritual) can be considered as the most likely cause. The ownership of hoards is typically associated with the elites – in the present case, a female magnate. Based on our knowledge of the so-called compound belt-

woman in the Brno region (Golec and Kos, 2020), it can be assumed that it was an adult woman, and the items were part of her folk costume (Fig. 6) that was disposed of. Phase 3 cannot be determined in terms of architecture; the deposition could have been a regular holiday/observance or a transition ritual based on the woman's age. Additionally, another item may attest to the motivation for the creation of the hoard in question – the axe. The axe was deemed not functional; the handle was not present in the vessel. Apart from interpreting it as belonging to a female warrior (with evidence for such phenomenon not attested in Moravia), it can be assumed the item fulfilled a symbolical role. Comparable scenarios involving an axe can be found in *situla* art from northern Italy and Slovenia. Primarily, axes are found with men-warriors as items of their intended functions. On a belt plate from Stična, mound 6, grave 30, an axe was discovered carried by a man in a line of men in ordinary clothing; the last person in the line was a woman/widow. The scene could be interpreted as a funeral procession to the gate of the afterlife. The axe belonged to a man, and it was to travel with the deceased to the burial monument (supplement 4:1; Rebay-Salisbury, 2016, pp. 220–221, Fig. 7.36). In the second case, a *situla* from Montebelluna, there is a visible reference to the intercourse between members of the elites. An axe hanging on the wall alluded to a legal act which was documented in Etruscans or Romans (supplement 4:2; Serafini and Zaghetto, 2019, pp. 63–64, Fig. 5). It cannot be determined whether this represented obligation among people or among people and beings from other worlds. The axe may have been supposedly utilised for “ritual killing” of items and contexts. Further connections with funerals can be seen in the use of the stone layer over contexts only. Such deposition related to a prolonged burial ceremony was discovered in the hoard at Kralice na Hané – “Kralický háj” where part of the hoard goods was cremated together with the deceased (Golec et al., 2022). The location in the border/transition zone between a traditional populated settlement area and a permanently uninhabited mountainous zone refers to an intentional act of social and religious motivation, i.e., a placement in the proximity of deities. This concept is possibly associated with the destroyed dragon fibulae. Whether such an explanation applies to the axe discovered in Bánov cannot be excluded.

4.3. Trade along the amber road

4.3.1. Identifying the paths

The issue of identifying the route of the Amber Road through Central Europe is of utmost importance. In the past, paths were determined through induction. However, methods based on deduction are more recent and were applied in Moravia (Martínek, 2019; Golec and Fojtík, 2020, pp. 32–47). The location of the paths is based on the method of collection of LIDAR data and large-scale archaeological data (including from the Modern Era), as well as the study of historical sources and maps. As for the Hallstatt Period, linear routes and significant transport centres are marked and incorporated in the methodologies. This results in frequent discoveries and redefines the general rules that significantly alter former inductive approaches that would intuitively situate long-distance trade routes along rivers. Chemical analyses revealed that during the 6th century BCE, amber supplied to Moravia came from the Baltic region (Chytráček et al., 2017), as Moravia was a key transit area on the way to the Mediterranean.

The backbone of the Amber Road through Moravia follows the axis from the Baltic region to the Adriatic Sea and the Po River (Fig. 10): Gdańsk – Toruń – Opole (all PL) – Opava – Olomouc – Brno (all CZ) – Vienna (A) – Maribor – Ljubljana (both SLO) – Venice – Adria (I). The route is approximately 1.600 km long. At a steady pace of 30 km a day, it may have taken 54 days to complete it. As the route was not linear but instead passed through individual political centres (which excludes the aspect of the shortest route), the minimal time to complete it would be approximately two months.

4.3.2. Trade theory of chiefdom societies of amber Road

The basic functioning of trade through East Hallstatt culture along the Amber Road requires several principles to be in congruence: 1 – at the end of the Amber Road; there had to be a *demand* for amber from the North and a willingness to pay for it; 2 – in the Baltic Sea region, the *amount of amber* circulated in the amber network had to be sufficient; 3 – the transfer of amber along the Amber Road to the south *had to be assured*; 4 – *considerations* for the amber delivered had to be transferred along the Amber Road in the opposite direction to the North.

The situation along the Amber Road in the 6th century BCE shows a system of regional social centres which attest to trading with amber. Moravia was a part of this system. At the continental end of the road in the Po River valley, many discoveries of this commodity have been recorded. The scheme depends on the existence of socio-economic relations between neighbouring centres, which, for a certain more extended period of time, would exchange larger volumes of amber for trade-in goods with their neighbours.

For this system to be effective in the long-term perspective, it required a specific form of stable social organisation. The system of redistribution chiefdom can be regarded as a representation of such a form. A central place is defined as any location having central functions for a larger area (Gerritsen and Roymans, 2006, p. 255). A social centre based on the principle of acquisition of power (political, military, economic and ideological, according to Earle, 1997). The acquisition of social commodities (*social capital* according to the definition presented by Pierre Bourdieu, 1990), i.e., prerequisites applied (knowingly or subconsciously) by people/society to be able to act, is based on economic (material resources), cultural (education, languages, music etc.) and social elements (charm, social connections etc.), which are the means for achieving specific goals. Social commodities accumulated in the *centre* (Fig. 11:A) from smaller dependent units (subcentres) are then redistributed on a reciprocal basis and used where necessary. Economic commodities in the Hallstatt Period may be represented by foodstuffs (products of cultivating, animal husbandry or hunting), metals (gold, iron, copper), salt, glass, and amber, as well as people and labour in general. The centre would allocate these commodities where needed (subcentres), but it would also maintain parts of them to ensure its operation. Dependent social units also provide, to a limited extent, cultural capital, essentially in the form of services which may include crafts or specialised knowledge; however, the centre would still be expected to offer the highest concentration of cultural capital. The social element of the capital was represented via links between the centre and its representatives in the form of commodities unavailable in the region. Additionally, the centre was regarded as the stabilising point of the system, as it provided general protection from enemies and assistance in the event of unexpected problems in subcentres. The centre was an autonomous and autarkic unit with its traditions, norms and values (Barrett, 2012); long-distance trade was an additional and convergent system with limited impact on the centres. This principle does not conflict with the current critique of *World System Theory* (Wallerstein, 2011; for critical remarks, see, e.g., Kienlin, 2017 with references to other sources). The foundations of the economy of archaic societies include reciprocity, redistribution and barter, all of which ensure a functioning economy (Polanyi, 1975).

Long-distance trade, whether direct (e.g., Kimmig, 1983), barter (e.g., Fisher, 1973; Chytráček, 1983), or the exchange of prestige items among *neighbouring centres* (Fig. 11:B), functions inside the system as an additional form within the convergent system on which the centre is not dependent. This scheme does not primarily concern the method of acquisition of prestigious goods within centres, but rather the *movement of goods between centres*. Naturally, other methods of acquisition may have existed, such as duties for the transit through territories, inheritance or looting or even robbery or military-related tribute or pillage (Dalton, 1975). It is highly likely that all systems of acquisition may complement, to a certain degree, the primary barter system. For example, F. Fischer mentions a group of luxury items referred to as

keimelia, mentioned also by Homer. These items reflect the power and wealth of their owner. They can be acquired through *xenia* (hospitality in the form of the exchange of gifts) and other methods (loot or wartime gift). Most of all, they shall serve as evidence of diplomatic contacts (Fisher, 1973). Another significant and key element is that people only valued material facts to secure their social interests (Dalton, 1971). Moreover, the exchanged commodities (luxury and exotic goods) carry varying degrees of significance in different centres; items are valued differently by their source than by locations along the route or their destination, where the items can even become a sacred object (Kienlin, 2017). Prestigious goods do not necessarily represent a means of acquiring or legitimising political power according to Prestige Goods Theory (Friedman and Rowlands, 1977); they can be considered a particular form of showcasing fashion among the elites (McCracken, 1990). Amber is a typical example of such a phenomenon. Centres of the first zone (Pomeranian culture) regard amber as a raw material; there is such an abundance of it that it does not typically appear in significant contexts (graves, if any), and it is primarily used for decoration or bartering. In the second zone (Hallstatt culture) and its centres, it is used in the form of small beads or pendants placed in hoards/votive sets and graves, which suggests a shift in use. In the third zone (Este culture) and the fourth zone (Etruscans, Greece), and possibly the fifth zone (Egypt, Near East), amber is used in the most opulent graves and sanctuaries in the form of artistic masterpieces, frequently depicting a specific figure. Within the barter framework, the hypothetical centres in the first zone provide valuable commodities and receive trade-in goods in exchange. Centres in the second zone (Hallstatt), being the transit zone, would retain a part of the commodity and send the rest to another centre in the area, again in exchange for trade-in goods. The retained part served as a consideration for the safe transit through the controlled territory. Therefore, the second zone is where commodities originating in various centres intermix. The third zone is where commodities from the first zone arrived via transfer. Still, reciprocal commodities from the third zone were virtually unheard of in the first (or, to a limited extent, the second). These commodities were probably the type that has not been studied regarding their archaeology. It is certain, however, that this system had existed at least since the Bronze Age and that it was stable, and occasionally more intense, peaking in Ha D1–D3. However, it would appear that centres during this period, with some exceptions, were in a stage of autonomous coexistence and balance, without the dominance of one centre over another.

4.3.3. Chronology of the amber Road via Moravia in Ha D

The model of society, including the supra-regional collapse of the elites in Ha D1a in the East Hallstatt culture, originated in the 1990 s. The model based the development in Moravia to a prior chronological concept (Stegmann-Rajtár, 1992, pp. 165–170, Abb. 63) which did not reflect numerous new data (Müller, 2012, Abb. 106). For Moravia, this model considered the following: 1 – attacks by Scythians via Moravia to Poland; 2 – the disappearance of the elites from the archaeological record. A major mistake was the complete omission of numerous data which was already available, i.e., data from the central site at Habrůvka – “Býčí skála” in the case of S. Stegmann-Rajtár, despite the fact it had been the centre of the Hallstatt culture in Moravia for more than 150 years by the time of discovery (1872). This error was rectified by H. Parzinger in 1995, who concluded that the critical period for utilising this site was Ha D1–D2 (Parzinger, Nekvasil and Barth, 1995, pp. 179–183, 217, 222, 225, Abb. 1). Twenty-five years later, such conclusions can not only be confirmed, but they can also be included in new data from graves and hoards (Golec and Fojtík, 2020, Fig. 68), which are in stark contrast with the conclusions reached by S. Stegmann-Rajtár. It is evident that in Ha D1–D2, Moravia reflects the chronological model of the West Hallstatt culture (Czech-South German chronological and cultural model) with significant dynamics of its development, centralisation processes and continuous existence of the elites during Ha D1–D3 (Golec and Mírová, 2020), which had been pointed out by H. Parzinger

for Ha D1–D2. The model is well supported by new information regarding items of eastern provenance in Moravia (formerly referred to as “Scythian”, which is erroneous), as they are not associated with Scythian but the Vekerzug culture (located much closer in Slovakia and Hungary) whose artefacts were brought to Moravia and manufactured there; militaries of eastern provenance do not play a decisive role, much less a fatal or destructive one (Kozubová and Golec, 2020a; Kozubová and Golec, 2020b; Kozubová and Fojtík, 2021).

The disappearance of the elites in Moravia in Ha D1–D3 was an erroneous concept, and a new critical reevaluation of the central sanctuary at Habrůvka – “Býčí skála” reveals the existence of burial of the elites (princes) during Ha D1b–D3 (BS1–BS3 horizons). Their long-distance relations culminating during Ha D2 witnessed a substantial turn to the west, including Baden-Württemberg (Mírová, 2019; Golec and Mírová, 2020). The inclination towards the south, however, did not disappear, as pointed out by H. Parzinger (Parzinger, Nekvasil and Barth, 1995, p. 231) and other researchers (Trefný, 2002). The chronological concept of the development in the northern part of the East Hallstatt culture was affected over the last decades by the identification of Fürstensitz as the central site (princely seat) Smolenice – “Molpír” (SK), which, however, has been dated incorrectly for a long time. The culmination of settlement dates to the entire Ha D1 and corresponds to the dating of hillforts like Fürstensitz Heuneburg (D; phase IV). The centre of the settlement was determined to be of an older age, dating to Ha C2–D1a (Parzinger and Stegmann-Rajtár, 1988; Stegmann-Rajtár, 1992, p. 108). New dendrochronological data from a cistern in the acropolis focus on the entire Ha D1 (605–585 BCE or later; Barta et al., 2017) and challenge the older concept. After the 1930 s, a certain modification occurred in terms of chronology, as settlement took place during Ha D2–D3 (Stegmann-Rajtár, 2017, Table 1). The site requires a new review of discoveries and new synchronisation with Moravia and its strong ties to western regions. An impactful discovery is one of the hoards from the acropolis at Smolenice – “Molpír”. The concentration of six hoards in a small area is the largest in the entire northern part of the East Hallstatt culture; another one was discovered nearby a hill at Buková/Smolenice – “Záruby” (Cambal and Makarová, 2020a, 2020b). Six out of seven sets place the dating to the entire Ha D1 (625–550 BCE). The hoard at Bánov – “Skalky” dating to Ha D1b situated near the road from Moravia to Smolenice – “Molpír” corresponds with this framework, as well as with other hoards from Moravia dating to Ha D1–D2 (supplement 3; Golec and Kos, 2020; Čizmar, Golec Mírová and Golec, 2021). Moravia is a key region on the Amber Road (Chytráček et al., 2017) as it reflects the cultural development of the West Hallstatt culture during Ha D1–D3 in its establishment of rich long-distance relationships with neighbours in all directions. Hoards are essential in addressing fundamental questions related to the northern part of the East Hallstatt culture.

5. Conclusions

The hoard from Bánov – “Skalky” helps understand the system of arrival, consumption and demise of luxury sets in the hands of the elites in the mid-6th century BCE in the middle of the most important North-South long-distance route, the Amber Road. The following facts are the most relevant related to this: (1) The hoard dates to 575–550 BCE = Ha D1b. (2) It contains a set of women’s jewellery worn on the head (bronze earrings/hair rings of various sizes), chest and shoulders (amber and glass beads and bronze fibulae), waist (iron belt rings, bronze pins and amber beads), hands or arms (bronze bracelets/armlets and bronze ring), as well as an iron axe. (3) The items were placed in a pottery vessel or underneath this vessel. They came from Moravia (local Platěnice and the neighbouring Horákov groups) and regions further away – amber from the Baltic region; bronze fibulae from Slovenia or northern Italy. Chemical analyses of glass alluded to possible domestic production, with a clear connection to the Amber Road from Poland to Slovenia and Italy and further to the Mediterranean. (4) It is an elite set, as evident from the

1.500–2.000 pieces of amber beads. (5) It belonged to a woman (magnate) and has chronological and social analogies in the graves of the elite members of the Horákov group. (6) It is among the other 19 sites with hoards of the Platěnice group in Central and Eastern Moravia. Horákov group has only produced one hoard. (7) Analogies exist with the sanctuary at Habrůvka – “Býčí skála”, in its BS1 horizon (575–525 BCE), where hoards were created alongside graves of princes. (8) The three-phase method for the study of hoards reveals numerous facts; it alludes to the luxury value of the items; parameters of contexts refer to socio-religious motivation. The authors consider the hoard a “ceremonial dress of an aristocrat woman” created for ritual purposes. (9) The hoard refers to the findings about chieftom and the form of the trade employed by this society (multidirectional barter) – the hoard as such functions as the end point of the entire system. (10) The existence of a hoard during Ha D1b conforms to other complex data on graves and hoards from Moravia. The social development is that of prosperity (Ha D1–D2 = 625–500 BCE) and is further reflected in long-distance contacts and the wealth of the local elites. They are part of the princely system with their Moravian centre in the Habrůvka – “Býčí skála” sanctuary (Ha D1b–D3).

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

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Appendix A. Supplementary material

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