

Archaeology of Conflicts

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The forms of defence of the Silesian-Hungarian border and their development in the Early Modern Period

Martin Krůl

The only direct border between Silesia and Hungary was represented by an about thirty-kilometre-long sector situated in the Beskid Mountains. This function of a land border was still strengthened by an important section of the main connecting road between the two countries passing through this region. These qualities at the same time attracted the attention of enemy troops. Silesia was best accessible through the Jablunkov Pass, whose defence against hostile incursions belonged to primary tasks. As a result of an increasing penetrability of the border zone (advancing colonisation of mountainous areas, development of new paths, deforestation), the system of defensive features has gradually been extended from the area of the Jablunkov Pass itself to a wider region of border mountains stretching from the Silesian-Moravian border as far as the Silesian-Polish border.

The studied region is currently situated in the north-eastern part of the Czech Republic, in the territory of historical Czech Silesia. The area is still today a significant junction where the borders of three countries meet – Czech Republic, Slovakia and Poland (Fig. 1).

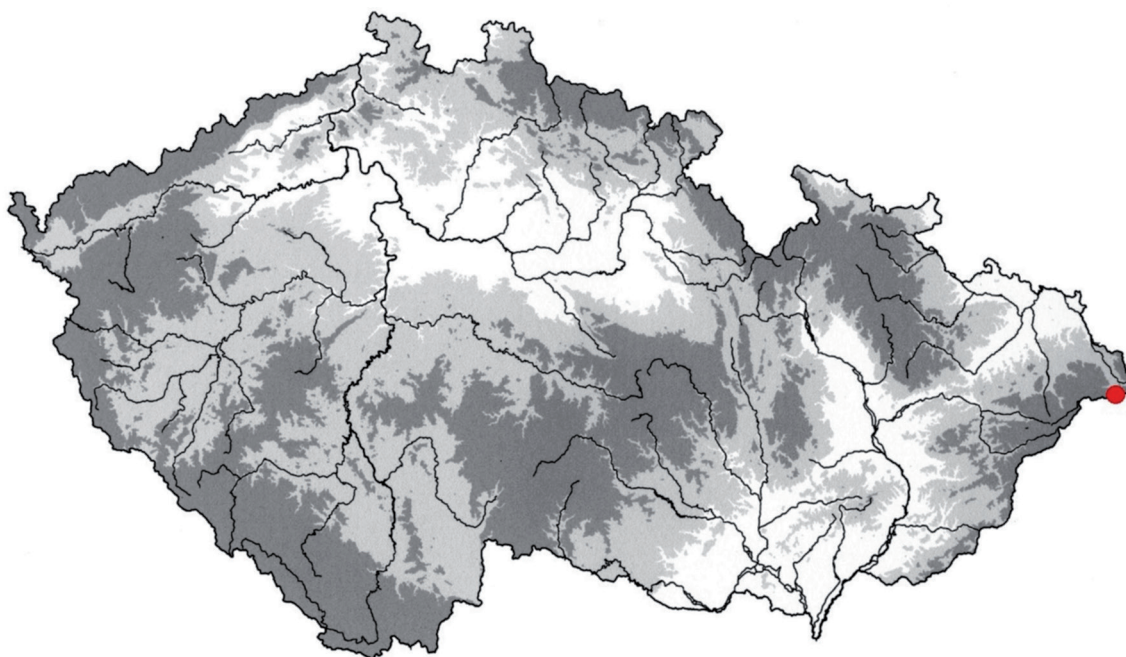


Fig. 1. Localisation of the Jablunkov fortifications on the current map of the Czech Republic.

The Silesian-Hungarian border became a point of interest during expansion of the Ottoman Empire to Central Europe after the Battle of Mohács in 1526. The Turks threatened the border with higher or lower intensity until the end of the 17th century or until the beginning of the 18th century respectively. In addition to this, the border gradually began to be endangered by Hungarian Anti-Habsburg rebels. The first uprising, led by Stephen Bocskai, broke out already at the beginning of the 17th century. The greatest uprisings, commanded by Emeric Thököly and Francis II Rákóczi, have taken place within the time span from the 1670s until 1711 when the Treaty of Szatmár was signed. The military campaigns conducted during the Thirty Years' War in 1618–1648 jutted out from this scheme. The Silesian border was threatened by the troops of Transylvanian rulers from the Hungarian side and the region around Těšín at the same time became the target area of campaigns conducted by their Anti-Habsburg allies from the western part of the monarchy. The Těšín region and the Jablunkov fortifications were thus captured by the troops of the Protestant leader Johann Georg of Jägerndorf (Krnov) in 1621 and by the army of another two opponents of the Habsburg party, Peter Ernst, count of Mansfeld and Johann Ernst of Saxe-Weimar, in 1626–1627. Both of these campaigns were intended to meet the troops of their ally, Gabriel Bethlen, Prince of Transylvania, for further advance against the imperial forces. The border zone in the southern part of Těšín region encountered the most serious military threat during Swedish attacks in 1644 and 1645. At that time again, this area was in the spotlight due to presumptive connection with armed forces of George I Rákóczi, Prince of Transylvania (Biermann 1863, 221–224, 228–229; Sláma 123–124; Buchholz-Johanek – Spyra 2007, 221–223; Bretholz 1901, 28–64; Gojniczek 2006, 103–107).

As regards the border threats, the existence of Jablunkov fortifications can be divided into two main periods. The first one, which began with the earliest reports on the border defence and lasted until the outbreak of the first Silesian War in 1740, was focused on the defence against the attacks from the south or southeast. The border defence in the next period was then directed against the attacks from the northwest, where a new enemy of the Habsburg monarchy appeared – Prussia. This situation was also reflected in the newly erected fortifications, which differed from the older ones in their form and type as well as in their localisation. These changes then reacted to the development in the field of strategy and tactics within the sphere of military affairs and warfare. The reformation efforts in the Austrian army accelerated the War of the Austrian Succession in the second half of the 18th century, which broke out after the enthronement of Maria Theresa. The first (1740–1742) and second (1744–1745) Silesian Wars between the Habsburg Monarchy and Prussian Kingdom resulted in the loss of the major part of Silesia and boosted the fortification building on the Silesian-Hungarian border. This trend of fights against a new enemy continued during the following military campaigns within the Seven Years' War (1756–1763) as well as during the War of the Bavarian Succession in 1778–1779, also called Potato War (Uhlíř 2012, 363–398; Criste 1904, 111–115). It was particularly this distinctly positional conflict which made use of many field fortifications during the waiting manoeuvres of both armies (Čížek–Slavík 2010, 37–44; Nejman 2010, 45–59).

The forms of established fortifications were determined by the mountainous character of landscape in this region. Regarding the construction demands and the resulting efficiency, the most suitable variants in mountainous regions and passes, according to historical fortification treatises and manuals, were fieldworks (*schanzen*) and linear obstacles built from wood or earth. These defensive elements built on the Silesian borders were intended to slow down the advance of enemies, where the mountainous character of the region itself complicated the land entry and became the first natural obstacle for the invaders. The advantages and disadvantages of mountainous areas were summarised, for example, in a manual of fortification architecture by the German military engineer Georg Andreas Böckler (1646, 15–16) as well as in the fortification treatises by other contemporaneous authors. The main advantages encompassed the difficulty to undermine fortifications, the fresh air in the mountains and the possibility of an easy repulsion of the enemy by artillery fire from higher located places. Another significant advantage were the low building expenses because most of these places were protected by nature. On



Fig. 2. The forms of forest abatisses. After Diller, s. d., p. 33.

the other hand, in the mountains it was quite difficult to find water sources and supply the troops with various provisions. Moreover, the local soil enabled to build only a few types of fortifications.

The oldest fortification features used to defend the Silesian-Hungarian border, which are mentioned in written sources, were the abatisses. Their use was already supposed in the first Silesian defence order of 1529, as well as in the subsequent meetings of the Silesian Princely Diet where the land defence against potential attacks of the Ottoman imperial forces has been discussed. The concept of land defence included the build-up of abatisses, blocking and landfilling of passes and fords and signalisation of the enemy's arrival by fire, weapons, gunshots and bell ringing from elevated places. Reports on abatisses in the border mountains are known from the time of large Ottoman campaigns to Europe in 1541, 1543 or 1566 (Schickfuss 1625, 140; Dvorský 1902, 192). Abatis (Ger. *Verhau* or *Verhack*, Lat. *abattis*) were relatively often used to defend large areas and their lines stretched for several miles. Abatisses are divided into two basic types. Forest abatis or natural abatis (Ger. *Waldverhaue*, *natürlicher Verhau*) were usually composed of trees and shrubs growing on site where they also were cut down. Another way of building an abatis was to drag the felled trees to the open area. In this case they were called *Schleppverhaue* (Ger. *schleppen* = drag, haul). After being dragged to the target place, the tree trunks were stacked one across the other, sometimes roped or chained together for higher efficiency, the branches were buried in earth and fastened with pegs (Diller s. d., 33–34) (Fig. 2).

Abatisses are recorded in the area of the Silesian-Hungarian border during almost the whole period of existence of defensive activities. Unlike the undocumented, but probable, implementation of defensive orders in the 16th century, the first factual reports come from the time of the Thirty Years' War (1618–1648). They mentioned that 6 000 tree trunks were used to build abatisses on roads and paths in the Jablunkov Pass in 1621. The data on the highest amount of material used for construction of abatisses is known from 1644, when a three-mile-long (ca. 21 km) double abatis in the mountains was built from 20 000 tree trunks and shrubs (Bretholz 1901, 64).

The existence of abatisses is also documented by other period reports. In 1676, Slovak Wallachians have burnt abatisses and the damages caused by the several-day-long fire then considerably complicated the border defence (Al Saheb – Krůl 2014, 162–163). Abatisses were also built in the 18th century, as it is documented by numerous cartographic depictions of the border zone, particularly in the sector between Velká šance (Great Schanze) and Malá šance (Small Schanze). In the second half of the 18th century, abatisses were also used to hinder the crossing of borders at the time of plague epidemics and this zone of abatisses is marked on maps as the plague line (*Pest Linie*) (Krůl – Nováková 2005, 40, 50, 58–60).

Another widely-used type of wooden fortification elements were palisades. These features were mainly used to increase the defensive capacity of individual fortifications. When playing the role of the main fortification, they formed a continuous palisade fence, which in some places created square redoubts or half-redoubts. It virtually imitated the linear earthworks in the form of trenches. This



Fig. 3. The appearance of linear fortification and the star-shaped fort Malá šance, detail of a 1772 map. Silesian Museum in Opava.

fortification line, hindering the circumvention of Velká šance, is called *Landwehr Linie* in written sources. It stretched for almost 280 metres on both sides of the fort. Its use in the last quarter of the 17th century and at the beginning of the 18th century was documented by numerous reports on repairs and replacement of old tree trunks by new ones after severe frosts and thaws, for example in 1685, when 837 trunks were used for one side and 813 trunks for the other side of this row (Krůl – Nováková 2005, 43–45). Linear fortification was used on the elongated hill Valy above the confluence of the rivers Čiernanka and Čadečka in the eastern part of the Silesian-Hungarian border. The main point of defence in this sector was represented by the so-called Malá (Small) or Javořinská šance. A 1664 map shows that the defence of the elongated hill consisted of a continuous palisade row reinforced by five square palisade redoubts. This palisade was gradually replaced by a linear earthen rampart. The rampart stretched along the whole hill for about 1.7 kilometres. According to relevant cartographic sources, its appearance underwent several changes. At the beginning of the 18th century, the local fortification was represented by a six-pointed Malá šance (Small Schanze) and by an earthen rampart, which interlinked the schanze with two redoubts. Cartographic depictions from the 1770s then show the situation which is preserved to the present. The final form of fortification in this area was a linear earthwork stretching across the whole hill and ending on the slope. In order to increase the defensive capacity, this more than 1.7 km long line was supplemented by four redoubts and the straight sections of the rampart were equipped with V-shaped elements, so-called redans or half-redoubts, intended to cover the straight curtains. The earthen rampart was then connected to the main fortification, the Malá šance, in the form of an eight-pointed star-shaped fieldwork (Krůl – Nováková 2005, 43, 59–60) (Fig. 3).

Star schanzen represented one of the forms of field fortifications used to defend the area in question. Unlike large permanent fortification features, fieldworks or schanzen were intended to give a temporary protection to military troops during encampment or siege or, as in this case, to oversee the communication corridors (passes, bridges, fords) during an urgent military threat. They can be generally characterised as earthworks for occasional reinforcement of a region, mountain pass or a circumvallation siege line. Among the advantages of field fortifications were the velocity of construction, easy accessibility of building

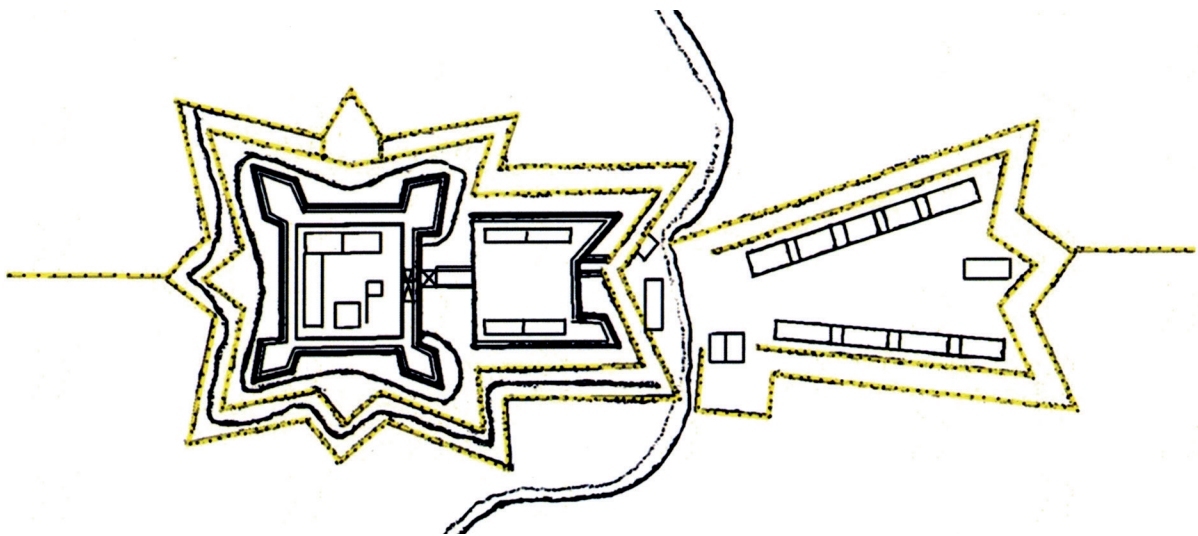


Fig. 4. The appearance of the fort Velká šance as depicted in a 1703 plan, augmented with a double tenaille. ÖSTA-KA Wien, redrawn by the author.

material (earth, wood) and also the fact that the construction of these fortifications in simple forms did not demand complicated mathematic and geometric calculations (Nottmangel 1659, 174–177).

According to forms and shapes, field fortifications are divided into enclosed or open features and point-like or linear features. The defence of the Silesian-Hungarian border employed both enclosed field fortifications, such as bastion fort, star schanze or redoubt, and open forms like redan or *flèche* (arrow in French). Another defensive structures besides these point fortifications were the above-mentioned linear ramparts (Meduna 1990, 75–86). In historical fortification treatises, the field schanzen (Fr. *Fortresse*, Ger. *Feld Schantzen*, Lat. *Munitio Campestris* or *Castellum Campestre*) are mostly characterised as quadrangular or pentagonal forts with bastions or demi-bastions, which were built out of the town near the rivers or in mountain passes (Freytag 1631, 6). Most intensive changes are visible in the central fortification Velká šance (Great Schanze) in Mosty u Jablunkova. Its building-historical development documents the transformation from a field fortification into a real fortress in the true sense of the word. The first reports on the emergence of Velká šance date back to the Thirty Years' War, when most probably a quadrangular bastion fort with unspecified inner development was built at this place. Continuous unremitting threat of war after the end of the conflict has induced the necessity of its further use and modernisation. The rebuilding in 1663 and 1664, in reaction to the war with the Turks, extended the fortification by a hornwork (an outwork whose face is flanked by two demi-bastions with a curtain in between) reinforcing the entrance defence and the schanze was enclosed by the pincer-like middle defensive zone, whereby it attained the characteristic star-shaped appearance. The outer zone was formed by a covered way and a glacis with *chevaux de frise*. Velká šance was extended again in the last third of the 17th century when the region was threatened by Hungarian rebels. Another advanced fortification element was added at the beginning of the 1680s. It was a double tenaille (a defensive wall with concave angles, without curtain) formed only by a palisade row (Krůl – Nováková 2005, 42–45) (Fig. 4).

Velká šance has been extended and rebuilt again in the following century. After the rebuilding in 1724–1729, the fortress was protected by only two zones formed by an earthen rampart and by partly bricked slopes of the ditch. The plans also included a rebuilding of the original quadrangular schanze inside the fort and construction of new lodging units. However, these changes were not accomplished due to lacking finances, as later plans from the 2nd half of the 18th century show. The last extensive rebuilding, after which the fort attained its present appearance, was carried out at the beginning of the

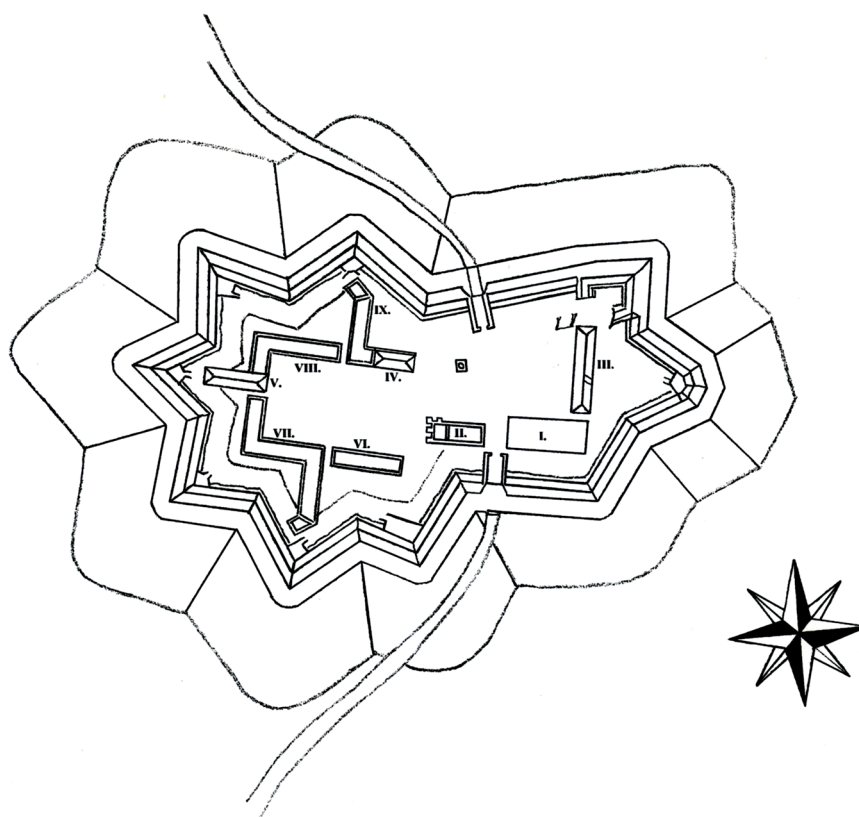


Fig. 5. The appearance of the fort Velká šance after the last rebuilding in 1808–1810. ÖSTA-KA Wien, redrawn by the author.

19th century in 1808–1810. The final form of the fortress had only one defensive zone, consisting of an earthen rampart and a ditch with both slopes completely bricked (Krůl – Nováková 2005, 47, 53, 61–64, 68–70, 74–76, 82; Krůl 2013, 65–71) (Fig. 5).

Among the most frequent field fortifications were redoubts (Fr. *Redoute*, Ger. *Redout*, Lat. *Reductus*, *Receptus*), which represented small quadrangular defensive emplacements with simple defensive zone consisting of an earthen rampart and a ditch, whose internal side length did not exceed 40 rods. Redoubts in general belonged to the most frequently used forms of field fortifications. They were intended to defend mountain passes or fords and were recommended to protect the approach trenches, so-called saps, during siege works or outside the town in open terrain, or to protect the field camps. According to fortification manuals, the smallest redoubts measured 16 rods on the perimeter (i.e. their side length was 4 rods). In general, the side lengths of 4, 6 or maximum 7 rods were used (Nottmangel 1659, 21). In the area of the Silesian-Hungarian border we can find twelve examples of redoubts during the whole period of existence of the Jablunkov fortifications (ten redoubts in the early phase and two in the Prussian period).

As regards the function, redoubts were used as advanced outworks of the main defensive points (Velká šance, Malá šance) and as communication redoubts enabling the connection and visual contact between the principal fortifications. A preserved evidence of a redoubt is represented by the feature at Dolina in Mosty u Jablunkova. It is a ditched redoubt with the dimensions of 25 x 25 m, built as an outwork of Velká šance, overseeing the advance of enemy troops through the valley of the Svrčinovský Stream (Bednár et al. 2011, 46–47) (Fig. 6).

Redoubts were also used with the above-mentioned linear fortification at Malá šance. There were four redoubts (three of them are preserved), having the dimensions recommended for the smallest



Fig. 6. Present state of preservation of the redoubt in Dolina, which was used as an advanced outwork of Velká šance. Photo by author.

redoubts. Their side length was smaller or equal to 20 metres, thus roughly corresponding to four rods which were mentioned in the fortification manuals. Another outworks used to improve the defence of straight sections of the earthen rampart were redans, historically referred to as half-redoubts, which had the form of V-shaped salient angles projecting towards the expected attack.

Another type of fortification is the Stará šance (Old Schanze) in the form of a redoubt with two demi-bastions on its most exposed south-eastern side. This layout is depicted on the oldest map from 1663 and it most probably represents the oldest installation within the whole system of Jablunkov fortifications, mentioned for the first time in 1578. Some other maps, however, depicted the Stará šance either as a redoubt, bastion fort or a star schanze. The preserved fortification feature, more than 30 metres long, corresponds to the layout depicted on the oldest maps.

Star schanzen (Fr. *Estoile*, Ger. *Stern-Schantz*, Lat. *Munitio Stellata*) also belonged to frequently used types of fortifications. They were characterized as star-shaped, mostly four-, five- or six-pointed fieldworks or redoubts (Freitag 1631, 6). This element was mainly used with the installation called Malá šance (Small Schanze), localised in the easternmost place of the elongated hill. In the course of development, this fortification evolved from a redoubt to the form of a six-pointed and subsequently eight-pointed star schanze.

The layout of individual fortification features can be sometimes defined only with some degree of probability because they were usually depicted in various forms, mostly as a redoubt or a star schanze. This was the case with the fortification in Hřčava, which was depicted on one map in the form of a six-pointed star, but on the most maps as a redoubt.

Table with cartographically documented fortification features on the Silesian-Hungarian border from the early, pre-Prussian period

	Location (cadastral district)	State of preservation	Fortification type	Function
1.	Bařiny (Mosty u Jablunkova)	unpreserved	redoubt	communication
2.	Dolina (Mosty u Jablunkova)	preserved	redoubt	guarding point, advanced outwork
3.	Hrčava	unpreserved	redoubt / six-pointed star	communication
4.	Komorovský grůň (Bukovec)	unpreserved	redoubt	communication
5.	Malá šance (Čierne, SVK)	preserved, partly destroyed by motorway construction	system ca. 1.7 km: four redoubts, earthen rampart with redans (half- redoubts), eight- pointed star	main defence point in the eastern part of the Silesian border
6.	Nad Klokočovským potokem (Mosty u Jablunkova)	unpreserved	redoubt	guarding point, advanced outwork
7.	Lomná	unpreserved, uncertain localisation	redoubt	guarding point, advanced outwork
8.	Stará šance (Svrčinovec, SVK)	preserved	redoubt with two demi-bastions / redoubt / bastion fort / star	guarding point, advanced outwork
9.	Sťaté (Mosty u Jablunkova)	preserved (partly)	redoubt	communication
10.	Studenické (Mosty u Jablunkova)	unpreserved	redoubt	communication
11.	Velká šance (Mosty u Jablunkova)	preserved	bastion fort / tenaille fortress	central fortification
12.	Volská šance (Koniaków, PL)	unpreserved	redoubt	main point on the Silesian-Polish border
13.	Lomná	unpreserved	redoubt	guarding point, advanced outwork
14.	Klin (Čadca, SVK)	unpreserved	redoubt	guarding point, advanced outwork
15.	Burňuv Gruň (Jaworzynka, PL)	uncertain	redoubt	communication

Apart from the central fortification feature Velká šance, there are fourteen other installations. Twelve of them are redoubts (including also the disputable sites depicted in the form of a star) and in one case a redoubt with demi-bastions was identified. Several fortification elements were recognised in the fortification on the hill Valy – there was a linear earthwork with four redoubts and redans (half-redoubts) and the star-shaped fort Malá šance. As regards their function, most frequent were

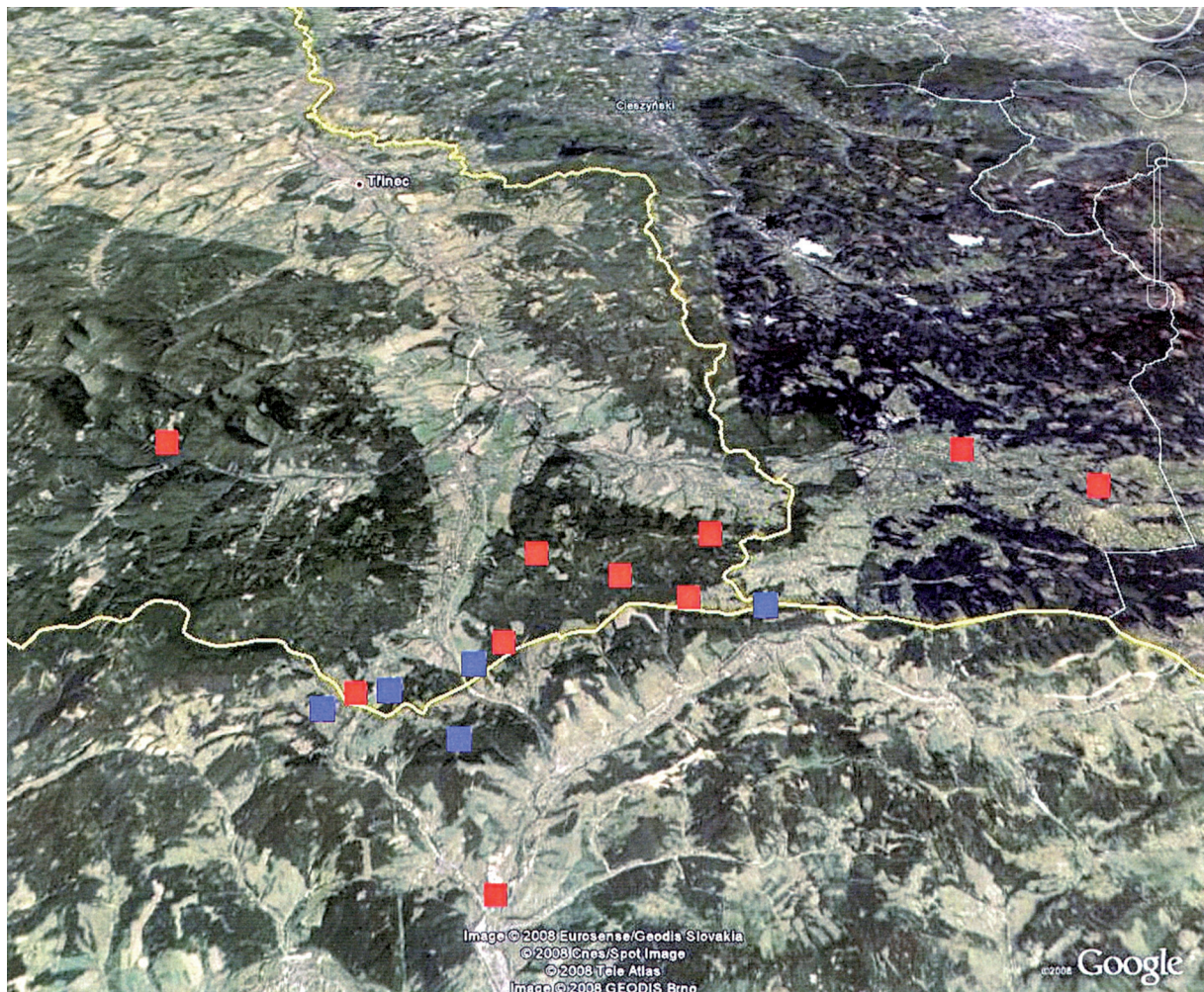


Fig. 7. All fortifications documented by sources (unpreserved features are marked in red, preserved features are marked in blue), which were built in the area of the Silesian-Hungarian border until the mid-18th century for defence against the attacks from the south-eastern direction. Base map Google Earth.

communication and advanced works (guarding points) and the average elevation of these installations was around 550 m ASL (Fig. 7).

The first decades of the 18th century were still influenced by the situation of the preceding century, when the defence was mainly concentrated against the attacks of Hungarian rebels. A change occurred in the 1740s with the transformation of geopolitical situation in Europe after the enthronement of Maria Theresa. One of the main territorial requirements of Prussia during the Wars of the Austrian Succession was the acquisition of rich Silesia. Already during the first Silesian War of 1740–1742, Prussian forces seized Silesia as far as the Silesian-Hungarian border and the Jablunkov Pass. Prussian troops also captured the Velká šance, when the local garrison of 104 soldiers and 120 recruits surrendered to them without a fight on 8 February 1741. The then commander, baron Johann O'Reilly, stated among the main reasons of capitulation a very poor condition of the fortification, which did not enable to defend it against the enemy's superiority (Duncker 1890, 116–118, 576–581).

Military installations in the Jablunkov Pass, which have for decades defended this area against attacks from Hungary, did not expect an attack from the opposite direction, from Silesia. The unpreparedness for a new threat and the bad condition of the fortification were also mentioned in a report by the

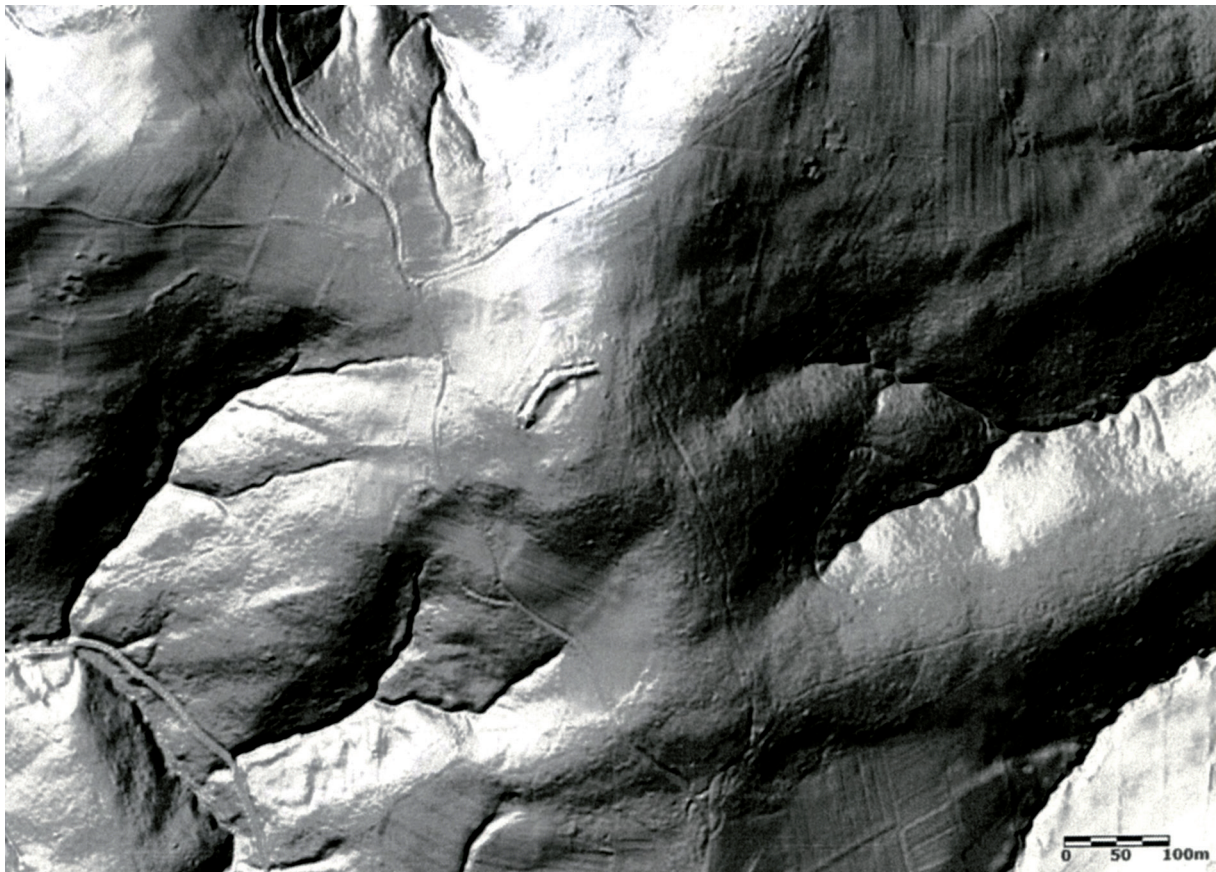


Fig. 8. Depiction of the redan in Bukovec “Dílek” on a detail of a LIDAR map. Base map www.geoportal.gov.pl.

cartographer and engineer Samuel Mikovíny, who was sent to inspect the defensive capacity of the border (Štátný archív v Bytči, 1744).

In the following conflicts – the second Silesian War of 1744–1745 and the Seven Years’ War of 1756–1763 – the Jablunkov fortifications already were not that significant. They were captured by Prussian troops in 1762 to defend the access from Hungary, but their location was too far away from the main battlefields. The last conflict between the Habsburg Monarchy and Prussia in the 18th century was the War of the Bavarian Succession in 1778–1779 (Krůl 2013, 64–66).

As a response to the new situation in this region, new field fortifications were built which defended the Jablunkov Pass against the attacks from the northwest. The period of their construction is not clearly determined. From the years after the end of the Seven Years’ War we have many preserved plans for the rebuilding of Velká šance and its immediate neighbourhood, where the defence should have been strengthened by artillery field fortifications. However, later cartographic sources do not confirm their build-up. The maps of the First and Second Military Surveys do not specify the time of origin of these fortifications, either. The fortifications on the Silesian-Hungarian border were partly recorded by the Second Military Survey in the mid-19th century, when their functionality was already minimal. This is also testified by their marking on the map sheets, where they are called “alte Schanze” (old schanze). From a typological point of view, the new fortifications had a different form than the previous ones. The evolution of warfare and weaponry already demanded to deploy artillery field batteries in the defence of mountain passes. These military installations differed from the previous ones not only by their larger dimensions, but also by a different localisation on the tops of salient extensive hills, from where it was possible to oversee the access roads to Hungary and newly mainly the road to Galicia, which devolved on the Habsburg Monarchy after three partitions of Poland.

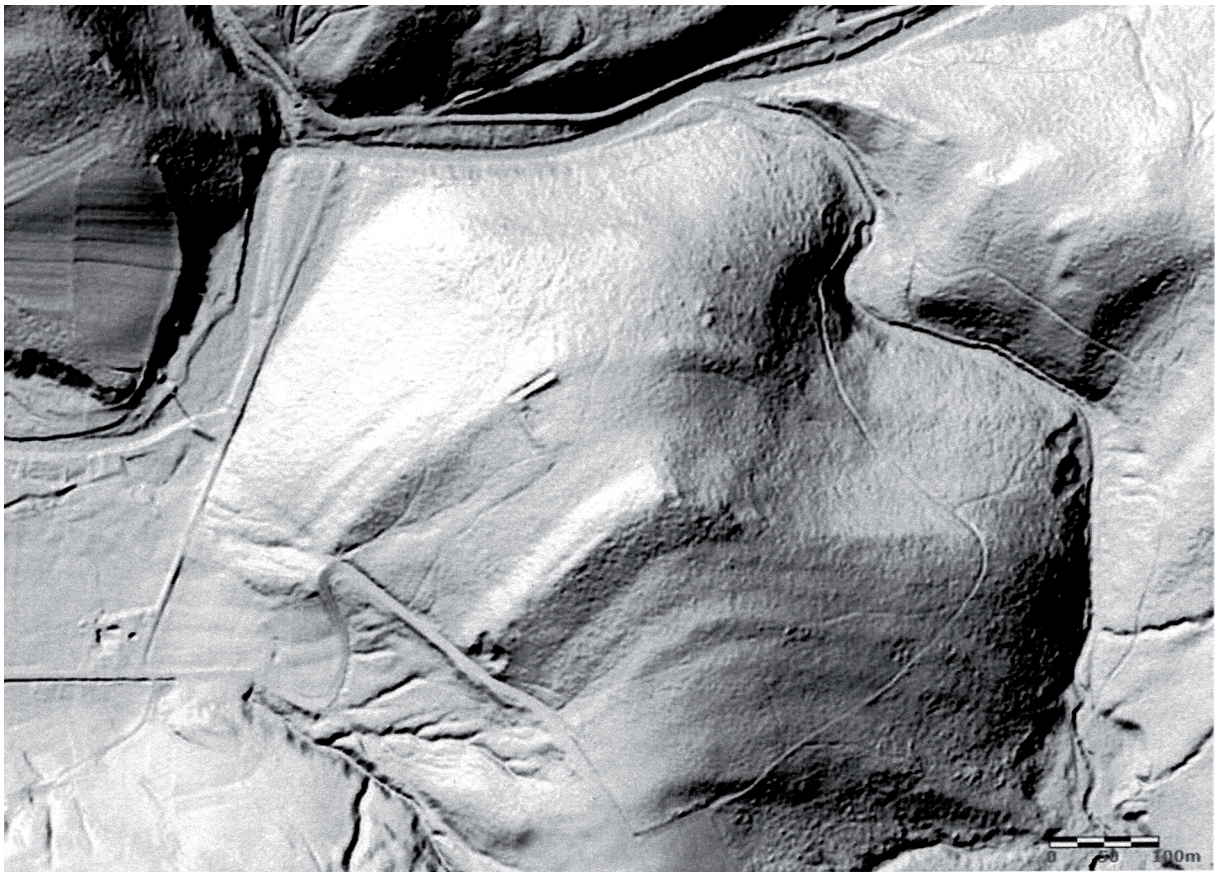


Fig. 9. The redan in Bukovec “Hrádek”, localised thanks to LIDAR maps.

The most frequent elements of these artillery positions were redans and redoubts. Redans were massive V-shaped artillery earthworks with open gorge and an angle ramp towards the vertex of the V shape. Five such features are documented and preserved in this area. Four of them are recorded on the map sheets of the Second Military Survey and one was detected by airborne laser scanning using the LIDAR method.

There was a redan on the top of the hill Dílek (the fortification is recorded on maps of the Military Survey of Hungary) with the leg sides ca. 50 m long, including an angle of 135° (Fig. 8).

Three redans are situated along the edge of the opposite extensive hilltop Kempa, so that they covered the roads leading around. The central regular redan with the leg sides 30 m long, including an angle of 90°, was supplemented by another two redans with irregular layout, situated on the side slopes of the hill. In these cases we can speak about redans, which differ from a similar feature, the flèche, by the angle that the two leg sides are including. Redans are reported to have had angles of 90 degrees and more, whereas the flèches had angles smaller than 90 degrees. The last fortification is a redan in Bukovec-Hrádek, detected by LIDAR measurements. It is located on a slope above the road leading from Silesia to Galicia, thus supplementing the defensive positions on the opposite hill Kempa. The well-preserved redan has the sides 50 m long, including a right angle (Fig. 9).

The second typological element was an artillery redoubt with angle ramps in its corners. The redoubt in Bukovec “Suš” with the dimensions of 30 x 30 m completes the defensive capacity of the above-mentioned redans and is situated on a low elevation between the salient hills Na Dílku and Kempa (Fig. 10).

Another artillery redoubt with the dimensions of 28 x 25 m was located on the opposite side of the Silesian border in Megoňky (Čadca-Milošova). It was situated in a wider forefield of the central fort

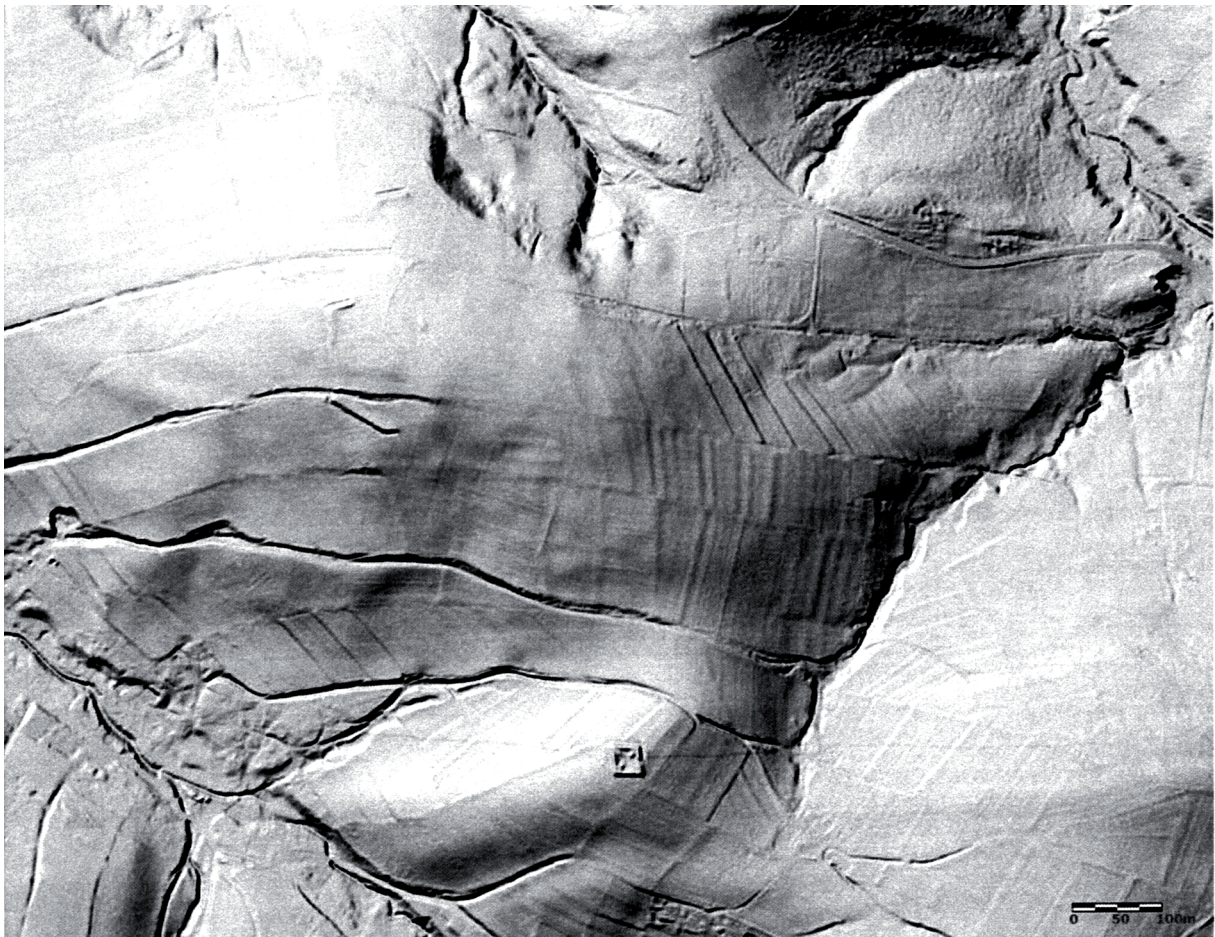


Fig. 10. A view of the spatial relation between the artillery redoubt in Bukovec “Suš” and three redans on the opposite hill Kempa on a LIDAR map. Base map www.geoportal.gov.pl.

Velká šance in Mosty u Jablunkova, which was intended to defend the roads to Hungary. For the sake of completeness, it is also necessary to mention the extended and still functioning linear fortification on the hill Valy with the eight-pointed fort Malá šance, which was already mentioned above. The so far most extensive archaeological rescue excavation of one of the elements of the Jablunkov fortifications was carried out before the construction of a motorway in this area (Vojteček 2016, 195–209).

New fortifications were thus most probably built during the War of the Bavarian Succession in 1778–1779, or shortly after its end, and during reinforcement of the border with Prussia in 1789–1790. These fortification activities at the end of the 1780s are connected with the Austrian generalissimo Ernst Gideon von Laudon. The northern border of the monarchy should have been secured against the hostile Prussia by a chain of field fortifications, built from the border with Galicia and Hungary as far as the Bohemian border, where a similar system of fortifications has already existed (Kaufmann 2007, 254–255). The fortifications in the Jablunkov Pass were followed by typologically similar fieldworks, which were located near the town of Těšín. The currently already unpreserved installations were built on a terrain wave west of the town between the municipalities of Mistřovice and Chotěbuz and they were intended to fire on the valley of the river Olše. There were three redoubts and a redan, which were called “Laudon’s redoubts” at that time (Spyra – Chromik 2014, 534; Krůl 2016, 572–574) (Fig. 11).

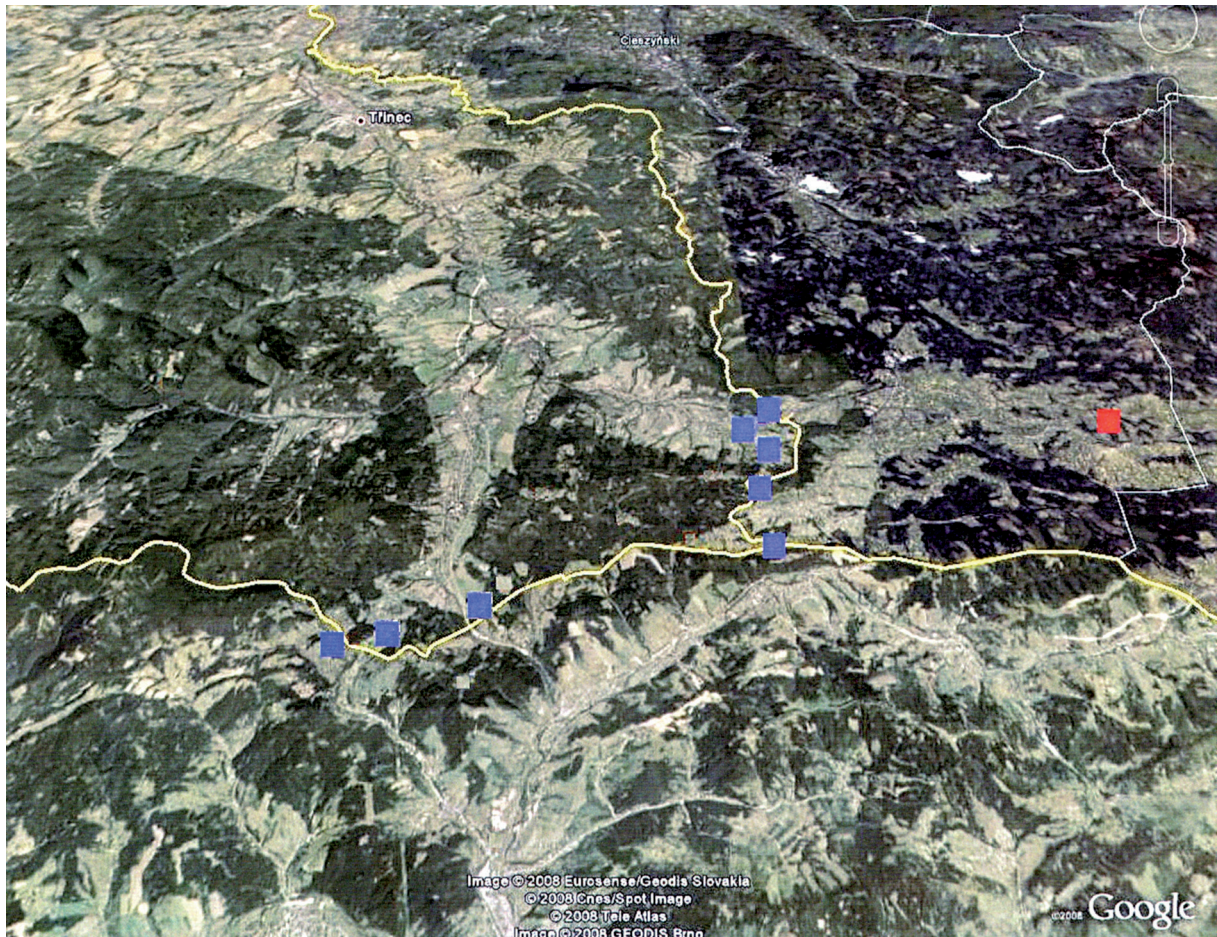


Fig. 11. The area of the Silesian-Hungarian border with fortifications (unpreserved features are marked in red, preserved features are marked in blue), which were modernised or newly established in the last third of the 18th century for defence against the attacks from the north-western direction. Base map Google Earth.

Table with fortifications in the area of the Silesian-Hungarian-Polish border, which were built at the end of the 18th century as a part of a wider defensive zone on the border with Prussia

	Location (cadastral district)	State of preservation	Fortification type	Function
1.	Bukovec – Kempa I	preserved	redan	central position
2.	Bukovec – Kempa II	partly preserved	irregular redan	part of Kempa I
3.	Bukovec – Kempa III	partly preserved	irregular redan	part of Kempa I
4.	Bukovec – V Sušu	preserved	redoubt	
5.	Megoňky (Čadca-Milošova, SVK)	preserved	redoubt	advanced work
6.	Na Dílku (Bukovec)	preserved	redan	separate position
7.	Hrádek (Bukovec)	preserved	redan	separate position

If we try to sum up the question raised in the title, we can say that the forms of early modern defence have evolved and reacted to the general development of tactics and strategy since the 17th century. The area on the boundary between the historical territories of Silesia, Upper Hungary and Lesser Poland (Galicia) has been fortified within a long period of time from the mid-16th century to the beginning of the 19th century, that is, for more than two hundred years. The changes in warfare and weaponry during this period were so fundamental that they are termed “military revolution”, particularly in the West European sphere. In a modified concept of the *Military revolution* by Roberts, the historian Roger Parker put emphasis on the development of a new bastion fortification system (Parker 1996, 6–81; Prchal 2015, 35–39; Wohlmuth 2015). These changes were also reflected in the forms, function and localisation of field fortifications, which can be also followed up with fortifications on the Silesian-Hungarian-Polish border over a long period of time.

In the area of the Silesian border, a wide spectrum of field fortifications were established. The most frequent element was a square redoubt, which has been used during the whole period of border defence. Another types of field fortification features were forts with bastions or demi-bastions, star schanzen or individual elements, such as hornwork or double tenaille, or the rampart line reinforced by redoubts and redans (half-redoubts) (Notnagel 1659, 21–23; Freitag 1631, 6).

The 17th century field fortifications were mostly represented by minor enclosed infantry emplacements, which were used as communication and guarding posts or advanced works of the principal fortifications. In these main forts we can already observe a complicated layout associated with their significance and long-term functional existence. For example, the central fortification Velká šance was transformed into a true fortress. Fortification elements typical of the 18th century were large open artillery positions in the form of redans, lunettes, bonnets, ravelins or various local terrain adaptations. Some differences in comparison with the previous period were also observed in localisation of individual features. Fortifications were built on extensive hills and strategic landmarks, from where the artillery was able to deliver fire on wide surroundings. The area of defence of these fortifications has also increased and the defensive zones were much wider than in the previous period. It was a response to the development of military strategy and tactics in the 2nd half of the 18th century. The coordinated advance of several large armies required a deep extension of the defence on the land border already.

The article tried to outline the extent and variability of use of individual fortification elements in the mountainous border zone. Thanks to long-term fortification activities, this area offers a unique opportunity to study the field fortifications established at the time of a great upswing and modernisation of warfare, which can be followed up to this day.

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