

A GALLERY OF LATE MEDIEVAL AND MODERN PAINTINGS AND INSCRIPTIONS IN NA ŠPIČÁKU CAVE, SILESIA, CZECH REPUBLIC

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Na Špičáku Cave, located in the Jeseník Karst, is the only publicly accessible cave in the Czech Republic to contain a unique gallery of ca. 4,000 historical inscriptions and symbols from the Middle Ages to the middle of the 20th century. The cave's first written mention is from the 15th century. This period also coincides at least partially with the oldest horizon of features in the cave – petroglyphs of a globus cruciger or a jousting shield with a stylized tableau apparently depicting Adam and Eve beneath the Tree of Knowledge (1519), paintings of the sun and a crescent moon (15th- and 16th-century) and the Adoration of the Cross with Jesus Christ and the portraits of patrons representing secular and churchly power (most probably the 1530s–50s). An analysis of red pigments from the 16th- and 17th-century features shows the use of special pigments. The historical context offers a connection, over the course of the 16th century, between the cave and intensive mining on the surrounding noble or bishop's estates. The cave's surroundings were apparently an important site of mining, and the mine's ownership (i.e. an indication of who held mining rights) may have been legitimized using wall paintings that were comprehensible to anyone. The prospecting horizon ends with the onset of the Thirty Years' War, as reflected in a significant decline in the number of dated inscriptions and archaeological finds. The cave was practically forgotten until the early 19th century. The greatest number of inscriptions comes from the time after the cave opened to the public in the 1880s.

1. Introduction

Na Špičáku Cave is a karst system situated in Devonian crystalline limestone (marble) formed by surface water at an elevation of around 439 m. The passages' unusual shapes are the result of an underground lake from the waters of a continental glacier that extended to the northern borders of the Czech Republic during the next-to-last ice age (Zajíček et al., 2005). The cave's air temperature is 7–10 °C and the relative humidity ranges from 90 to 98%. The cave is located in the Jeseník Karst on the northern slopes of the Hrubý Jeseník range, within the municipality of Supíkovice, Jeseník County, Olomouc Region. A report mentioning this cave from sometime before the mid-15th century is the oldest description of a cave in the Czech Republic and one of the first in all of Central Europe. The cave's interior contains the largest set of epigraphic relics ever found in the Czech Republic, numbering around 4,000 inscriptions and illustrations made using various techniques. The central painting of Christ on the cross with figures standing in adoration has no equal in any other Central European cave.

2. An overview of historical reports

The oldest written record of the cave is in “Wegweiser zu den Bergwerken in der Oberlausitz und in Schlesien” by Antonius Wale, a merchant from Florence who was active in mining in the Silesian town of Wroclaw between 1410 and 1443. Compared to other mining localities, the cave is mentioned only briefly, and classified more as an interesting place than an important prospecting or mining locality (CDS XX, 198). The text, which is usually dated to 1430

or 1436, contains a brief description of the cave's passageways leading into the interior of Špičák Hill (Spitzenstein, 516 m), second-hand information on the site, and an obligatory report as to the discovery of treasures typical for this type of locality and for “Italian” literature. The text also includes two symbols (a “crescent moon” and “sun”), which the editors of the CDS interpret as silver and gold – i.e. the alchemist symbols that (according to the text) can be “found” in the cave. These symbols truly exist on the cave walls, and according to our research they belong to the oldest demonstrable horizon of epigraphic relics; based on the layering of inscriptions, they are older than 1583 (Fig. 2).

Later brief mentions (1689, 1806, 1836) offer an indirect link between the cave's existence and mining activities on Špičák Hill. Drechsler (1951) also states that the entrance to the cave was allegedly walled up for safety reasons and remained closed until work was undertaken to make it accessible to the public. That the site was all but forgotten can be seen from historical maps: maps from the 1760s indicate the now-nameless creek previously known as “Gold Wasser” and the local place name “Kalch Ofen”, but maps from the mid-19th century lack any information whatsoever. The first detailed reports about Na Špičáku Cave come from when it was made publicly accessible in 1883–1885. During this time, the village of Supíkovice (Saubsdorf in German) was known as the “Silesian Carrara” because of the local marble mines. Another description of the cave by Luňáček and Ryšavý in 1949 formed the foundation for the cave's extensive tourist-related works in 1954–1955, which gave the cave its contemporary look.

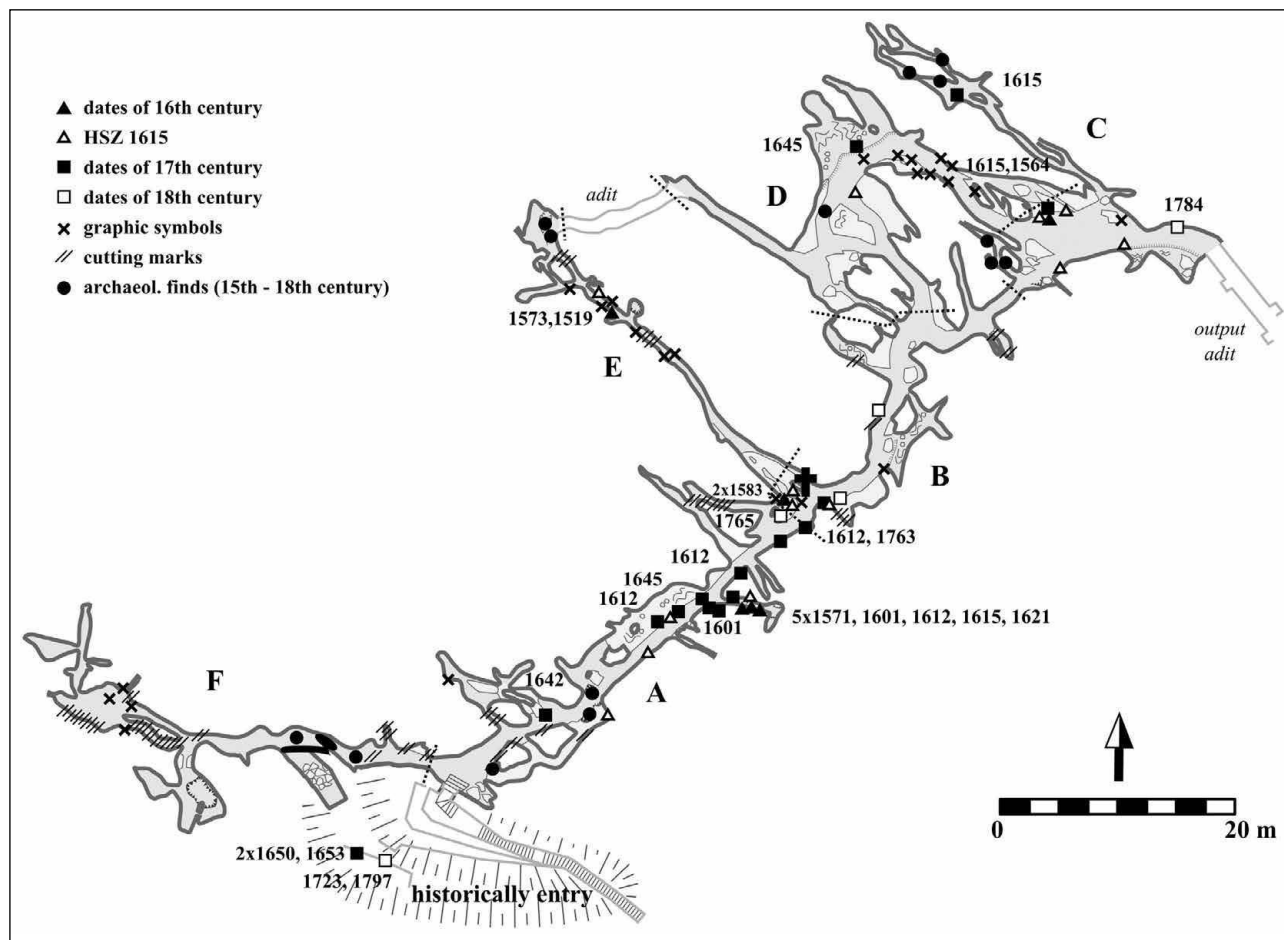


Figure 1. Map of the cave as per V. Ouhrabka, amended and supplemented. White segments with light gray borders quarried away in 1954–55.

3. The original layout of the cave

Before it was made accessible to the public, the cave opened up into a funnel-shaped chasm created by ancient mining activities. According to A. Makowsky (1886), from the bottom of this chasm one entered the cave's first section consisting of the Main Corridor (sections A and B; Fig. 1) measuring 54 m in length, 2–3 m in width, and with a predominant height of 1,5–2 m. Short branches lead off to both sides. The third left-hand branch (Double-Heart Chamber [E]) was 33 m long, 1m wide and 1,6–2 m high, and terminated in a 7 m-deep chasm with sporadic water at the bottom. All these spaces were covered with various types of partially damaged deposits and, except for a few places, were blackened from torches. The rear part of the cave was called "Labyrinth" after three interconnected chambers whose connecting corridors are often passable only by crawling or sliding along the ground. The interiors were around 2 m high and the sinter deposits were equally damaged and blackened from smoke. From the central Great Dome (D), one passed through a 18 m-long corridor measuring 2 m in width and 1–2 m in height to reach the final Dome of Hope (C); length 15 m, width 3–7 m, height 3 m. Leading off from this chamber is a crevice passage (C2) rediscovered in 1885 and 25 m long, up to 1m wide and 1,8 m high, with whitish speleothems and sinter formations. The overall measured length in 1886 was thus 111 m, or 232 m if we include all branches. It is not entirely clear why today's corridor (F) leading off from the entrance into the crawlspaces with abysses was not mapped at the time.

4. Archaeological finds from the cave

J. Skutil (1953) described the cave's sediments as archaeologically sterile. When the cave was made publicly accessible in 1954–55, no archaeological finds were observed, which was more the result of inattentiveness and lack of interest during construction work, since the volume of material removed from the cave in 1954–55 was enormous. The first finds were made in 2007–08 by employees of the Na Špičáku Cave Administration in various parts of the cave during the renovation of walkways and while cleaning chasms. Other surface finds followed during epigraphic documentation, primarily in corridor F in 2008–09 and 2012.

The fragments of pottery and iron objects found in various parts of the cave represent a chronologically roughly uniform set of unglazed pottery as well as glazed ware. Due to the absence of more significant fragments, the finds can be dated only roughly as being from the advanced High Middle Ages (14th–15th century) and the early modern era. The most significant horizon is from the conclusion of the High Middle Ages (late 15th to first half of the 16th century). This period corresponds at least partially with the oldest horizon of historical engravings and paintings. The most significant grouping of finds in the front part of corridor F points towards a secondary deposit from the area around the funnel-like entryway. In these locations, mining activities opened up the corridor onto the floor of the entry-chasm, as documented by the situation in a filled-in depression next to today's stairway from around 1884.

5. Documentation and restoration of paintings and inscriptions

In the late 19th century, reports of the extraordinary wealth of epigraphic relics on the walls and ceiling throughout the cave garnered only little attention. Their significance was first emphasized in the mid-20th century by J. Skutil (1953), who provided an “overview of at least the most important, leaving out a large number of scrawlings and scratchings dating for the most part from the nineties” of the 19th century. Especially interesting is his description of the central painting of the adoration of the crucifix (improperly called Calvary; Fig. 2), which was later erroneously associated with the cave’s use as a shelter from religious persecution. In 1989–90 student M. Korejtková engaged in a preliminary unpublished inventory, and in 1993 P. Zajíček and K. Gregor (Moravian Karst Cave Administration) made black-and-white photographs of selected epigraphic features. These unsystematic attempts at recording the state of the inscriptions are important for a comparison with today’s state and show the increasing tendency towards the features’ degradation caused by the high humidity and the formation of sinters.

In 2003–10, the Archaeology and Speleo-Anthropology Office of the Regional Museum and Gallery in Česká Lípa systematically documented all surviving inscriptions, paintings, and engravings in the cave (Jenč and Peša 2009). The cave was divided into sectors and each epigraphic feature was given a number, surveyed and mapped (Fig. 1). The researchers took detailed photographs including close-up details, and selected features were also sketched. A total ca. 4,000 features were recorded (more than 4,900 images) in 796 main locations (Jenč and Peša 2011; on methodology see Jenč, Peša, Pátková eds. 2001, Roháček 2007). Since 2011, a supplementary research project has focused on a historical assessment of the acquired information, and a restoration project has been working to save the most important paintings degraded by moisture and sinter growth. Long-term microclimatic measurements are being performed at the site of selected features, and the use of pigments is being analyzed as well (Ing. Martin Dvořák and Ing. Ivana Kopecká, Prague). These findings will be used to engage in the stabilization and restoration of the oldest features.

The analyzed paintings are found at the intersection of the Main Corridor and the Double-Heart Corridor, at the border between sections A, B and E. The paintings did not use standard techniques; they were painted onto a chipped ceiling without a base coat or organic binding agent. The main feature (the Adoration of the Cross; Fig. 2) is preserved only in fragments; at the upper part of the picture, there are only traces of the color layer, best visible when lit from the side. The nearby paintings of the sun, cross, and moon are preserved in an easily recognizable form. The base underneath the painting is non-uniform, and consists of smaller sinter formations with depressions. The color layer is slowly being washed off the protruding sections by the dripping water, and so is preserved only in the depressions. This layer is also being reduced by the growth of sinter or the formation of small speleothems. Samples of the pigments were microscopically analyzed under incident light using a Leica DML optic microscope. An external

analysis of organic materials (varnish and binding agents) was performed via FTIR spectrometry (diamond ATR technique) on a Nicolet FTIR spectrometer. The determined spectrum was compared with the standard spectrums from various industrial databases. The samples were analyzed in a solid state from both sides and within the limited possibilities of the measuring equipment. The determined spectrums are not from pure substances, but mixtures. In some cases, the analysis could not determine a specific substance, but only the chemical group to which it belongs (e.g., waxes, polysaccharides).

By the end of 2012, a total of 11 samples were taken for analysis. The stratigraphy of layers is clear, the individual paintings are monochrome and painted directly on the limestone wall without a standard base coat. One important piece of information is the nature of the pigments used: minium (red lead, Pb_3O_4), burnt umber, and vermilion – i.e. painting materials, not randomly used local sources. The paintings were made with a particular intent and with a knowledge of painting techniques. The binding agent was probably soft cave sinter (moonmilk), whose consistency corresponds to normally used binding agents (oil, resin, etc.), or it may have been limewater. The paintings were never restored and are preserved in their original form. The technique resembles *al fresco* – paintings made on a wet foundation (plaster or lime paints) by wiping paint diluted with (lime)water. It is hypothetically possible that the artists took the cave’s particular environment into account when choosing a suitable technique for their inscriptions.

6. The oldest paintings and inscriptions

The oldest dated feature is located in the rear part of the Heart Corridor (E) and was not identified until 2003. It is a chiseled image in the form of a jousting shield. The scene inside is probably a stylized tableau of Adam and Eve beneath the Tree of Knowledge, “a(nn)o” with the year “1519” and the letters “hb” (Fig. 4). Nearby is a solitary petroglyph of a globus cruciger (a symbol of secular power, the sovereign ruler; Fig. 3) and an etching resembling the Rod of Asclepius. Another set of painted features is located at the intersection of the Main Corridor with the Double-Heart Corridor (A/B/E) near the cave’s central painting, the Adoration of the Cross (Fig. 2). It is a painting of a cross with the crucified Jesus Christ and a figure standing on each side in adoration. The red initials HSZ covering the older cross are of chronostratigraphic significance; based on their placement elsewhere in the cave, these came from 1615. Like the neighboring paintings of the sun and crescent moon, the scene of the adoration is done using a dark red pigment (made using vermilion), which differs from pigments from the 17th and 18th centuries. It is quite possible that the sun and crescent moon – which were previously mentioned in connection with the oldest description of the cave – date from as early as the 15th century; in any case, they predate the year 1583. Using iconographic analogies, the Adoration most probably dates to the 1530s to 1550s. Especially in Silesia, this subject is quite common in Renaissance art after the middle of the 16th century, and so the figures bowing to the Holy Cross in the painting in Na Špičáku Cave may very well be a patron/nobleman (on Christ’s right) and a high church official (on his left).



Figure 2. Central feature of the Adoration of the Cross from the 16th century with the mouth of the Double-Heart Corridor (B/E); at the lower left is the painting of the son and moon with the black cross. Photo P. Jenč.

The oldest horizon is associated with inscriptions (including the year) dated to the 16th and early 17th centuries. This includes the oldest name in the cave, “Sam(uel) Baksor”, which is dated by the inscription “1571”. An interesting inscription is the red “HSZ 1615” made using minium, which can be found in practically all parts of the cave and has survived in 11 locations. In our view, another feature associated with the period of increased interest in the cave from the Late Middle Ages to the Thirty Years’ War are the



Figure 3. Engraving of globus cruciger, Double-Heart Corridor (E). Photo P. Jenč.

inconspicuous cuts made here and there by tools (chisel/pick), which document the expansion of impassable corridors at a time long before the cave was made accessible to the public. In most cases, they are covered by fossil moonmilk. It is quite likely that this horizon of cave visitations is associated with at least some of the graphic symbols made using charcoal or red clay (diamonds, lines, human faces, crossed “sabers” and more). Based on the distribution of features, the most frequently visited area would seem to have been the section from the entrance to the scene of the Adoration and from there the crevice passage of Double-Heart Corridor. By comparison, there are almost no features in the largest area (the Great Dome [D]); instead, they are accumulated at its rear margins, where they seem to point the way to the cave’s end in the Dome of Hope (C).

7. An attempt at a historical interpretation

Based on the available information, the cave was discovered either while digging a mineshaft or quarrying limestone. According to historical sources, gold was mined intensively in nearby Zlaté Hory at least since the first half of the 15th century, with a peak after 1467, when the bishopric in Wroclaw added the mining district to its properties. In 1510, the Fuggers – an influential merchant family allied with Wroclaw’s Bishop Johannes V. Thurzo, acquired the Jeseník (Freiwaldau) estate, where they were successful in mining.

Both towns received mining freedom in quick succession – Zlaté Hory in 1524 and Jeseník in 1529. The region's greatest mining boom was in 1550–1560 under Bishop Balthasar of Promnitz. Starting in the mid-16th century, high-quality limestone was mined in the region as well (Zuber 1966, 85–86).



Figure 4. The oldest feature in the cave, dated with the year “1519”, Double-Heart Corridor (E). Photo P. Jenč.

The alchemist symbols in the cave are of the sort we know from precious-metal prospecting sites; combined with the choice of pigments (minium/red lead, burnt umber, vermilion) and painting techniques, they point towards higher social classes of religious or secular power. Bishop Johannes V. Thurzo (1506–1520) had close ties to mining, thanks to which he acquired extensive wealth. In 1510, he published his own mining rules. His brother Stanislaus, 1496–1540 Bishop of Olomouc, also promoted mining within his bishopric (for instance on the Osoblaha estate), where the Fuggers were active as well (Baletka 2004, 154–155; Janál 1959, 179–187). In fact, we date the central image of the Adoration of the Cross, with its symbolic depictions of secular and spiritual power, as having been created in the 1530s to 1550s. We thus assume that the cave's surroundings were a region of significant mining activities whose ownership may have been legitimized in the form of wall paintings that were comprehensible to anyone, with references to the bishop and the Fuggers. The paintings also acted as a reminder that, without the owner's permission, it was forbidden to mine around the peak of Špičák Hill – including hidden underground. The Christian symbolism also fulfilled a generally protective function, especially in the dangerous underground environment. Another painting besides the Adoration of the Cross that supports this theory is the globus cruciger, which – as a symbol of royal power and in its isolated placement in the cave – may represent a (to us unknown) royal act related to the cave. Mining activities involving precious metals were always subject to royal inspection, although the king could temporarily pass it on to the nobility. The globus cruciger in Na Špičáku Cave may thus represent the return of mining rights back under royal control.

Written dates from the 17th century are predominantly from that century's first quarter, and probably reflect the waning prospecting tradition of the 16th century. The onset of the Thirty Years' War only had a marginal impact on the region,

but the inscriptions “GA 1642” and “GATLOF 1645” in the Main Corridor (A) may be connected with the Swedish invasion to Moravia during those years (Kolektiv 2009). The prospecting tradition was no longer relevant after the Thirty Years' War; based on inscriptions, the cave was visited only rarely, and general awareness of its existence slowly faded. A minor revival of interest took place in the early 19th century, but a more significant increase in visitors came only after it was first made publicly accessible after 1883, when most of the walls and ceilings were covered in thousands of signatures and dates, most commonly graphite or ink and charcoal.

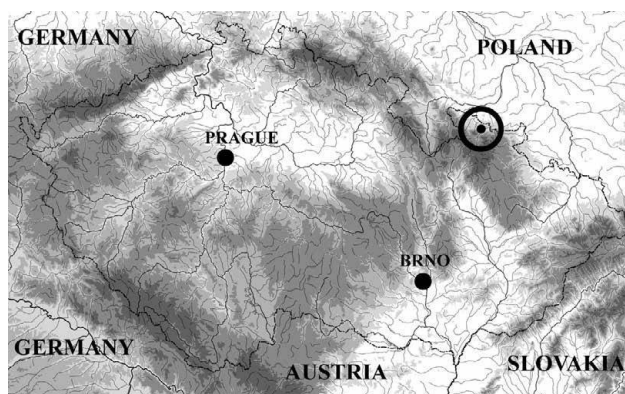


Figure 5. Location of Na Špičáku Cave.

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