

# AN INVESTIGATION OF HISTORIC STRUCTURES OF NOVÁ HORKA CASTLE IN STUDÉNKA (CR)

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## Abstract

The castle in Nová Horka used to be the cultural centre of the Moravian-Silesian Region; it used to be called “Little Vienna”. Despite the fact there is little known about the structural development of the residence. The building archaeology survey in 2021/2022 helped to discover facilities that enabled to increase the comfort of noble people dwelling. These were parts of a heating system, system of lighting and waste disposal, and location of the castle in the landscape as well. The aim of this article is to describe and interpret these facilities in the context of development of Central-European castles. Another aim is to propose a presentation of these facilities to visitors which raises the tourist attractiveness of the castle and its neighbourhood. An educational presentation of this cultural heritage might contribute to sustainable development of this region.

## Keywords:

Baroque castle;  
Building archaeology survey;  
Heating;  
Waste pipes;  
Presentation of cultural heritage.

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## 1 Introduction

Noble residences played an important role for their owners in past as the owners wanted to make the right impression. The contemporary society is organized on other bases. Majority of the castles lost their former utilization and their owners are looking for a new utilization of these historical buildings. But in fact the castles in large cities have better possibilities to utilization. The castles in small villages in the country usually have problems how to be used.

Nová Horka is a small country seat. Nowadays it is a part of town Studénka, but the centre of Studénka is 2 kilometres away from Nová Horka. In 2011 only 342 inhabitants lived in Nová Horka.

The public transport connection from Studénka to Nová Horka is complicated today. The railway goes through Studénka. Trains and even international trains stop there. But the railway station in Studénka is 2.5 kilometres away from Nová Horka. In the neighbourhood there is Leoš Janáček airport. The connection by car is good, the motorway is only six kilometres away, but in Nová Horka there is not any car park. In front of the castle 3 - 4 cars can park only but there is not space enough for buses. In Nová Horka there is only one small pub. The lack of accommodation in Nová Horka might also play a negative role, either.

The investigation of this baroque castle brings the questions. Is it important to increase the knowledge about the castle? Could the new discoveries in the field of history of architecture and arts make the new installed castle interesting for visitors? Could these attractiveness help to make the sustainable regime for this castle?

## 2 Location in the landscape

The location of the castle Nová Horka is extremely attractive, Fig. 1. The castle is placed on an elevated location, on a hillock above a millrace between the Sedlnice and Odra River [18]. Looking to the South-East from the castle, we can see picturesque pastures and Moravian-Silesian Foothills and Beskydy mountains; there are magnificent views of the park and Vitkov highlands in the North-West. Nowadays direct view from a balcony is partly hidden by grown-up trees, thus in the Modern age there might be an open view from the terrace above the watercourse. The residence developed from a fortified house and a demesne farm, so the purpose of its position was rather fortifying: an open

view of the landscape was a real must. This element was applied when the castle was being reconstructed; the view was considered to be an aesthetic component. Location of a residence in the landscape and its appearance is a very important aspect in architecture, since the 16th century the outlook from the building has been also an integral part. The concept of optical dominance was taken over and developed by the baroque culture [19].



Fig. 1: Nová Horka Castle, aerial photo, 2021 (taken by M. Bitter, MNJ).

The cultivation of the nearest neighbourhood continued in the baroque period. The castle was surrounded by a park, [20] the south-west part of which is depicted in a veduta in the background of a portrait of Karel Josef Vetter from 1792. North-west from the castle there was a geometrical garden with a water element. Karel Josef count Vetter also took account of sporting activities during the refinement of surroundings of the castle. He had a shooting gallery installed north-westwards [5], this shooting gallery was depicted in a veduta after F. Kledenský, probably from 1817. The count and his guests might even go shooting and hunting to surrounding forests [5].

The location of the castle is undoubtedly the result of development of the former demesne farm complemented by the fortified house. The views themselves are the consequence of fortifying position of the residence and partly by chance. The immediate surroundings of the castle were transformed into a cultural landscape with a garden during baroque and further adaptations. Even the location of the castle in the landscape is a tourist attraction, the reason why the castle is so sought-after by many visitors.

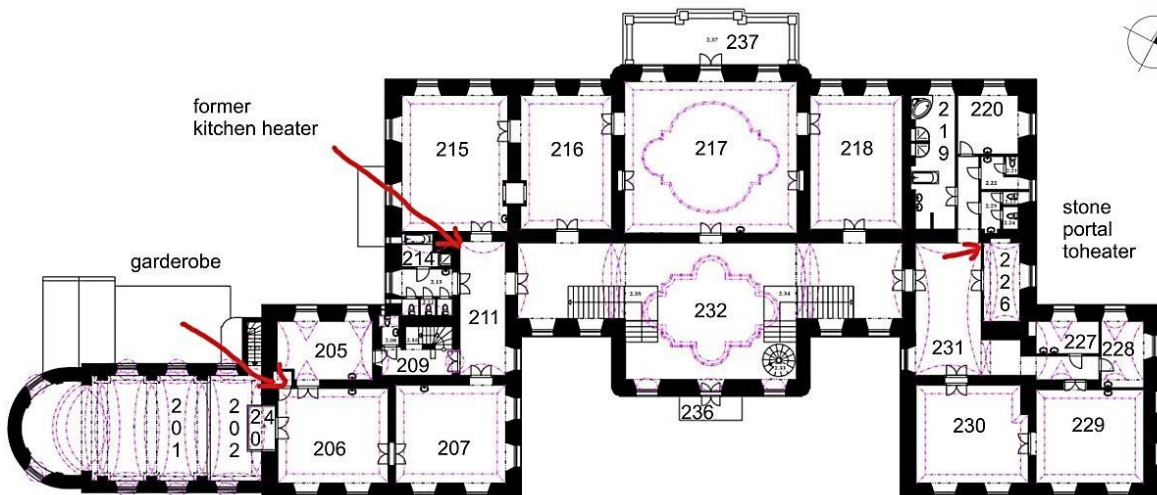


Fig. 2: Nová Horka Castle, plan of the first floor, 2016 (drawn by Oldřich Němec).

### 3 Present days of the Nová Horka castle

The castle in Nová Horka (nowadays a part of town of Studénka, Fig. 3) served as a long-term shelter for people with mental disabilities for almost 70 years. In 2016, the owner of it, the Moravian Silesian Regional Authority, moved this facility onto a different location. The renovation of the castle was carried out part by part, the castle was opened to the public in 2020, regular tours of the ground floor have been organized since the following year [1]. As it turned out, visitors of tourist sites have been interested in details of dwelling of the aristocracy in past.



Fig. 3: The Czech Republic and plotted town of Studénka, 2022 (map by Martin Ferko).

#### 3.1 The previous investigation of Nová Horka castle and the possibilities of next development of the castle

Although the castle in Nová Horka has been mentioned in some inventories, [2, 3] there has not been any systematic research done there. Neither an archaeological survey has been carried out there. There was little knowledge of the castle only. One theory said the castle was a high-baroque new building, [2] other authors admit the castle had been rebuilt from a fortified house [3]. Some tourist brochures even said that the fortified house had been built at the beginning of the 14th century as a Renaissance structure, which is not real.

Z. Orlita prepared the old history of the castle (mainly in 16th century) on the basis of written sources [4].

The first period of the restoration was documented in the restoration report only. It is a pity, that this first stage of the restoration – renewal of the ground floor had no documentation and any building archaeology survey. Only the second period of the restoration of the castle (the first and the second floor), was documented as a building archaeology research [5]. Building archaeology survey brought a lot of new knowledge about the castle Nová Horka and also about the dwelling of the nobility in the past.

The castle is not a residence of the nobility any more. The last noble family left Nová Horka in 1945. The management of the Museum of Nový Jičín had to find new model of the sustainable operation for the renovated castle. They could find the many examples of the restored castle and ruins in the Czech Republic and also the abroad castles. An interesting example of ruins restoration is Hricov castle, the important Slovak monument. Tourist interest for the ruins is traditionally big [6]. The baroque mansion in Jakovle in Croatia was a private residence, after the World War II, the mansion was nationalized and has been owned by the Croatian Association of Artists since 1992. This association plans further restoration and then the new utilization of the mansion as an art studio, for the educational workshops and exhibitions. An interesting utilization is also the sculpture park. It is expected to open up possibilities for the development of cultural tourism in the area [7]. Another example is Bratislava Castle. The researchers made a visitor survey and they found, that the unique panoramic view over the river Danube and renovated French baroque garden attract more visitors than Museum of History in interior of the Bratislava Castle [8].

#### 3.2 Counts Vetter von der Lilie

The family Vetter von der Lilie is very important for the evolution of this castle. It is necessary to mention the history of this family, social contact of members of this family, their political activities and their other demesnes in short.

The Counts Vetter von der Lilie owned the castle for a short time as early as in the 16th century. At that time, they were also holders of a castle Bistrica in today's Slovenia. In their coat of arms there were lilies [4.] In the first half of the 17th century the owners of the castle Nová Horka changed again.

The demesne of Nová Horka was bought by Johann Balthasar Vetter in 1660 [4, 5]. After Johann Balthasar died, the demesne became property of his brother Albrecht Friedrich († 16 June 1698), who was a priest and a prelate. [14] In 1672 Johann Balthasar's son, Ferdinand Fortunat († 1717), became an owner of Nová Horka [5].



Fig. 4: Nová Horka Castle, 2021 (taken by the author).

Another important member of Vetter von der Lilie family was Karl Josef Franz (10 December 1719 – 27 August 1792). He became an owner of Nová Horka in 1742, [5]. During his time, the castle was rebuilt into a baroque style, Fig. 4.

Felix Anton (18 March 1830 – 21 November 1913) was Franz Vetter's son. In 1855 he married to Ida, the countess Arz von Arzio-Wasegg (23 June 1833 – 29 September 1903). During the time of Felix Anton, the castle was rebuilt in a historicist style. He and his wife are buried in a sepulchre in Albrechtický.

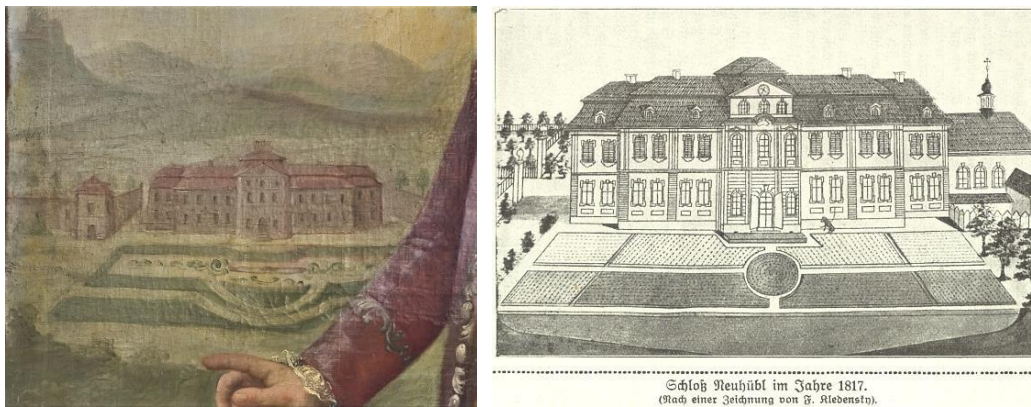


Fig. 5: Portrait of Karl Josef Comes Vetter von der Lilie, detail of the castle, oil on canvas, 254 x 140 cm without the frame, 1792, (The National Heritage Institute, regional department Kroměříž, Vizovice Castle. Taken by A. Knápek), Kledenský, F. Castle in Nová Horka, (from the article 10).

Moritz Joseph Vetter (22 March 1856 – 29 October 1945) was the last aristocrat owner of the castle in Nová Horka. He was married twice. His first wife was Karolina Marie, the countess von Wimpfen (1861 – 1902), his second wife was Marie Terezie, the countess von Gudenus (1875 – 1940). Moritz left Nová Horka on 15 April 1945 and found a shelter from advancing frontline in Austria. [16] Moritz's descendants live in Vienna nowadays.

#### 4 Materials and methods

The article presents results of building archaeology survey of the castle of Nová Horka mainly. The traditional (archival research, structural analysis...) and also the modern methods (dendrochronology, aerial photography...) were used. Geographical methods, in fact the knowledge of the municipality and their neighbourhood were used for the research of the possibilities of sustainable development of the castle Nová Horka and its chances in regional tourist traffic.

#### 4.1 Methods

The article about castle Nová Horka brings the facts about this historic building, its history and building development. Majority of new discoveries come from building archaeology investigation of 2nd and the third floor [5].

The historical survey was performed with traditional methods – mostly the heuristic literature review and archival research. The old written sources (inventories, chronicles and so on) were studied and critically evaluated [5]. The genealogy sources (family trees, parish registers...) were also extracted [11, 12]. Practical use of knowledge about the history of Vetter family and their connection with other research topics was enabled thanks to digital databases. The most important database for the monuments is the npu.cz (database of the Czech National Heritage Institute) [11]. The database contains elementary description of all monuments in the Czech Republic. The database of immovable properties is available to the public. Other important databases are archives.cz and of course the database for historic maps oldmaps.geolab.cz. The database of Silesian Land archive [12] offers inventories of fast all archive funds in the Land Archive in Opava and their branches. This database offers also digitalised important sources, for example the old cadastral books, historic plans, photos and so on.

The castle was studied with traditional methods of building archelogy survey. The observed floors were inspected and the plans were reviewed and corrected. Then the discoveries (heaters, garderoberes...) were recorded into plans, Fig. 2.

The new discoveries of the building archaeology survey in Nová Horka were compared with the results of other published [6, 7, 8] and non-published surveys of other castles dating from probably the same time.



Fig. 6: Nová Horka Castle, southern – western façade with the remnants of the early Baroque windows, 2021 (drawn by A. Knápek).

The survey of the object on the second and third floor was specified with the help of common geodetic techniques. The facades of the castle in Nová Horka are quite simple. The photogrammetry or laser scanning are quite expensive and are necessary for the complicated shapes of the fragmentary architecture, so as the Hricov castle in the Slovak Republic [6] Photo documentation of Nová Horka castle was taken with a Canon EOS 70D camera. Aerial photographs were taken with the help of DJI MAWIC C Air 2 drone.

Dendrochronology is a common method for surveying of the old buildings today. A lot of their results can be also used in the research of the climate [14]. The results of dendrochronological dating were also applied: standard dendrochronology of tree rings of firs from Bohemia and Southern Poland was used. [15] Destructive band and large-area samplers were realized during the restoration survey.

The methods of restoration survey are used for the evaluation of the building archaeology survey. The restoration survey was realised in the corridor and selected rooms. [16]. Its results were evaluated and given into connection with the results of the building archaeology survey and the other research (dendrochronology...). The knowledge about building development is based on the results of all the research.

## 5 Results

### 5.1 Building development of the Nová Horka castle

Building archaeological survey techniques enabled to make basic thesis on the development of the castle, Table 1. In view of the current information on the development of the castle and the previous fortified house in Nová Horka, the residence might relate to a local old demesne farm. The existence of Nová Horka was mentioned for the first time in 1378. [5] The date of when the grounds of demesne farm were complemented by a manor house is not known, probably in the 1550s. In 1605 the fortified house was said to be built from “stane and wode”. The demesne farm by the castle supplied the aristocracy with agricultural products, including meat, beer and spirits. The castle was even mentioned in other inventories from the 17th century and later [5].

Table 1: Periods and summary of the constructive phases developed in the castle.

Period	Constructive phase
Medieval period	Demesne farm in Nová Horka
16th century	Fortified house in Nová Horka made of wood and stone
1st half of the 17th century	Castle Nová Horka in contemporary ground plan and volume
2nd half of the 17th century	Castle Nová Horka with the castle chapel of the Holy Cross
18th century	Reconstruction of the castle in Nová Horka and art decoration, especially painted decoration on walls and the vault in <i>salla terrena</i> on the ground floor
19th century (1867)	Reconstruction of the castle according to the plans of architect Caspar Carlseder – modernisation of heating, new staircase, wainscoting, waste disposal
20th century	The complex modernisation into a healthcare facility
Present time (from 2016)	Reconversion into a castle – an installed object

The castle was constructed in the first half of the 17th century, probably on the current floor plan (except for the chapel), up to the level of the second upper floor [5].

The Chronicle by Janáček states the castle got the baroque form in the time of Karel Josef count Vetter in 1740s – 1770s. The façade was modified, Fig. 6, then and a *salla terrena* of today's shape was established. The castle got mansard roofs covered with shingles (according to later sources) [6]. Two vedute captured such form of the castle – a detail of the building from the portrait of Karl Josef Vetter from 1792, Fig. 5, and a printing after Kledenský's vedute from 1817, Fig. 5, [10].

In 1856 the castle was destroyed by fire. The extent of the fire is not known, anyway, the crucial reconstruction was carried out based on designs by a builder from Příbor, Caspar Carlseder (1822 – 1897) [17] in 1867. The year of the reconstruction was also approved by dendrochronology [15]. A new roof was installed, that time a system of gable and hipped roofs. Other changes were realized indoor.

In 1947 the castle was allocated to the District Charity in Moravian Ostrava. The Charity operated a shelter for chronically ill and elderly people there, later a shelter for women with mental disabilities. Of course, structural changes were done, such as modification and modernization of accommodation capacity. Since the castle had been declared the cultural heritage, the painting of *salla terrena* and doors and windows were renovated by restorers. After the function of the building changed in 2016, the castle has been used as an installed object then [5].

### 5.2 Attributes of aristocratic dwelling in Nová Horka

Even though the castle, in its basic volume and floor plan, was built as early as in the 16th and the first half of the 17th century, that is before the Vetter family settled there, important aspects of living can be described after the castle became the property of counts of the lily-coat-of-arms.



Fig. 7: Nová Horka Castle, fireplace composed of ceramic tiles in *salla terrena*, 2021 (taken by the author).



Fig. 8: Nová Horka Castle, fireplace composed of ceramic tiles, photo, 1944 (SOKA Nový Jičín).

### 5.3 Heating

A lot of visitors of installed objects are interested in old heating systems. Although nowadays we know quite a lot about heating systems used in past, [21] the awareness of an ordinary visitor is not very great and they will know more about this interesting topic. The Nová Horka Castle was, as well as many other objects of collective accommodation heated by a form of indirect heating, Fig. 9, [22] the fire in masonry heaters in dwelled rooms was fed from corridors via a low portal by the floor. A few of such “feeding” portals have been preserved in Nová Horka, mostly they have been bricked up. The shape of masonry heaters joined to the portals can be seen in historic photographs only.

Visitors of the castle must be attracted by the heater in the *salla terrena*. In the baroque period it undoubtedly was space opened to the garden. In the 19th century it was closed up with windows, the inventory from 1840 describes it as a *Garten Saal* [5]. The former *salla terrena* was heated, or rather kept at a moderate temperature, then. A heater was installed to the southwest wall of the *salla terrena*. In the period of late historicism there were fireplaces as additional heaters in castles commonplace. Additional fireplaces were installed in aristocratic residences mostly at the turn of the 19th and 20th century (stone fireplaces with coat of arms of Stollberg in the castle in Paskov, findings of stone probably fireplace tiling in the castle in Kravaře, ...). The material of the fireplace is unique to the castle in Nová Horka, Fig. 7. Most fireplaces were built of stone or were tiled with stone; the material applied for fireplace heater in Nová Horka was ceramic. The preserved fireplace in *salla terrena* consisted of ceramic tiles. In accordance with historic photographs of the interior, there were more similar ceramic fireplaces in Nová Horka, according to formal signs they came from the latter half of the 19th century, Fig. 7.



Fig. 9: Nová Horka Castle, corridor N. 211, stone portal to heater, later walled up, photo, 2021 (taken by the author).

An interesting question is the location of the kitchen in the castle in Nová Horka, the kitchen that was in operation in the castle in Nová Horka was the one with a pyramid shaped chimney. There is a lot of evidence for kitchen heater. The old kitchen can be found on the ground floor of the southwest wing. An inventory from 1719 reports about the kitchen in the castle. In the Chronicle by Janáček there are several references to the kitchen in the castle and for various strata of inhabitants. Another old kitchen with a pyramid shaped chimney was located in the southern part of the north-west wing, nowadays on the spot of rooms number 212, 213 and 214, Fig. 9. The proof of operation of that kitchen with a pyramid shaped chimney, Fig. 10, is the existence of the heater between this place and corridor 211. The cubical structure in the northern corner of the room 214 is apparently a relic of a bread oven. Anyway, this kitchen might have lost its function and might have been adapted to a dwelling room at the turn of the 18th and 19th century. That might relate to installation of another stove in the room and reconstruction the heater at the time of indirect heating, when a wall was bricked in the corner in the corridor, behind the wall there was a space for feeding the fire.



Fig. 10: Nová Horka Castle, corridor N. 231, rebuilt stone portal to the heater, photo, 2021 (taken by the author).

In 1867, during the reconstruction lead by Karlseder, the system was complemented with hot air heating that can be found in other residences (castle Raduň, [23] castle Hnojník...). Chimneys of former indirect heating were used for the circulation of hot air in the castle in Nová Horka. A small door to control the circulation of warm air was preserved in the *salla terrena* and in the upper corridor. There were also two heaters located in the basement, Fig. 11, [5].

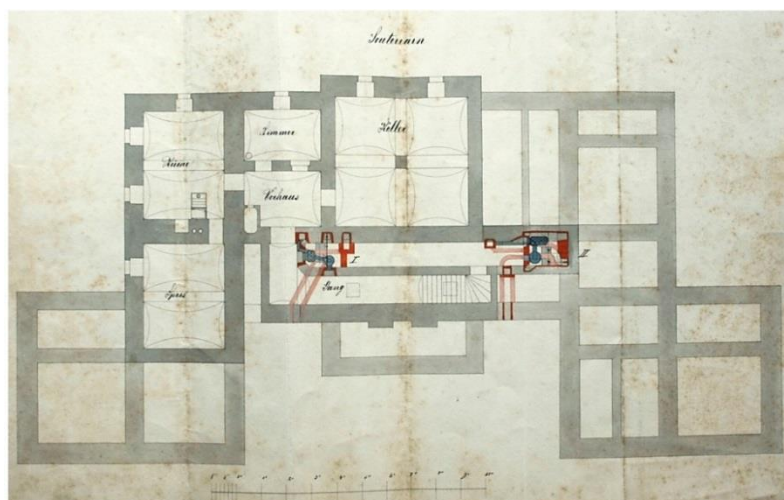


Fig. 11: Karlseder, Caspar, basement plan with the hot-air heating, 1867? (The National Heritage Institute, regional department Kroměříž, Vizovice Castle).



Historic heating systems draw attention of tourists. It is difficult to explain their function if the heater in its original form is not present. It is necessary to present those systems individually based on digital depiction of sights. [6]

#### 5.4 Lighting

The castle was lit by chandeliers with candles or stands for light fittings, usually with an open fire, as it used to be common at the end of the 19th century. The electrification of the particular residence influenced the extent of the electric lighting. In historic photographs from 1944 there were electric lamps, although there were also some candle chandeliers or portable candlesticks left.

Natural light was provided via large windows. In winter the natural light was not used as much as in summer since the dwellers closed windows with shutters to insulate the interior. The preserved shutters probably date back to the turn of the 19th and 20th century or to the time of reconstruction in 1961 [5], they can be folded into pre-prepared hollows in sidewalls of the alongside the windows. Folding shutters were very commonplace at the turn of the 19th and 20th century. Similar shutters have been preserved in the castle in Hnojník as well.



Fig. 12: Nová Horka Castle, room No. 236 with the door leading to the garderobe, photo, 2021 (taken by the author).



Fig. 13: Nová Horka Castle, rebuilt garderobe with the niche, photo, 2021 (taken by author).

#### 5.5 Waste disposal system

Historic sights visitors are often interested in details of historic waste disposal systems. A few attractions related to the waste disposals have been preserved in Nová Horka castle. On the first floor of the castle, in the room No. 205 there is a small space accessible from the room No. 206, Fig. 12 and 13. The floor plan of the space is slightly irregular; there is a barrel vault and a small niche in the south-east wall. A part of the floor plan of the space is located inside the south-west wall; a part was created by walling into the room. The space used to serve as a medieval latrine, garderobe, there was a seat and the niche, located on the right hand of the sitting person, the niche served for putting down and storing necessary stuff, especially moss. The drain of the garderobe was directed diagonally downwards inside the wall. Similar garderobes have been preserved, or marks of them can be seen, in a lot of residences in the Moravian-Silesian Region. In the castle of Dolní Benešov there is still a niche of a renaissance garderobe with a seat preserved (the seat is lidded with a board nowadays). The drain of the garderobe directed diagonally downwards inside the wall and its aperture was placed about 70 cm above the ground into a sump outside the building. Similar renaissance garderobes have been identified in the castle in Stará Ves and Ondřejnicí [24] or in the castle in Bravantice. The above-mentioned garderobe in Nové Horka was, in the Baroque period – probably in the 17th century, transformed into a pail closet. Since a chapel was added to the south-west wall of the wing, the drain could not lead inside the wall anymore. The former garderobe installed in the wall was surrounded with walls, which made the space larger. The closet was equipped with pail that was emptied by servants [22, 25].

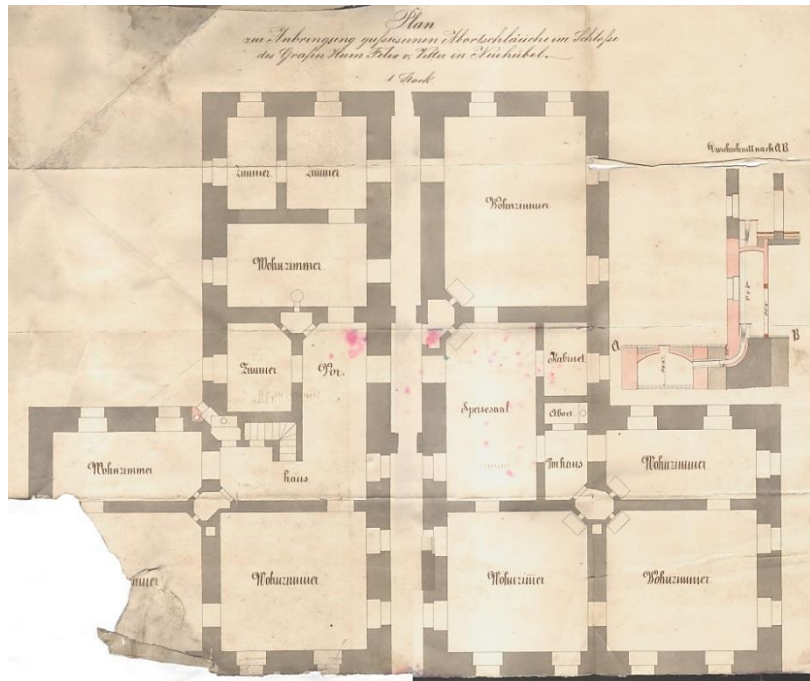


Fig. 14: Caspar Karlseder, floor plan with the waste pipes made from cast iron (pink colour), 1867 (private collection of Mr. and Mrs. Vlašic).

The waste disposal system was modernized in the 19th century in the time of Felix count Vetter. It is evidenced by a design by Caspar Karlseder, Fig 14, dated back to, probably, 1867 [17], it was described as a plan to have cast-iron waste pipe lain from the toilet behind a staircase to the north-west and south-west wings. After the modernization, the toilet was still a dry one, not flushing.

The waste disposal systems as well as heating are quite difficult; their presentation to the visitors might be performed rather separately, as a part of specialized tours complemented with particular designs and visualizations. The rests of waste disposal system and the heating in the past seems to be not so evident for the common visitor. They could be presented as a part of exhibition with the digital presentation or with the table on the walls at least.

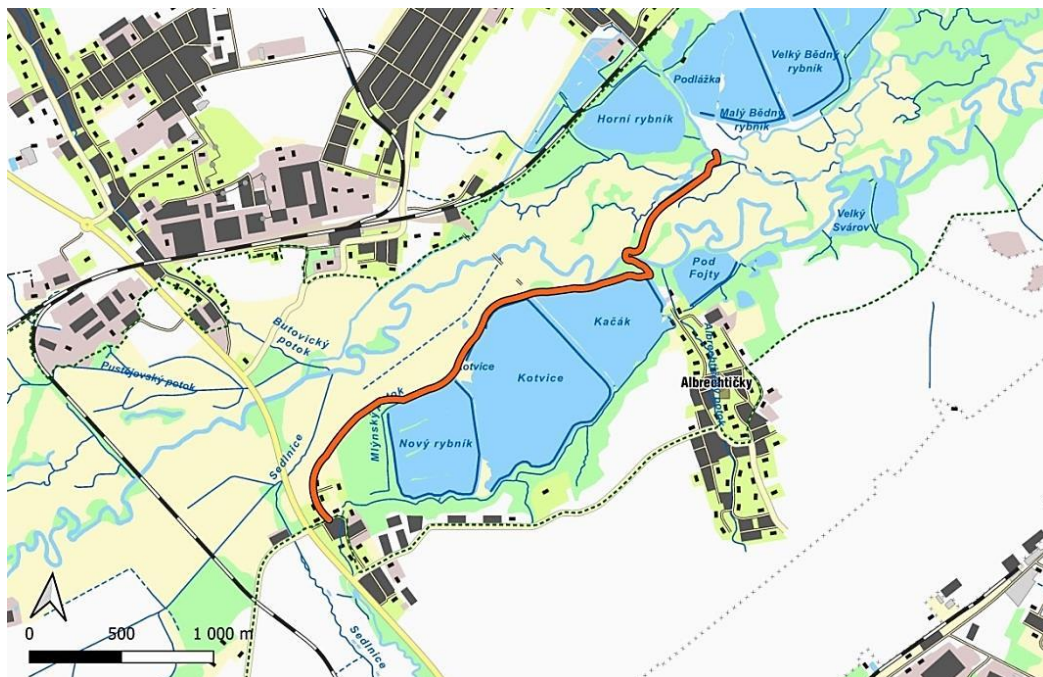


Fig. 15: Educational trail Kotvice (red line), map, 2022 (drawn by Martin Ferko, base vector map of the Czech Republic, ZABAGED© a DATA50, ČÚZK).

## 6 Discussion

Building archaeological survey and other methods showed the castle in Nová Horka was developed from an old fortified house, built on the grounds of a demesne farm. The position of the fortified house was very important. This farm provided the inhabitants of the fortified house with various commodities. The aristocratic residence was operated sustainably, according to a pattern used until the 20th century. It is necessary to find the sustainable model of functioning for Nová Horka castle.

The building archaeology survey of the castle in Nová Horka brought the remarkable results. The old (sure renaissance) origin of the castle was found out. This castle is not a baroque new building, built in the time of Karl Josef Vetter, as some literature presented [3].

The structure and building elements were also identified in a detailed way; the elements that increased the comfort of the aristocratic dwelling (heating, illumination, view ...). These elements might attract visitors and thus compete with common tourist destinations, such as, for example, open air museums. Such museums are very attractive for example for families. Visitors can enter the buildings and they can see the object outside and inside. It is necessary to keep the buildings in good condition [13].

The new utilisation of the castle Nová Horka has their specifics. The planned utilisation of the mansion Jakovle [7] could serve as a model only partly, not to the full extent. This use is a bit different. The mansion has specific visitors – artists and the specific viewers, focused on the arts. The castle Nová Horka must be available for common visitors, families with children and so on. That is the reason why the exposition and the program must be focused wider than in Jakovle.

An interesting experience from Bratislava [8] shows the interests of common visitors. Also in Nová Horka the presentation could be based on the attractive view and the park. Palenčíková and Machnicová mean that the view and gardens are the main attractiveness of Bratislava Castle. The exhibitions in Nová Horka are quite new, and it seems that the exhibitions of dwelling of the nobility in the past are also attractive for visitors.

The farmyard operated by the castle for centuries does not work anymore. After the transformation of the economic model, an option of sustainable functioning for this old aristocratic residence was being looked for. The castle lost its economic background and they had to look for different sources of funding. Nová Horka castle can be presented as tourist attractiveness Thanks to the investigation of the history and the development of the castle. The new discoveries could make the castle more attractive for visitors. Also other attractiveness is needed. The castle was included in an educational trail Kotvice, Fig. 15 that presents natural and artistic wealth of this region.

The described attractiveness could bring more visitors. Anyway it is necessary to have good transport connection and a good background (car parks, accommodation...) for tourist traffic. The sustainable model for the mass tourism cannot be reached without sufficient background.

## 7 Conclusion

Renaissance holders of the castle in Nová Horka and later counts of the family of the Vetter von der Lilie had their residence transformed to have as much comfort as people of their social status required. The privileged location of the castle was influenced by the fortifying aspect of the old fortified house. Attractive views from the castle used to be a must, they were necessary for defence. As late as in the baroque the closest neighbourhood of the castle was cultivated. Nearby the castle there was a demesne farm, it even had been an ancestor of the castle, it supplied the aristocrat residents of the castle with agricultural products.

The castle was furnished with common comfort of dwelling. It was, of course, heated; at first indirectly, by masonry stove, later by a stove attended directly. The heating system was complemented with warm-air heating in 1867 that was not so common system then. Even ceramic fireplaces, composed (like masonry stoves) of tiles, were not commonplace and make the castle in Nová Horka quite attractive.

Another interesting part of the aristocratic residence in Nová Horka is the documented development of the waste disposal system. The garderobe in the southwest wing with a drain in the wall was transformed into a pail closet (with a pail emptied by servants).

The results come mainly from the building archaeology survey. The research was realised on the second and third floor of the castle. The next research of the ground floor in Nová Horka could specify the knowledge about building development of this castle. Such results could be sure for researcher and also for the visitors.

Investigation of the aristocrat residence using building archaeological survey methods brought interesting results that contributed to better knowledge of the particular object, and also of the development of early-modern castles in the region. These new findings have been incorporated in various types of presentation of the castle either in publications, during sightseeing tours or in digital presentations on websites. As the farmyard has not been in operation since the second half of the twentieth century, new forms of funding were to be searched for. Making the locality attractive for tourists and of course good background for tourist traffic can support the sustainable development of the region.

### Acknowledgements

This article was supported by the Ministry of Culture of the Czech Republic (NAKI II research programme: project No. DG18P02OVV017).

### References

- [1] KNÁPEK, A.: Opening of Nová Horka castle to the public. *Vlastivědný sborník Novojičínska*, Vol. 70, 2020, pp. 133–134 (in Czech).
- [2] PLAČEK, M.: Castles in Moravia and Silesia. Libri, 1996, pp. 223–224 (in Czech).
- [3] SPURNÝ, F.: Castles and fortified houses in Bohemia, Moravia and Silesia, Vol. II Northern Moravia. Svoboda, 1983, pp. 164-165 (in Czech).
- [4] ORLITA, Z.: The old fortified house in Nová Horka. *Vlastivědný sborník Novojičínska*, Vol. LXX, 2020, pp. 23–30 (in Czech).
- [5] AUGUSTINKOVÁ, L.: Nová Horka castle. A partial building archaeology survey of the 2nd and 3rd floor. Ostrava, 2022. Unpublished material deposited in the registry office of the Museum of Nový Jičín Region (in Czech).
- [6] CESNEK, T. - DECKY, M. - PIRY, M. - HODASOVA, K. - VALLETTA, A.: 3D Model of Hricov Castle Enhanced by Real Textures. *Civil and Environmental Engineering*, Vol. 22, Iss. 1, 2022, pp. 482–489, <https://doi.org/10.2478/cee-2022-0045>.
- [7] BORIC, V. J.: The Jakovlje Mansion - A History of Construction and a Future Renovation. *Portal Godisnjak Hrvatskog Restaratorskog Zavoda*, 3, 2012, pp. 29–41.
- [8] PALENCIKOVA, Z. – MACHNICOVA, Z.: Bratislava castle and its potential for the development of the creative tourism offer. *Geographical information*, Vol. 22, Iss. 2, 2018, pp. 207–222, DOI 10.17846/GI.2018.22.2.207-222.
- [9] SEHNAL, J.: The Cultural and Historical Past of Nová Horka Castle near Studénka. *Vlastivědný věstník moravský*, Vol. XXXVII, Iss. 2, 1985, pp. 171–178 (in Czech).
- [10] ULLRICH J.: Nová Horka in 1817. *Das Kuhländchen*, Vol. VIII, 1927, pp. 180–184.
- [11] Npu.cz: <https://www.pamatkovykatolog.cz/zamek-12766278>.
- [12] Archives.cz: [https://digi.archives.cz/da/VysledekBean.action?show=&\\_sourcePage=jp\\_9Z2L6X7IPsqqiSuJ6hUlr4-DY6UUzuxdRILpvmuGRQ3u0qOKavDKMq72JBwgBZdaygg4ub5LOogfT32oCsqQE74sFIfZx78\\_t\\_ddS74%3D&pagerCompStatelD=PAGER\\_RESULT&xid=7825667383C111E187A40025649FEB7&entityType=9019&paginatorCompStatelD=PAGINATOR\\_RESULT&rowPg=15](https://digi.archives.cz/da/VysledekBean.action?show=&_sourcePage=jp_9Z2L6X7IPsqqiSuJ6hUlr4-DY6UUzuxdRILpvmuGRQ3u0qOKavDKMq72JBwgBZdaygg4ub5LOogfT32oCsqQE74sFIfZx78_t_ddS74%3D&pagerCompStatelD=PAGER_RESULT&xid=7825667383C111E187A40025649FEB7&entityType=9019&paginatorCompStatelD=PAGINATOR_RESULT&rowPg=15).
- [13] MAKÝŠ, O. - KRUŠINSKÝ, P. – KORENKOVÁ, R. - ŠROBÁROVÁ, D.: Diagnostics of Wooden Poles Situated in the Open – Air Museum Using Sonic Tomography. *Civil and Environmental Engineering*, Vol. 14, Iss. 1, 2018, pp. 54-60, DOI: 10.2478/cee-2018-0007.
- [14] BÜNTGEN, U. et al.: Filling the Eastern European gap in millennium - long temperature reconstructions. *Proceedings of the National Academy of Sciences*, Vol. 110, 5, 2013, pp. 1773-1778, DOI 10.1073/pnas.1211485110.
- [15] KYNCL, T.: The dendrochronological research report on roof structures in Nová Horka Castle. Brno, 2021. Unpublished materials deposited in the archive of the Museum of Nový Jičín Region (in Czech).
- [16] SVOBODOVÁ, R.: Nová Horka Castle. Restoration survey. Studénka, 2020. Unpublished materials deposited in the registry office of the Museum of Nový Jičín Region (in Czech).
- [17] VLAŠIC, P.: Kašpar and Bedřich Karlseder and their houses in Příbor. Příbor, 2019 (in Czech).
- [18] AUGUSTINKOVÁ, L. - FÁREK, V. - KLEPEK, J. - KRAKOVSKÁ, A. - NERUDA, M. - PONÍŽILOVÁ, I. - STRACHOTA, M. - ŠREJBER J. - UNUCKA, J. - VOŽENÍLEK, V. - WINKLER, I. - ŽIDEK, D.: Utilization of the geoinformatics and mathematical modelling tools for the analyses of importance and risks of the historic water works. *Lecture Notes in Geoinformation and Cartography Part F3*, pp. 289–306, doi: 10.1007/978-3-319-45123-7\_21.

- [19] KALINA, P.: Dwelling and view (an idea of optical ascendancy at the beginning of the New Age). Kapitoly z historie bydlení, Czech Technical University in Prague, 2014, pp. 97–114 (in Czech).
- [20] MRAČANSKÁ, E.: Castle Park in Nová Horka and its interesting woody plants. Poodří, Vol. XXI, Iss. 1, 2018, pp. 14–19 (in Czech).
- [21] KRACÍKOVÁ, L.: Development and function of fireplaces. Proceedings of the 1st specialized conference of building-historic survey, Praha, 2003 (in Czech).
- [22] ŠKABRADA, J.: Historical structures. Argo, 2003, pp. 257–286 (in Czech).
- [23] KOLÁŘOVÁ, E.: Basement in Raduň Castle concentrated to heritage reconstructions of the south basement and structure of the auxiliary areas. Proceedings of Czech National Heritage Institute in Ostrava, 2020, pp. 9–21 (in Czech).
- [24] STANIEKOVÁ, A.: Reconstruction of Stará Ves nad Ondřejnicí Castle from the age of renaissance – new findings. Proceedings of Czech National Heritage Institute in Ostrava, 2020, pp. 101–108 (in Czech).
- [25] RUIZOVÁ, L.: The purification of the soul and body. Czech National Heritage Institute in Prague, 2013, pp. 51–88 (in Czech).