The fortifications are among the best-known and most frequently discussed elements of the Greater Moravian phase of the Pohansko hill fort, near Břeclav. The importance of the fortifications lie in those of their properties that anchor the settlement in time and space. They define the inhabited area, as well as the beginning and the end of the viability of the location. They served for protection, defence and demarcation in relation to the surrounding world. The fortifications of the central area with the Velmožský palác, a church and a craftsmen’s area were externally reinforced and separated off. Information on the Pohansko fortifications has been gathered since the very beginning of research into the area, and is in constant progress.

Research into the fortifications of Pohansko, near Břeclav, started in September 1958. Although initially derived from only a small-scale surface probe, first results made it obvious that the remnants concealed evidence of more complex constructions and traces of their destruction (log of the first visit to the site). The first major research into the fortifications, employing the results of the probe, began in 1961 and continued until 1963. Information provided by F. Kalousek, soon published, established that the Greater Moravian fort was a simple combined construction made of wood, stone and clay. Close collaboration with geologists (Prof. Štelcl from the Science Faculty of Brno University) revealed that construction of the fortifications had been highly demanding in terms of the transport of material, acquired from distant locations.

Further research was to follow; however, the archaeologists’ attention shifted to the north-east section of the central fortified area, between the “Treee Nursery” [lesní školka] and the North Outer Bailey. A series of excavations at this location partially amended the accepted view on the construction of the fort and its dimensions. A partial analysis of outcomes at this stage, carried out by B. Dostál in 1979, went on to unify opinion concerning the construction of the Pohansko fort for a longer period of time, although it did not exhaust all the information gathered over the course of twenty years.

Subsequent work on the interface of the east and southeast sections of the central area in the early 1980’s concentrated on a gate and its surroundings. Despite the quality and speedy processing of the information on the newly-discovered gate, its construction and remains, the construction of the fortifications was, once again, not the centre of attention.

Reasons for B. Dostál’s delaying a complete analysis of all research into the fortification should probably be sought in extreme difficulties, not only in the supervision of the research as such and in distinguishing construction elements in the remnants of the fort but, in particular, in the complexity of documenting of a “three-dimensional” terrain relic. Its processing within the constraints of an “analogue” approach involving manual drawing (prompting consequent generalisation) did not allow the outcome of adjacent excavations to be integrated, or for a search for identical elements in an archaeological situation starkly different from the research into the Velmožský palác, the Nursery and other “two-dimensional” areas.

Thus, after forty years of research into the Pohansko fort, a number of probes were left unprocessed and the view of the overall construction of the fort remained unclear. Apart from this problem, a necessity for more exact dating emerged. Although a figure had been established by B. Dostál after the discovery of a cache of iron objects in house no. 10, section VAL XIV, it was not generally accepted.

Apart from excavations, geo-physical work has also been done in Pohansko. In 1979, a team led by V. Hašek employed magnetometry to explore the area of planned research into the East Gate. The results were highly positive, revealing a distinct magnetic anomaly that had possibly arisen as a result of fire. Moreover, the area outside the gate was explored, as well as the area of a gate predicted for the north-eastern section of the site. Further measurements took place in 2005, prior to work on sections R18 and R19, with the use of a Kolejconsult ground-penetrating radar. Measurements were also taken in other places, although on a lesser scale. It was possible to identify the position of an outer stone wall and an inner backing wall. In 2007, systematic measurements with a UAM magnetometric instrument were undertaken in accessible parts of the location, especially in the south and northeast section. Since autumn 2009, intensive measurement work has been done with ground-penetrating radar in all accessible sections, part of a university course curriculum.

A composite wall of stone, wood and earth was built on “buried humus”, (also known as “more recent sub-fossil horizon”, or “A horizon”) through the lowering and levelling of the surface (probably R01), or through the accumulation of earth (R18). Beams of a base grid were placed on this surface, under what was to become an outer stone wall, and tie beams ran across the entire depth of the wall, connected with vertical posts that supported a wooden backing wall. Paleobotanical analyses show that oak was used in the construction of the base grid and all other wooden elements.

The wooden backing wall was supported by pairs of vertical posts set in pits of a more or less regular shape, stopped up with stones in the areas of heavier clays (eastern, southeastern and possibly southern sections). The distance between post-pit centres is approximately 2.2 m. The distance between neighbouring posts is 1–2 m, depending on the situation of the pits. The depth of the pits from the surface varies between 0.55 m and 1.10 m. Horizontal beams or thinner poles were laid across the space between posts.

An outer wall of stone, probably transported from the Holič area, was placed on the base grid to form the front part of the fortification. The stone wall is only levelled from the outside. Facing inwards, the outer wall is thickest (ca. 2 m) at the level of the base grid, narrowing to ca. 1 m at a height of ca 0.6 m above the base grid. The remains of another base grid, an inter-grid, have been discovered at this height. The timbers of the inter-grid are not arranged with the same density as those of the base grid, yet the
inter-grid fulfils the purpose of stabilising the outer stone wall. The inter-grid formed a base for a second belt of outer stone wall built in the same style as the outer wall on the base grid. This manner of construction was probably repeated in higher sections that, unfortunately, do not usually survive.

The space between the internal border of the outer stone wall and the wooden backing wall was filled with the core material of the fortification. The filling consists of earth of several kinds in the various sections. In most cases, the filling is sterile, with a low number of artefacts found even by specific research into it. Even when the fortifications are located where an older, early Slavonic and Old Settlement Age settlement stood, the number of finds in the filling does not increase. It is highly probable that the earth used for the filling comes from locations untouched by older settlement. The authors believe that in the case of the southwest section the earth comes from the area outside the gate and, as in other sections, it was acquired from the banks of local rivers.

Indicated transverse tie beams bridging the space between the outer stone wall and the backing wooden wall run through the filling at various but regularly repeated heights. Their occurrence has so far been limited to the best-preserved and newly-researched sections of the fortification and needs to be confirmed by further research, possibly in close proximity to the sections already explored.

One newly recognised construction, probably previously explored, is a entrance tunnel to the top of the fortification. It may have been first detected by R15 research, and later by R18. The various materials used in the fortification filling burned at different intensities, resulting in a range of states of preservation in the lattice space, a hollow. The entrance tunnel revealed by R18 started at the level of the wooden backing wall and ended a metre before the outer stone wall. The space was filled with heavily scorched, clayey earth from the core filling, with the burnt area reaching all the way to the surface. The bottom of the entrance tunnel was 0.5–0.6 m above the fortification base. The width of the entrance tunnel researched by R18 was 0.8 m. The bottom of the space contained the charred remains of a wooden entrance frame.

With reference to the surviving remnants of the fortifications, documented profiles, ground-plan situations and measured and estimated volumes of stone, one can presume that the wall was on average 6.5 m wide and ca. 3 m high. With a protective wooden barrier at the top, the fortification would have been almost 5 m high. The use of transverse tie beams indicates that the whole wall complies with the stability prerequisites for a functional construction. Experts maintain that with the use of base, top and occasional core ties linked with the vertical posts of the wooden backing wall, the pits for the vertical posts of the backing wooden wall would not have been necessary; the construction would be self-locking.

The fortification depth estimated by B. Dostál is now deemed unacceptable, since the estimate was based on incomplete data and the depth was defined with reference to parts distinctly altered by stone quarrying, possibly modern-age. This interference is so marked that in some cases (R11, R12, R15), no stone from the area of the outer stone wall is left. Only small stones, stones up to the width of the outer stone wall, stones above inter-grids and in some cases stones sinking into the filling of older constructions, have survived. The issue of the secondary use of stone has yet to be addressed. The dating of the stone quarrying on the basis of several unique, modern-age ceramic pieces has yet to be verified, as the pieces have not been identified among the finds so far. In front of the fortification, ca. 10 m from the face of the outer wall, was a palisade groove 0.2 m wide, running in parallel with the fortification. It was detected in the northeast and southeast sections, and may well have failed to reach all the way to the sub-soil in places, making its differentiation more difficult. Although it was not detected in the south section, its presence cannot be ruled out. Its regular distance from the front of the combined fortification indicates its importance as a forward-reaching line deterring access in places where the use of natural obstacles, such as waterways, was not possible.

A palisade channel has been explored and identified under the construction in the eastern and south-eastern sections, an earlier phase of the Pohansko fortification. The channel was dug into the original humus-like layer on which the fortification was later erected. It ran parallel to the face of the outer stone wall of the more recent fortification. The filling of the palisade channel was identical with the filling of the core of the wall. Additional sealing of the palisade posts with brown-black sandy clay was detected in a few places. The shape of the palisade posts was indistinctly imprinted in the channel filling, and imprints of the post points could be seen at regular intervals in the bottom. The distance between the points of the posts was 0.4 m. The core filling of the fortification sank into the upper section of the palisade channel, filling in the area of the more recent sub-fossil clay horizon. Apart from traces of the palisade, the channel filling did not yield any specific material apart from a few pieces of animal bone.

On the basis of the sections researched, the chronology of the palisade and the fortification appears to have been as follows. There was no channel under the fortification in the southern and north-eastern sections. In sections that are yet to be explored (south-western, western, north-western) a channel is not presumed due to the strategic position of these sections; it is thus possible that the fortification is at its oldest in these areas. In the eastern and south-eastern sections the fortification did not come first; a palisade channel was dug into which palisade posts were inserted. The palisade fulfilled the defensive function in strategically less endangered places. The palisade posts were soon removed, the channel was filled in, and a fortification was erected above it, possibly using the palisade posts. The period of time between the construction of the palisade and the construction of a combined fortification was probably very short, perhaps in terms of only a few months.

The only gate enabling entry into the fortified central area was detected at the junction of the eastern and south-eastern sections. In the specialist literature it is referred to as the East Gate, so the term will be employed henceforth. No similar construction is expected in this direction. It was a simple gate of the street type, 2.4 m wide, with four pairs of opposite posts at the sides that supported the timbering that held the filling. One of the post pits and the area above the opposite post pit of the gate have yielded a series of iron objects from a door and the system that secured it. A tower-like construction is anticipated over the gate. The gate was destroyed by fire, as was the fortification.

Further gates are only anticipated in places dictated by presumed strategy and where internal buildings required passage through the wall. Geophysical prospecting has identified the site...
of a presumed southern gate. In place where the construction of a hunting lodge and a forest communication in the South Outer Bailey have interfered, ground-penetrating radar has identified the course of the combined wall and its remnants. The fortification did not run directly, as anticipated, but turned twice at an obtuse angle within the central area and then continued towards the west. Where the line takes a double turn, the existence of a gate is highly probable, something also implied by the orientation of a communication that was lined with sunken houses in the South Outer Bailey. A northern gate is presumed, on the basis of research into sacred architecture, in the North Outer Bailey.

A two-metre-wide gap running diagonally through the south half of the area researched points directly to a shallow depression in the north-eastern section of the fortification, and this connecting line continues towards the Vélmožský palace. Whether matters were indeed thus can only be verified by research into the approaches to the estimated gate and the area behind it and by minor probing, at the very least. A western gate can be placed at the turn of the north-western and western sections; however, this hypothesis needs to be confirmed by geophysical prospecting and at least minor probing.

There has been over 200 digs in and around the fortification of the central area of Pohansko, near Břeclav, and conclusions drawn from them are constantly being expanded and updated. In recent years, research has also included intensive geophysical prospecting. The significance of the fortification should be sought not only in defence, but also in terms of the marked manifestation of a society’s ability to organise workforces and transport of material, as well as of technological progress.

Reconstructions of the appearance of the fortification have not changed greatly after revision of the results of the oldest excavations and their comparison with the two more recent ones. Its typological classification within the R. Procházka system (in a group defined by “shell-type” [skořepinový] fortifications with an outer stone facing and a wooden backing wall) is still valid.

The discovery of transverse tie beams running from the area of the stone facing wall to the vertical posts of the backing wall places the fortification, in terms of typology, among pfosten-schlitzmauer / Kelheim-style constructions with a stone facing wall, internal wooden boarding (internal wooden backing wall) and tie-beam reinforcement.

The chronology of the fortification has not been satisfactorily resolved by even the most modern research and the assistance of dendrochronology. Only a single sample from the charred remains of the wooden backing wall at R15 could be compared with other Pohansko tree-rings and approximately dated. Its final growth ring dates to the year 875, but it is not a subcortical ring and thus the estimated date of felling, 881, is uncertain. Further research will be necessary, perhaps even a revision of the previous research, in order to acquire suitable charred pieces from the fort and the inhabited area and render the growth-ring curve more precise.

Analysis of the older hypotheses suggested by Dostál has revealed that his conclusions about the development of the location as a whole are not acceptable. The cache of iron objects from sunken building O10/R14 (dugout no. 10), covered with collapsed fortification matter, appears to be, after revision of the finds, anachronistic, perhaps a craftsman’s store, and what Dostál referred to as “cross ironwork” is a fitting of unknown function, devoid of indications for typological or chronological classification. In all probability, the fitting comes from a box or coffer. On no account did the fortification cease to exist before the mid-9th century, as proposed by Dostál.

In terms of stratigraphy, the fort’s situation is appropriate to that of most of the Greater Moravian houses and graves, both sunken and above ground. Building O1/R18, with Greater Moravian ceramics, is an exception. Early Slavonic and Old Settlement Age buildings are found under the fortification and outside it, and at the time of its construction were below ground level. The only Greater Moravian building to be disclosed under the fortification and investigated is sunken building O1/R18, one half of the researched part of which was under the fortification and the other outside it. The building, investigated lengthwise, runs parallel to the fortification and the older palisade channel. The more recent part of the filling of the building was without finds; only the bottom of the very thin layer of black, sandy clay of a relatively older filling has yielded a few ceramic fragments identical with material from the area within the fort. The small number of fragments does not enable a more precise classification and it cannot be ruled out that the building only existed for a short period of time, possibly a few months.

The graves, dating from the Greater Moravian period (second half of the 9th century), accord with the fort layout. Some of them adjoin the wooden backing wall so closely that it is clear that they were dug at the time when the fort was in use. Grave H4/R01, within the core filling of the rampart, is particularly interesting. The level of the base on which the corpse was laid is identical with that of the first inter-grid. Like the majority of graves explored in the course of research into the fortification and its remains, grave H4/R01 contained no offerings. Settlement buildings adjoining the fort need to be assessed with respect to the larger internal built-up areas, to the complicated and possibly planned layout of internal buildings with which they are connected, in terms of both space and significance.

The original humus-like layer (more recent sub-fossil horizon, A horizon), where the older fortification lies, contains some archaeological material. This layer is without finds in areas R01, R16, R17, R18 and R19. A layer (possibly offset) with a high proportion of animal bone material and ceramic fragments has been detected beneath the fort in area R18. Its character, yellow and clayey, differs from the more recent sub-fossil horizon and that of the fort. The composition of the osteological material is completely different from the series yielded by systematic investigations inside the fortified area (Lesni hrad) and outer baileys (North Outer Bailey). There is a high proportion of sheep and goat bone fragments and a very high occurrence of ox bones. This layer probably came into existence over a very short period of time, in contrast to the series of finds from areas that saw more extended use. In addition, a major part of the layer was preserved when construction of the fort and its attachments protected the materials, while the series from areas in long-term use were exposed to post-deposition processes and are considerably poorer in fragments. The series from the layer under the fort may well better illustrate the management of animal sources of food. The high degree of fragmentation typical of it results from the pressure of the fort construction. The origins of this layer may be associated with the period of fortification construction or with the functioning of sunken buildings O1/R18 and O1/R19. In no case was
there mutual contact, and the stratigraphic relationship between this layer and the buildings cannot thus be defined. The ceramics from the layer are Greater Moravian and analogies are to be found in every area researched.

The origin of the fortification has thus to be defined indirectly by the use of dendrochronological data from the area protected by the fortification (the well from the Nursery, a charred piece from Lesná hřiště) and several incomplete charred pieces of the wooden backing wall from area R15. These pieces lead the authors to the conclusion that the fortification was not constructed before the year 870. This date, however, cannot be considered final until further research into the remains yields a series of charred wood sufficient for dendrochronological analysis to throw up a cluster of data around a certain date.

When the fort fell out of use cannot currently be chronologically specified. It is known that fire damaged or destroyed all sections investigated so far. No militaria or finds pointing towards a military campaign against the fortification have been detected. Owing to the absence of major modifications to the fortification, the durability of which in this environment is estimated at 30–40 years, the authors consider that it ceased to exist before the end of its potential useful life, i.e. at the turn of the 9th century, more precisely in the first decade of the 10th century. This supposition is purely hypothetical and is not supported by archaeological evidence and finds. The fortification might have been set on fire deliberately when, despite times of peace, the Pohansko hill fort ceased to be viable relative to the collapse of the socio-economic system behind its construction.

The fortification and the palisade channel outside it constitute a defence system that was apparently supplemented by a moat in every area researched.

The material used was acquired from the physical surroundings of the site (earth) and what grew there (timber). The farthest place from whence building material (stone) was transported was 17–25 km distant. This was the area of Holič, now in Slovakia where, according to geological-petrographic analyses, Sarmatian layers of the sandy limestone employed in the construction of the fortification and sacred buildings in both Mikulčice and Pohansko occur. According to information from direct participants in the 2005 geological investigations, there are bench-shaped formations on Hrebeň Hill, near Holič, in which layers of stone only a few centimetres thick alternate with layers of sand. The layers of stone have a surface that looks as if the stones had been exposed to the weather. The nature of the stone allows any sharp edges to be smoothed by exposure. It follows that the stone could have been picked up from the slopes around Holič or mined in the quarries that have been identified in the location; however, this remains unfounded without further research. The volume of quarries disclosed by investigation corresponds approximately to the volume of stone needed for the fortifications of Mikulčice and Pohansko.

The acquisition of stone by either method must have been carried out by well-organised groups. They probably first worked for the construction of Valy, near Mikulčice, the fortification system of which is, according to the latest analyses, older, and only later mined and transported material for Pohansko. Storage of stone has possibly been detected in Mikulčice, between Kostelisko and Rubisko. The stone was subsequently transported to other locations, including Pohansko, where it was probably stored outside the fort at an appropriate distance. Traces in the form of small stones have been recorded cu. 10–15 m from the face of the outer stone wall.

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1 R. Skopal and M. Mazuch, to whom thanks; Pers. Com.
The estimated time of transport of stone from the place of mining or storage to Pohansko depends on the mode of transport. The authors believe that carts and single-piece timber boats co-operated in the task. With the use of 20 carts and the same number of boats, the amount of stone needed for the construction of the fort in the central area of Pohansko could be delivered within two years. The localisation of communications related to transport is a different issue, the solution of which is possible but costly. Overland routes could be identified if we knew the exact settlement structure of the background of Mikulčice and Pohansko. Water transport depending on rivers of sufficient depth and flow appears easier to localise, yet the process would be too demanding in the environment of the constantly and dynamically changing alluvial plain of the Dyje and, in particular, the larger and swifter Morava. Certain indicators are provided by changes in watercourses marked in maps from the late 16th century onwards. The dynamics of the river network do not exclude a shift in the confluence of the Dyje and Morava to the area south of Lanžhot, by which the length of the Mikulčice–Pohansko river route would be equal to an ideal overland one.

The building of the fort could have progressed quickly with a steady supply of material, especially if it was organised by one group of head architects. If experienced builders were at work and the fortification line was divided into several sections, roughly corresponding with the remains excavated, the construction could have been performed in all sections in parallel. Longer sections could have been divided into shorter ones, the borders of which might have been the entrance tunnels leading to the top of the fortification. These wooden constructions must be traced and the fortification structure in their surroundings observed. As revealed in work on areas R18 and R19, the fortification structure (the proportion of stone to earth in the rampart) was different on either side of an entrance tunnel. One certain way to identify these entrances, provided they were destroyed by fire, might be geomagnetic prospecting; their existence has probably been detected in this manner in the southern and north-eastern sections of the fortification remnants.

The discovery of a palisade channel to the east and southeast and its absence in the other sections may indicate that there were several phases of building. The fortification may have first been erected in "critical" sections, i.e. without a palisade channel. Perhaps due to lack of time, materials, or both, the fortification was not constructed in the eastern and south-eastern sections; instead, a palisade channel was dug into which a simple palisade of posts was set. Once the amount of material needed for construction of fortifications had been assembled, the palisade was pulled out, the channel was filled in, and the posts re-used in the fortification. The interval between the construction of the palisade, its removal and the subsequent construction of the fortification was not necessarily long, and it cannot be ruled out that it spanned only a few months. The fort might thus have been built within two years.

Having compared the construction of the Pohansko hill fort with locations of similar function in the lower catchment of the Rivers Dyje and Morava, the authors believe that the construction and material of the fortification are closest to that of the Mikulčice "acropolis". Judging from existing information on the construction and dating of the Mikulčice fort, Pohansko could have been erected shortly after the mid-9th century, and it might even have been a fortified site mentioned in written records of the military campaigns of Frankish armies on Moravian territory. Changes in the use of the Mikulčice complexes from residential to sacred and the expansion of the settlement into less suitable locations on flood soil could have triggered a decision to re-structure some of the inhabitants to a new centre, 15 km south-west in Pohansko, where a palace and a church already stood and around which essential outbuildings had been steadily expanding. The affinities between Mikulčice and Pohansko, in their location at the centres of alluvial plains, strategic sites where rivers could be crossed on bridges controlling trade and the movement of people on the territory, are striking.

Geomorphologically identical terrains and the inclusion of low-lying sections in the fortified areas (Dolní valy – Mikulčice, Pod hřídem – Pohansko) indicate a certain connection between the two locations, as well as a consistency in the selection of site. The same methods, only slightly modified, were employed in the construction of their fortifications. The same kind of stone was used for the facing, the earth for the cores was acquired from river banks or from uninhabited places, which is why such cores have not yielded finds. Last but not least, identical ceramic production in both locations makes up a distinct and easily recognisable regional group typical of the second half of the 9th century.

The construction of the fortification of the Pohansko hill fort was perhaps not generated by a single need but was the result of the intersection of several circles of relationships within the society of the time and place (these may be termed subsystems, as J. Macháček refers to them). A military aspect and the cult of the military force certainly played an important part, as did the efforts to manifest the determination to defend the area and its inhabitants. In addition, such mighty fortifications demonstrated the organisational potential of the ruling classes. They also provided protection for the inhabitants against people outside and matters “beyond”. They defended access to the area from the south, from the River Danube.

The defence of Pohansko was not restricted to a passive fortification but included an active concentration of military force in its proximity. Evidence of the presence of a large group of people who were not craftsmen and possibly not farmers comes from the South Outer Bailey. They are thought to have been members of a large “state” group. The South Outer Bailey has yielded relatively numerous objects that can be categorised as weaponry and horse-riding equipment (stirrups, bits and spurs). Moreover, there is a striking difference between the types of dwellings in the South Outer Bailey and those of the craftsmen settled within the fortified central area.

It is obvious that much research into the fort and its close relationship with the internal settlement remains to be done, and must continue. Research into the area outside the fortification, in the sections delineated by presumed watercourses, must also be undertaken. In addition, it is essential that enough suitable samples for dendrochronology be acquired, something that can be made possible through relatively cheap revision research. In any case, exploration of the construction of the Pohansko hill fort, its chronology and importance in relation to the whole location is far from over.