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## Medieval hafted axe from the Kolowrat Palace in Prague : Notes on the functional interpretation of the tool

### ANNOTATION

Axes are relatively frequent additions to collections, but their records and description are usually insufficient. For this purpose the state standard nomenclature ought to be observed, to facilitate the comprehensibility and compatibility of the description of this tool type. The paper shows the range of comprehensive information which can be obtained from a similar find for subsequent arguments of its form and function. A detailed examination of the tool, its analogies, illustrations and especially recent use revealed that it is most likely a carpenter's chopping or scoring axe, which is still used in manual rough carpentry to chop the mass of the raw log into a beam, or related actions. The archaeological find comes from a second half of the 13th century layer. The dating corresponds with the heading illustration in the 1248 Statutes of the Carpenters' Guild in Bologna, the earliest iconographic depiction known to the author.

### SUMMARY

In 2005, during Rescue Archaeological Excavation in Prague, under the courtyard of Palace No. 154/III, an axe was found in the sediment layer on the stone road surface dated to the second half of the 13<sup>th</sup> century. The find is noteworthy particularly because of the complete haft being preserved due to the humid environment. The axe with an eye has a total length of 218 mm; the length of the cutting edge is 67 mm and the relatively narrow bit is significantly elongated. The axe is robust, the cheeks are set in a relatively blunt angle-oriented to the right side; weight is 1 580 g. The haft has a total length of 755 mm, oval cross-section and is broken up to 4 parts. It was made of ash tree (*Fraxinus Excelsior*). Finds of similar axes demonstrate that this shape was used, but was not frequent. Detailed examination of the tool, its analogies, iconography, and especially the recent use indicate that this is most likely to be the carpenter's chopping or scoring axe. This type of axe is still used in manual rough carpentry to chop the mass of the raw log into a beam, or related actions, such as notching and working when attaching and processing the beam. The earliest iconographic depiction known to the author dates back to 1248. In the heading of the Statutes of the Carpenters' Guild in Bologna, similar axe is depicted behind the back of the carpenter (Fig. 24). Well recognizable is the scoring axe in the depiction of "church building" in an illuminated manuscript from the mid-15<sup>th</sup> century (Fig. 25), including ergonomics of the work of two carpenters. Another demonstration of work with this type of tool, including notching, can be found in the Nuremberg manuscript from the first half of the 16<sup>th</sup> century (Fig. 26). Detailed analysis showed that, as with other artefacts, it is necessary to adopt a number of knowledge about its shape, function, use and production. Precise descriptions will then serve to compare with other finds, which could bring new data and information in the future, and thus deeper knowledge of the everyday life history.

**Fig. 1.** Prague 1-Malá Strana, position of NPU research No. 3/05 in the courtyard of the Kolowrat Palace – Valdštejská Street No. 154/III. The extinct Vltava riverbed in **blue** plotted into the orthophotomap of Prague by M. Ďurica, 2021.

**Fig. 2.** Prague 1-Malá Strana, Valdštejská No. 154/III, research 3/05. Axe 3/05-2144 in situ on the surface of layer 1038, photo 3/05 No. F1654 (from W), trench XXIII between sections 108 and 109 (photo by L. Smutka, 26. 3. 2005, elevation approx. 181.9/Bpv).

**Fig. 3.** Nomenclature used in the description of the axe, valid technical standard ČSN 22 5101 (Czech Standards Institute 1991, 1).

**Fig. 4.** Prague, Valdštejská No. 154/III. Axe, inventory No. 3/05-2144. **a** – forehead of the axe; **b** – complete tool; **c, d** – side view with part of the haft clearly protruding the eye; **e** – detail of the butt; **f** – detail of eye damage (photo by M. Müller, 2020; drawing by S. Svatošová, 2021).

**Fig. 5.** Prague, Valdštejská No. 154/III. Detail of the haft material of 3/05-2144 (photo by M. Müller, 2021).

**Fig. 6.** Prague, unknown location. Deposited in: The Prague City Museum, inventory No. A 282,560, acc. No. A 32/2009, object without data in the archaeological collection (photo © The Prague City Museum; drawing by S.

Svatošová, 2021).

**Fig. 7.** Similar shaped finds: **A** – axe from Bosau (based on GEBERS 1986, 70; tab. 23 Fig. 6); **B** – axe from Bassendorf (copied from HERRMANN/DONAT 1979, 139; tab. 42/1 Fig. 3, dimensions not given). Deposited in: Museum in Stralsund; **C** – axe from Mikulčice, inventory no. 561/67 (copied from POLÁČEK ET AL. 2000, 262; Fig. 23/2). Deposited in: ARÚ Brno, Office Mikulčice, No. 561/67; **D** – axe from Červená hora, ČH 42 (copied from DRNOVSKÝ 2018, 316; Fig. 203/1). Deposited in: private collection; **E** – axe from Vilingen (based on JENISCH 1990, 27; Fig. 14/2, dimensions not given. The graphic scale applies to A, C, D.

**Fig. 8.** Axes of similar shape with wider blade: **A** – axe from Sezimovo Ústí, plot No. 8553 (copied from KRAJÍČ 2003, Vol. 2, 121; Tab. 131, cut-out). Deposited in: Hussite Museum in Tábor, inventory No. 50 962; **B–D** – axes from Hradištko by Davle (copied from RICHTER 1982, Fig. 117/1 on p. 171; Fig. 118/3 on p. 172; Fig. 117/2 on p. 171). Deposited in: Regional museum in Jílové by Prague; **E** – axe from Bolkov castle near Libeč (according to HEJNA 1962, 459; Fig. 3/5). Deposited in: Museum of the Region below Krkonoše Mountains in Trutnov, inventory No. 1341.

**Fig. 9.** Axe, probably of unknown location (Bodenfund). Deposited in: Germanisches Nationalmuseum in Nürnberg, Germany, inventory No. Z 133 (copied from SCHINDLER 2013, 70; cat. 106).

**Fig. 10.** Axe from the Gruta village, distr. Grudziądz, Poland, interpreted as weapon. Deposited in: Museum in Grudziądz, inventory no. 1 412 (copied from SAWICKI ET AL. 2003, 42; cat. I. 59).

**Fig. 11.** Scoring axes, a cut-out of Jan Červinka co. price list, Holice in Bohemia, Axe and Tool Factory, 1933.

**Fig. 12.** The earliest depiction of the scoring axe known to the author. Cut-out from the manuscript *Statuto della Società dei falegnami, Codici miniati*, no. 1, from 1248 (Archivio di Stato di Bologna).

**Fig. 13.** Demonstration of a pair of carpenters working against each other. Cut-out from *Mare historiarum ab orbe condito ad annum Christi 1250. authore Joanne de Columma, Romano, ordinis Fratrum Praedicatorum*, 1447–1455 (Bibliothèque nationale de France, Département des Manuscrits, Latin 4915, fol. 46v, available at <<https://gallica.bnf.fr/ark:/12148/btv1b6000905v/f102.image.r=latin%204915>>).

**Fig. 14.** Chip cutting from a notched log. Cut-out from manuscript *Hausbuch der Mendelschen Zwölfbrüderstiftung*, Nuremberg, Mendel I, Stadtbibliothek im Bildungscampus Nürnberg, Amb. 317.2°, fol. 148r, 1533, available at <<https://hausbuecher.nuernberg.de/75-Amb-2-317-148-r/data>>.

**Fig. 15.** Axe blades processing. **A** – hand forged axe from the first half of the 20<sup>th</sup> century, manufacturer unknown; a visible line marked with arrows separates forged welded pieces of steel from the carbonized blade (photo by the author, 2021); **B** – strongly oxidized axe; the arrows mark the line of the inserted blade separating the two forged welded pieces; deposited in: Prague City Museum, inventory No. H 27.035 (photo © MMP); **C** – axe No. 3/05-2144 found in the Kolowrat Palace in Prague, detail of the blade with traces of visible peeling of metal layers, probably caused by uneven oxidation of individual components combined into a package – axe semi-finished product (photo by M. Müller, 2020).

*Translation by Linda Foster*