

## Actors in a play of destruction. The demolition of old Most and the role of heritage conservation Matěj SPURNÝ

*Keywords: Most – state socialism – modernity – heritage conservation*

The unique story of the liquidation of the old city and the construction of the new city of Most has a number of layers that also characterize it as a typical story of state socialism and the transformation of post-war European modernity as such. This study deals with only one of these layers: society's changing relationship to historical heritage.

During the 19th century, the city of Most, in particular the industrial city, became a representative for all the deepening problems of its time: extreme inequality, economic exploitation, homelessness, social divisions, an absence of basic hygiene, and environmental devastation. These were precisely the problems in both a European and Czech environment that gave rise to the utopias and specific plans for the radical transformation of urban areas, including the targeted demolition of historic neighborhoods. The radical programs of modern urbanism before the Second World War, but most of all during the twenty or thirty years after the War, saw both widespread acclaim and practical implementation, even transformation, into the universally binding rules, regulations, and other standards that were mandatory in modern town planning, architecture, and engineering. At the same time, these programs served as justification to demolish historic areas of cities.

From this point of view, the old city of Most was only one of the many dilapidated old cities where the dire conditions of the past could be demonstrated. The poor condition of the city was moreover compounded by a reluctance to invest into it, a phenomenon that could be followed in association with the coal mining beneath its streets from the early 20th century.

Specific proposals, but above all the relentless pressure to “extract the pillar of coal below Most” or in other words, to demolish the entire city or at least most of it, came particularly from the North Bohemian coal mines in the second half of the 1940's and 50's. Regardless of the political upheavals shortly after the war, the engineers in the service of the mining enterprises counted on the demolition of not only the smaller towns, but also the entire city of Most, which was to succumb to their interests. Even though the entire plan was primarily directed by economic rationale, the desperate condition of the old city was of course one of the key arguments which, from the economic measures of the mining industry, ultimately amounted to an acceptable solution for the social situation of thousands of people.

By the mid-sixties, the hitherto consensus held among the cultural elite stating that old buildings

and unnecessary monuments should yield to industry and the modern city, gradually began to disintegrate. This was true not only in socialist Czechoslovakia, but globally as well. General enthusiasm for technological progress, fueled by mining and the destruction of land, were increasingly interrupted by calls to heed the death of nature and polluted air as well as the loss of historical values. At the same time, a consideration for the treasures of the past in Czechoslovakia could have been interpreted as a socialist value. A discourse emphasizing non-material values, beauty, and a sense of humility towards the work of past generations began to emerge from philosophers, writers, historians, and art historians into mainstream journalism, beginning to dramatically transform the general global perspective. Voices that had been previously marginal were now being heard, and this perspective was gathering a following.

This of course affected the planned liquidation of the historic old town of Most; the generally accepted standpoint on which all considerations on the region's future had been based, including the most critical ideas, were becoming increasingly challenged, firstly through suggestion but gradually through more unambiguous judgements. It was at this time (in the late sixties) that representatives of the conservation community began to speak up, albeit very carefully at first. Now, when part of the public began to share, or at the least, reflect their perspective, they attempted to take advantage of the situation to rescue at least a part of the old town. Under pressure from the mines and local politicians, however, proposals to completely revise plans for the liquidation of the old town were rejected. Ultimately, conservationists failed to realize even their appeasement option, i.e. a plan to rescue the most valuable set of Gothic buildings without preserving the spatial relationships between them. Having failed in its effort to fundamentally revise the plans for the city's total demolition, the heritage preservation community primarily focused on detailed documentation. The dying city became simply a unique subject upon which the humanities and social sciences could attempt a technique previously specific to biology and medicine: an autopsy. As for the large salvage projects, by the beginning of the 1970's there was only one which survived from all those originally planned: moving the city's most valuable historical property, the deanery church.

Even during the late sixties, the salvage of this Catholic church (moved nearly a kilometer along specially built tracks), ultimately requiring an investment of almost one hundred million crowns, was a risky step not only technically but also politically; the project, while satisfying the wishes of heritage preservation experts and personalities from the circles of humanitarian intelligentsia, still

represented a potential threat to the legitimacy of the Communist Party as a vanguard of progress. This radically changed, however, in the late sixties and especially in the first part of the seventies. Regardless of the political upheaval and dramatic oscillations of the social atmosphere, the event received continuous and increasing attention in the years 1967–1975. The age had changed dramatically. It became obvious that the mission of saving the church was no longer the subject of internal agreement between the ministries and national committees, but was now an event being viewed by large segments of the public. The threat of outrage no longer loomed so much from the expensive transfer, but rather from the possibility that the government would decide to sell or demolish the church. The salvage of the church was by no means cheap, but the political elite who represented the advancing normalization understood that the money spent for the church's physical transfer was simultaneously being used to purchase and strengthen the legitimacy of the system that they represented.

In the era of normalization, the civilizing achievement upon which state socialism had built its own legitimacy could no longer be reduced to millions of tons of mined coal and kilowatt hours of electricity, nor to the replacement of old shanty towns with a clean and modern city providing comfortable housing for everyone. The political elite of the normalization process endorsed the conservative ethos of protecting heritage much more than their predecessors had, gradually realizing that merely replacing the historic city of Most for the coal beneath its streets could be, in terms of the legitimacy of the socialist domination, quite the risky affair. At least on the basis of the image that actual socialism had created of itself, its civilizing benefits had to consist of a synthesis of economic productivity and self-sufficiency, utopian visions of a sunny city together with a cultivation of historical awareness.

Such respect, or the ability to undo some of the destructive manifestations of a technological and economic exploitation of the world, however, did not make a lasting impression in the era of “reflexive modernity”, like the members of the normalization elite had imagined, as a supplemental agenda that could be tacked on to an otherwise unchanged ideological construction and political practice. The discourse of normalization and political practice, striving for a synthesis of material vs. aesthetic interests, economic growth vs. respect for the work of its predecessors, progress vs. memory, provided only a superficial response to the challenges of the new face of modernity. Even after most people had already recognized that the relationship between economic and technological development and

a degree of freedom was much more complicated than a direct proportionality, the socialist state domination was unable to fully acknowledge this fact, let alone be radically transformed in this regard. Unlike the communist elites (to their detriment), the dynamics of the modern era did not stagnate in the age of technocratic planning for the future. The belligerent completion of the Most experiment to its bitter end, as well as its increasingly implausible justification in the second half of the eighties, were just one of many pervasive symptoms of the fundamental crisis of legitimization. Blasted homes, dredged streets, millions of tons of extracted cheap coal, the concrete panel housing estates of the new Most, and a moved church – just a few years ago a pride and symbol of the extraordinary civilization achievement of socialist Czechoslovakia – had now become its disgrace.

*Illustrations: Fig. 1. Most, the town square with fountain on a painted target from the 18th century; fig. 2. Second square with Minority monastery church of St. Francis of Assisi on a medallion from the 19th century; fig. 3. View from the roof of the deanery church onto the city panorama with the 2nd square, 1950's; fig. 4. View onto the 2nd square from the east, 1950's; fig. 5. Kostelní Street, houses no. 8 and 137, 1950's; fig. 6. Panorama of the city from the northeast, the deanery church on the horizon, 1950's; fig. 7. View from the tower of the deanery church on the 1st square, 1960's; fig. 8. Surface mine near Most – postcard from the early 20th century; fig. 9. Minority monastery church of St. Francis of Assisi, early 1960's; fig. 10. Minority monastery church of St. Francis of Assisi during the demolition of the city; fig. 11. Demolition of Dobrovolců Street, 1970's; fig. 12. View of the city with demolition starting from the west; fig. 13. View of the mining pit spreading out from the western half of the historical center; fig. 14. Most, new market on Ve dvoře Street, which became a temporary refuge for the Renaissance Petrůvská fountain (now located on the first square), 1970's.*

## **Most, the modern housing estate of North Bohemian miners, part I: Creation of the new city during wartime and the post-war period**

Jana ZAJONCOVÁ

**Keywords:** city of Most – wartime urbanism – postwar urbanism – creating a new city

The article attempts to outline the complexity of the entire process of seeking out the appearance of the new Most between 1940 and 1989. It focuses on the city's urban development from the end of World War II, when new residential districts tied to the old city were still forming. It covers the discussions about the necessity of demolishing historic Most in order to exploit the coal deposits beneath the city which resulted in the final decision in 1964 to destroy it. It ends with the final demolition of the most important buildings in the city center in the 1980's.

Over the period of several decades, the city of Most found itself at the heart of an extensive basin area. Intensive mining developments changed its character and national status in a short time. The most striking indicator of these changes could be seen in its architecture. The construction of the new city of Most became a model manifestation of the socialist regime in which it could demonstrate its power and progressiveness. From the outset, Most became a sampling ground for new ideas in the field of urbanism. The city contains almost all the available manifestations of urban concepts for the period from the 1940's up to the 1980's.

The article addresses the urban context of the city construction as well as focusing on the formation of fundamental areas of the city center. Demanding architectural competitions became an important part of the construction of Most; the text discusses in particular the competition of 1959, which was to resolve the new city center.

*Illustrations: Fig. 1. mining housing estate Na Zabrážanech and Na Koňském, open-pit mines in the background; fig. 2. Vítězslav Křížek, Terraced SHD houses in Most, 1947; fig. 3. Jaroslav Pokorný, Program regional studies – Most, 1955; fig. 4. Jaroslav Pokorný – Josef Jemelka – Zdeněk Kuna – Zdeněk Stupka – Josef Kožmín – Olivier Honke-Houfek, initial project of the Podžatecká housing estate in Most – model, 1954; fig. 5. The same, view to the street, 1954; fig. 6. The same – drawn study, 1959; fig. 7. Indicative zoning plan of Most – scheme from 1963; fig. 8. Old and new city in temporary connection, divided by a utilities corridor; the numbers indicate the individual districts; fig. 9. Ivan Matušík – Jozef Čbovanec, Overall study of the Most city center – 2nd phase of the competition, 1959; fig. 10. Václav Krejčí – Jaroslav Vejtl, Overall study of the Most city center – 2nd phase of the competition, 1959; fig. 11. Zdeněk Kuna – Zdeněk Stupka, Overall study of the Most city center – 2nd phase of the competition, 1959; fig. 12. Václav Krejčí, Most city center – the final solution, 1967; fig. 13. Václav Krejčí, Project for the building of the departmental office of the North Bohemian coal mines, 1959; fig. 14. Václav Krejčí – Jiří Fojt – Míša Hejduk, building of the departmental office of the North Bohemian coal mines, 1970–1984; fig. 15–16. Mojmir Böhm – Luboš Kos – Jaroslav Zbuzek – Stanislav Hanzík, Central Cultural House – view from the National Committees, 1978–1984.*

## **And this is that beautiful country...**

### **Destruction of settlements in the Czech Republic in the second half of the 20th century in a Central European context**

Karel KUČA

**Keywords:** destruction of settlements – destruction of historical landscape – Czech Republic – Central Europe

The full-scale destruction of the historical part of the royal city of Most for surface coal mining

in 1967–1984 is the best-known large-scale destruction of a settlement that took on extraordinary proportions in the second half of the 20th century in the Czech Republic's. Even more settlements disappeared due to the establishment of military zones, the closed border zones, and the ethnic cleansing of the formerly German-speaking borderlands. Other villages and towns disappeared beneath the waters of new dam reservoirs. The article discusses the overall balance of this damage and attempts to find a comparison in central Europe.

It is possible that although comparable examples of devastated areas due to the existence of military areas, surface mining, flooding, or displacement for other reasons can be found in a number of Central European countries similar to the Czech Republic, nowhere else did such a concentration occur as in the Czech Republic, nor did they take up such a large area of the country. In the vast majority the cases, this was the result of an attempt to build a socialist (and ethnically homogenous) society. It can be stated that the destruction of the settlement structure characteristic of especially the Czech Republic's southwest, west, and northwest border regions is quite extraordinary, at least in the context of Central Europe. The reason for this is the fact that these areas combined all of the major reasons for which the settlements were terminated: surface coal mining, dam reservoirs, military facilities, and the displacement of the border zone population, combined with efforts to create an impermeable western border with ethnic cleansing. Of the Soviet bloc states, the Czech Republic achieved quite an extraordinary situation concerning the destruction of settlements along the border. Nothing to this extent occurred in the German Democratic Republic or Hungary because there was no displacement of the population (German, Hungarian) along the western German or Austrian border there, so the border zone there was very narrow. The only apt comparison is the Polish liquidation of Ukrainian settlements in the country's southeast, albeit this was only the ethnic cleansing of the area but was not related to a border zone (between the two socialist countries).

The elimination of settlements on a larger or smaller area of the Czech Republic or even elsewhere can not theoretically be ruled out in the future; this would presume certain narrowly economic or other interests over the protection of the environment in its broadest understanding.

*Illustrations: Fig. 1. Surface mining completely changed the landscape nearby the extinct town of Libkovic; Photo: Karel Kuča 2005; fig. 2. Map of destroyed settlements in westernmost Bohemia; fig. 3. Map of the Czech Republic with the Bohemian, Moravian and Silesian borders, with all settlements that vanished after 1945 marked (including about 20 settlements that vanished from 1850 to 1945). Existing settlements are marked in gray (cities in black), destroyed in purple;*

fig. 4. Map of destroyed settlements in South Bohemia – the Boletice MTA and evacuation area of the former German-speaking population; fig. 5. Map of destroyed settlements in the central Šumava area; fig. 6. Map of destroyed settlements in the Bohemian Forest; fig. 7. The former military training area of Brdy; the former village of Padrt; fig. 8. Map of destroyed settlements in the Doupov mountains and around Chomutov; fig. 9. Map of destroyed settlements in the Most and Chabařovice areas; fig. 10. Map of destroyed settlements in Ralsko and the wider surroundings; fig. 11. Map of destroyed settlements in Lower Jeseníky; fig. 12. Military area Hradiště, orthophoto of the historic district town of Doupov from 1950 and orthophoto of its present appearance; fig. 13. Military training area of Hradiště. The former square of the destroyed district town of Doupov; fig. 14. Orthophoto of Most from 1950 and the present; fig. 15. North Bohemian brown coal basin. Giant opencast mine near the destroyed town of Tušimice; fig. 16. Map of destroyed settlements in Lower Saxony, Germany; fig. 17. Map of German Bavaria Grafenwöhr military polygon; fig. 18. Map of German Bavaria, Hohenfels military polygon; fig. 19. Map of Austria, Lower Austria, Allentsteig military polygon; fig. 20. Map of Slovakia, former military training area of Javorina in the Levočské hills; fig. 21. Map of the Roztocze hills area on the border of Poland (Województwo podkarpackie, partly lubelskie) and Ukraine (Lviv'ska area); fig. 22. Map of German Saxony and Brandenburg, Lausitz lignite field; fig. 23. Map of German Saxony, Saxony-Anhalt and Thuringia. Central German lignite field; fig. 24. Map of Poland, Bełchatów district (Województwo łódzkie). Poland's largest lignite field is much smaller than the preserves in the Czech Republic and Germany; fig. 25. Poland, Turów district (Województwo dolnośląskie); fig. 26. Turów thermal power plant in the lignite field in the same-named district; fig. 27. Turoszów (Poland, Województwo dolnośląskie, Zgorzelec district), the uncertain existence of the village in the near vicinity of the Turów thermal power plant; fig. 28. Map of destroyed settlements in the Bieszczady Mountains on the border of Poland (Województwo podkarpackie), Ukraine (Lviv'ska and Zakarpats'ka region) and Slovakia (Prešov Region) and in related areas in the north (Przedgórze Przemyskie) and the west (Beskid Niski); fig. 29. Sanu Valley in the Krzywe nature reserve in the Polish area of the Bieszczady Mountains; fig. 30. Map of Ukraine (Kyjius'ka area) and Belarus (Homelskaja voblasć) from 1986 a closed contaminated zone around the destroyed Chernobyl nuclear power plant; fig. 31. Map of Europe showing border territories which are documented by partial maps. 1 – military polygons of Bergen and Munster, Germany; 2 – military polygon of Grafenwöhr, Germany; 3 – military polygon of Hohenfels, Germany; 4 – military polygon of Allentsteig, Austria; 5 – former military polygon of Javorina, Slovakia; 6 – military polygon of Leš, Slovakia; 7 – Javorinský military polygon in Roztocze Upland, Ukraine; 8 – Lusatian lignite field, Germany; 9 – Central German lignite field, Germany; 10 – Lignite field of Bełchatów, Poland; 11 – Lignite field of Turów, Poland; 12 – Bieszczady and Beskid Niski, Poland; 13 – Chernobyl closed area, Ukraine/Belarus; fig. 32. Cemetery with church and bell tower is practically the only remnant of the village of Křténov (Tyn nad Vltavou), demolished in 1991 due to the construction

of the Temelin nuclear power plant; fig. 33. Sokolov lignite basin. New modeling of post-mining landscape around the Lower Rychnova area.

## Most, the modern housing estate of North Bohemian miners, part II: Building and final construction of the new Most

Jana ZAJONCOVÁ

Keywords: city of Most – architecture of the second half of the 20th century – Ivo Klimeš – Athens Charter

In the 1970's, the city of Most became a direct demonstrative example of the clash between two opposing urban concepts that significantly affected the core areas of the new city. This was a criticism of the hitherto promoted ideal of a functionally zoned city, based on the principles declared by the CIAM organization in 1928 and elaborated in the Athens Charter five years later, in the context of new theories advocated since the early sixties by Kevin Lynch, Christian Norberg-Schulz, and Michael Trieb.

The main focus of conflict of these ideas lay in the concept of the center of Most that originated mainly in the sixties, when the principles of CIAM were being strictly enforced. The implementation of these plans, however, for reasons of supply, financial, and material deficiencies of Czechoslovak construction dragged on for years, sometimes for decades. At the time of completion so it was obvious that environment shaped thus far did not satisfy the required demands. This fact was demonstrated in 1978 by the research project "Picture of the city of Most" by Jiří Ševčík, Ivana Bendová, and Jan Benda. Specific attempts to recover the urbanity to the city can be seen in the unrealized study for the completion the center of Most by Jiří Kučera and Jaroslav Ouřecký for the competition Urbanity 86.

The article also focused on individual buildings that are worth consideration in terms of future monument protection: The Ivo Klimeš theater building and the chapel of St. Wenceslas by Michael Sborwitz. Both buildings in their entirety represent good examples of contemporary architectural currents exceeding the horizons of Czechoslovakia.

Illustrations: Fig. 1. The ideal situation of the old and the new Most, 1978; fig. 2. The Picture of Most as reported by the respondents, 1978; fig. 3 and 4. Jiří Kučera – Jaroslav Ouřecký, Competition Urbanity 86 – situation of the historical core of old Most, 1986; fig. 5. The same – the situation of the proposed solution of the completion of the new city of Most, 1986; fig. 6. The same – the situation the of the proposed solution of the completion of the new city of Most, 1986; fig. 7 and 8. The same - a view onto the street; fig. 9 and 10. Eva Gutová – Jiří Růžička, competition design for the theater building in Most - western and northern facade, 1967–1968;

fig. 11. Ivo Klimeš, competition design for the theater building in Most – model, 1967; fig. 12. The same – theater building in Most, 2016; fig. 13. The same – competition design for the theater building in Most – model, 1976; fig. 14. The same – competition design for the theater building in Most, 1976; fig. 15. The same – area design, 1979. Archive MěSTÚ Most; fig. 16. The same - model, 1979; fig. 17 and 18. The same, design of the interior foyer of the theater, 1979; fig. 19. The same, Workers' Theatre in Most – model of a scene – arena with auditorium vehicles on the stage, 1979; fig. 20. The same – variations of scene use; fig. 21. René Roubíček, lights above the staircase to the foyer of the theater; fig. 22. Ivo Klimeš, Workers' Theatre in Most – model of a scene, 1979; fig. 23. Emil Příkryl, Project for the District Museum and Archives for Most – drawn study of the western facade, 1975; fig. 24. The same, Project for the District Museum and Archives for Most – the entrance facade, 1975; fig. 25. The same – model, 1975; fig. 26. Michal Sborwitz, Chapel of St. Wenceslas in Most – cross-section, view of main nave, 1982–1989; fig. 27. The same, Chapel of St. Wenceslas in Most, 1982–1989; fig. 28 and 29. The same – northern nave, 1982–1989; fig. 30. The same – connection to the parsonage, 1982–1989.

## The fates of the organs of the North Bohemian coal mining area.

Vít HONYS

Keywords: organ – mining area – transfer – church – devastation – conservation

The development of surface mining of brown coal in the Northern Bohemia districts of Chomutov, Most, Ústí nad Labem, and Teplice in the second half of the 20th century was also associated with the destruction of a number of churches and collections of preserved organs. Many of the organs were damaged or devastated as a result of the situation arising from the post-war population exchange in the 1950's and 1960's and only a very limited amount without due consideration of historical musical value was recorded into the state-processed list of cultural monuments, despite the expert works from the end of 1965 by J. Pavel and J. B. Krajs. The increasing number of churches that had to be cleared out before the demolition put the parish administrators and conservation workers in stressful situations in ensuring the transfers and storage space. Most of the better preserved instruments from the destroyed churches were moved to Moravia and Slovakia, rarely to other churches in the diocese; several valuable instruments from the Baroque and Classical periods, however, irreversibly disappeared without a trace (e.g. from Bystřice, Čachovice, Kundratice, Liptice, and Tusimice). Only two instruments from the moved deanery church in Most awaited appropriate renovation, as well as an instrument from the demolished Minorite church in Most due to its transfer to a church in nearby

Č. Zlatníky. To this day, the number of organs from this area has fallen to about one-third its original state.

*Illustrations: Fig. 2. Organ from the Loket workshop in the Church of the Nativity of the Virgin Mary in Bystrice near Chomutov with partially devastated pipes; fig. 2. Bladder of the positive of Ignatius Schmidt in private property – remnant of the organ of the church of St. Wenceslas in Čachovice; fig. 3. Playing table of the organ by K. A. Schroeder from the demolished evangelical church in Chabařovice, secondarily used in the organ in Zbraslav; fig. 4. Kundratice, Chomutov district, the Church of the Virgin Mary, drawing of the classicist organ prospectus, probably from the workshop of the Cheb Müller's before dismantling and destruction. NPÚ, ÚOP in Ústí nad Labem, dept. of documentation, attachment of property registration card, unauthorized, without data. Reprophoto: Vít Honys, 2016; fig. 5. Roudníky, Church of St. Wenceslas, organ by Karel Eisenhut from 1882, relocated from the demolished church in Tuchomysl; fig. 6. Radovesice, All Saints Church, organ by Karl Schiffner from 1878 before its transfer to the church of St. Joseph in Předlice; fig. 7. Stráňce near Most, castle chapel, organ prospectus torsos with torso of metal pipes and carvings (today deposited at the Jezeří state castle); fig. 8. Libkovic, Church of St. Michael the Archangel, organ by Anton Feller from 1884 still in its original location (now in the church in Mařenice);*

#### Counter-Reformation landscape of the Baroque Ore Mountain foothills

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**Keywords:** Baroque architecture – Ore Mountain foothills – historical landscape – Osek monastery – Duchcov – Jean Baptiste Mathey

The article deals with the Baroque history of the Ore Mountain foothills, specifically the area roughly bounded by the Duchcov dominion and Osek holdings at the turn of the 17th and 18th centuries. The basic starting point of the article are passages from the German translation of the Marian atlas from the Osek Cistercian monk Augustine Sartoria from 1717, in which the Ore Mountain foothills area, specifically the northeastern extremity of the Most basin, is identified as Marian country. The same metaphor then appears in the contemporary works of other contemporary preachers. The article examines the question of which roots this interpretation of the local landscape comes from, primarily focusing on surviving architectural monuments, namely Marian shrines, which, according to Baroque texts, make up the support of the imaginary Marian country.

After a brief presentation of three Baroque literary monuments that mention the argument on Marian country, the article briefly outlines the historical and geographical context of the area at the turn of the 17th and 18th centuries. In addition to a list of important families and builders who worked in this

area during the Baroque period, the text primarily focuses on the interpretation of its position in Bohemia. The Ore Mountain foothills were located on the border with Protestant Saxony, which, although being a political ally of the Empire, was religiously ranked among opponents – this fact was indisputably reflected on the concept of a Marian country, termed by Sartorio as “an encroaching wall and castle” against the Lutherans.

In its second half, the article details the three main places of pilgrimage, whose importance was emphasized in Baroque texts – Mariánské Radčice, Horní Jiřetín, and Bohosudov. It highlights the important coincidence that at the end of the 17th century, there were three major ecclesiastical authorities that managed the land and the pilgrimage sites with them (Archbishop, Jesuits, Cistercians), who significantly invested in their estates in connection with efforts to restore the dominion after the Thirty Years' War. This was also reflected in these places of pilgrimage. The Cistercians in Mariánské Radčice and the Archbishop Johann Friedrich von Wallenstein in Horní Jiřetín built new churches designed by Jean Baptiste Mathey – both buildings have a quite unusual plan with a single nave and transept in the center, crowned with the motif of symmetrically placed towers in the façade, unusual in Bohemia in the early Baroque. Both buildings complemented the cloister, designed by G. Broggio, defining the pilgrimage site symbolically as a Marian fortress. The complex in Bohosudov is also unique, in whose decisive phase the Broggios were also involved. While the church is traditional, the cloister – founded in the 60's by G. D. Orsi – is the only one in the Czech Republic with an oval plan.

These exceptional complexes were completed essentially simultaneously, thanks to which they represent “architecturalized” proof that the concept of Marian country was not only a literary metaphor, but relied on the unusually expressive and focused development that this area passed through at the end of the 17th century.

*Illustrations: Fig. 1. View of “Marian country” from Komáří Vízka over Krupka; fig. 2. Map with approximate demarcation of the “Marian country”; fig. 3. Period depiction of Mariánské Radčice with the miraculous statue of Our Lady of Sorrows from the Cistercium bistertium... Augustine Sartoria; fig. 4. Mariánské Radčice, pilgrimage church of Our Lady of Sorrows, view from the west; fig. 5. The same, cloister of the pilgrimage complex; fig. 6. The same, plan of the pilgrimage complex; fig. 7. Horní Jiřetín, idyllic view of the city on a postcard from the early 20th century; fig. 8. The same, Church of the Assumption; fig. 9. The same, pilgrimage site with the Church of the Assumption, overall plan, ink drawing, the second half of the 18th century; fig. 10. The same, pilgrimage site with the Church of the Assumption, overall view of the complex with façades, ink drawing, second half of the 18th century; fig. 11. The same, parsonage building after 1750; fig. 12. Plan*

*of the pilgrimage site in Bohosudov with the environs, late 18th century (?); fig. 13. Bohosudov, period postcard with photograph of pilgrimage site, 1919; fig. 14. The same, pilgrimage site with Church of Our Lady of Sorrows; fig. 15. Bohosudov, plan of complex with unexecuted variant design of the church; fig. 16 and 17. Zbražany near Most, destroyed monastery church of the Nativity of the Virgin Mary at the Magdalene convent after 1724. The condition of the church and surroundings in the 1960's; fig. 18. The same, one of the Zbražanské Stations of the Cross, 2nd half of the 18th century.*

#### Reconstruction of relief in areas with surface mining of brown coal

Jan PACINA; Kamil NOVÁK

**Keywords:** Most basin – reconstruction of landscape relief – 3D printing – digital terrain model – Lake Most

1. Introduction. Landscapes influenced by open-pit mining are very common in the northwest part of the Czech Republic. Mining activity had a great impact on the landscape structure, land-use development, shape of georelief, and human life in general. In this article we would like to focus on a very significant example of landscape transfiguration caused by open-pit mining. The royal town of Most, established in the 13th century, was destroyed together with the surrounding villages as over 100 million tons of brown coal were mined in this area. The actual intensive mining started in the 1930's and definitely terminated in 1999. The hydraulic reclamation of the depleted mine started in 2008, meaning that the mine was over-flooded to form a lake.

We have tried to perform a precise georelief reconstruction in the locality affected by open-pit mining in different time periods, as it is very important for understanding the total landscape change in this region. The shape of the georelief may be reconstructed from altimetry information contained in old maps, or by processing old aerial photographs using standard methods of photogrammetry. The resulting Digital Terrain Models (DTM) should be offered up to the scientific society and the wide public. This is accomplished by publishing the data through a Geographic information system (GIS) of this locality and the GIS Internet technologies.

2. Objectives. This article aims to present a methodology for georelief reconstructions in areas affected by open-pit mining using old maps and aerial imagery. The georelief is reconstructed using the elevation information contained in the selected old maps – all the maps are georeferenced and the contour lines are hand digitized. A suitable interpolation algorithm is used for derivation of the DTM representing the reconstructed georelief. The Digital Surface Models (DSM) are derived from



aerial imagery with 60% overlap. The resulting DTMs and DSMs can be further analyzed in different ways using the differential analysis, transect analysis or volumetric calculations.

3. Methodology. The area of interest is defined to describe the most significant georelief transfigurations during the 20th and in the beginning of the 21st century, having a large effect on the surroundings of the city of Most. All the transfigurations were caused by the open-pit mining activity and the ongoing technical reclamations. The initial point of this analysis is the area where the royal city of Most used to be located, consequently the quarry Ležáky-Most, which currently (since 2008) is being turned into a hydraulic reclamation project. As supplementary points, etching in the large scale of georelief transfigurations in this area, places were chosen that related the old city of Most in a geographical and administrative way – the area of Kopisty and Střimice dump, the residual excavation of Venuše, and the former quarry Vrbenský. The area of the Vrbenský quarry used to include the municipality of Souš which was destroyed, while the locality is currently being transformed into a leisure time hydraulic reclamation project. Our area of interest is located in the Ústí nad Labem region, covering the cadastres of Konobřez, Rudolice nad Bílinou, Kopisty, Pařidla, Obrnice, Braňany, Třebušice, Růžodol, Dolní Jiřetín, Hořany, Jenišův Újezd, Most I and Most II. The total area of the area of interest is 30,493 km<sup>2</sup>.

4. Lake Most. The Lake Most locality is currently being turned into a hydraulic reclamation project by flooding the former brown coal quarry Ležáky-Most. The first records mentioning coal mining in this area originate from 1762. During the 18th and 19th century, many underground mines in this area were opened. Open-pit mining started in the mine Jan (Johann, Johann-Tiefbau) established in 1870. This mine started as an underground mine as well, but soon changed the mining technology to open-pit mining. In the beginning of the 20th century, other underground mines began to extract using open-pit mining technology. The mining area of Ležáky-Most itself was established in the year 1969. The mining decrement began in 1995 and on 31 August 1999 the mine was definitely shut down.

In the area of the current lake (situated north of “new” Most) there used to be the royal city of Most and other villages. The depleted quarry over-flooding began on 24 October 2008. The hydraulic reclamation project is a part of the complex revitalization of the surrounding landscape covering a total area of 1264 ha. In the final stage, the future lake will cover a total area of 311 ha, have a maximal depth of 75m, perimeter of 9815m and a water level

of 199 m a.s.l. The lake over-flooding should have been finished in the year 2011, but the date was postponed. Currently the biggest problem is enormous water evaporation.

*Illustrations: Fig. 1. Changes in the relief of the Most Basin; fig. 2. Hypsography represented by the hills on Müller's map of Bohemia (left) and hatches on the II. Military Map (right); fig. 3. Hypsography represented by contour lines on maps from III. Military Mapping (left) and SM-5 from 1953 (right); fig. 4. The elevation raster generated using the GIS GRASS method Regularized Spline Under Tension with visible artifacts of interpolation; fig. 5. Interpolation methods tested within the ArcGIS environment; fig. 6. Demonstration of the resulting DMR created from the contours of III. Military Mapping (left) and SM-5 (right) near old Most; fig. 7. Comparison of the resulting reconstruction relief in the Most area (1953) from contour lines (left) and from aerial photographs (right); fig. 8. 3D model of selected areas of the Most basin selected for 3D printing; fig. 9. Sample of 3D printed tiles from around the Nechanice dam – present (left) and past (right); fig. 10. Detail of printed 3D model – around Lake Most; fig. 11. Sample of reconstruction of the relief of the Most basin – 2012; fig. 12. The area of interest with an overview of the surrounding areas; fig. 13. The area of interest in 1938 and present; fig. 14. Changes in the landscape in the Lake Most area; fig. 15. Digital terrain model created for 1938 based on the contour map of the III. Military Survey; fig. 16. Digital terrain model for 1953 created based on the contours in map SM-5; fig. 17. Digital model of terrain for 1953 created from aerial photographs; fig. 18. Digital terrain model created for 1972 based on the contours of SMO-5; fig. 19. Digital terrain model for 1982 created by the contours of SMO-5; fig. 20. Digital terrain model for 2008 created from aerial photographs; fig. 21. Digital terrain model created for 2012 based on laser scanning.*

#### **Declassified relict cultural landscape of military bases**

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*Keywords: military bases – extinct settlements – cultural landscape – archaeological sites*

With effect from 1 January 2016, the large military training area of Brdy was canceled and included into the currently declared protected area of the same name. Other military districts were more or less reduced (Boletice by 25%, Březina by 5%, Hradiště by 15% and Libavá by 31%). Within these territories, most rural settlements were destroyed by military training, especially in the 1950's and 60's, while others remained as a mere torso or were overlaid with new housing construction for military purposes. Most of the monuments were destroyed or heavily damaged. Natural succession largely obscured the signs of a maintained cultural landscape. Still, this is not a territory that would be worthless in terms of historical values. Some very important buildings

survived here (Svatobor, Boletice, Stará Voda, etc.), while the destroyed villages turned into very valuable and often well-preserved archaeological sites. Based on personal knowledge and a comparison of cartographic sources, the article provides a basic recap of the status of these territories, alongside the buildings focusing on the characteristics of existing and extinct settlements. It is accompanied by current photographic documentation.

*Illustrations: Fig. 1. Military area of Boletice, relief map showing the extent of training grounds until the end of 2015 (yellow) and from 2016 (green); fig. 2. Military area of Boletice, cadastral map of the area as of 1 January 2016; fig. 3. Boletice (Český Krumlov district), Church of St. Nicholas; fig. 4. Padrt (Rokycany district), Dolejší Padrtského pond dam; fig. 5. Jordán (Příbram/Rokycany district), experimental military bunker as a prototype of pre-war Czechoslovak fortification; fig. 6. Military area of Brdy, relief map; fig. 7. Military area of Brdy, cadastral map of the territory; fig. 8. Valdek (district Beroun), castle ruins; fig. 9. Velcí (district Příbram), remnants of a village green; fig. 10. Hunting manor Tři trubky (district Rokycany); fig. 11. Military area of Březina, relief map; fig. 12. Military area of Březina, map of the cadastral territory; fig. 13. Military area of Hradiště, relief map; fig. 14. Military area of Hradiště, cadastral territory map; fig. 15. Bražec (district Karlovy Vary), new development on the site of a demolished village; fig. 16. Činov (district Karlovy Vary), torsos aboveground structures of farmhouses and sprawling remains of walls; fig. 17. Dolní Lomnice (district Karlovy Vary), more completely preserved historical buildings from the village; fig. 18. Dolní Valov (district Karlovy Vary), ruins of part of a farmhouse; fig. 19. Svatobor (district Karlovy Vary), overall view of the ruins of the Church of the Assumption and the parish; fig. 20. Svatobor (district Karlovy Vary), ruins of the Church of the Assumption; fig. 21. Military area Libavá, relief map; fig. 22. Military area Libavá, cadastral territory map; fig. 23. City of Libavá (district Olomouc), a crucifix on the road to Stará Voda; fig. 24. Slavkov (district Olomouc), rebuilding a community center from the destroyed church of St. Francis of Assisi; fig. 25. Stará Voda (district Olomouc), pilgrimage site and Piarist church of Sts. Anne and St. James the Great; fig. 27. Stará Voda (district Olomouc), ruins of a demolished Piarist college and preserved remnants of sculptural decoration.*