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**SIEGE ACTIVITIES DURING THE THIRTY YEARS' WAR
AND THEIR IMPACT ON THE CONSTRUCTION OF MODERN
FORTRESSES IN POMMERN, NEUMARK AND SCHLESIEN**

Keywords: Thirty Years' War, siege war, fortifications, siege, bastion, military history, Schlesien, Neumark, Pommern

Słowa kluczowe: Wojna trzydziestoletnia, wojna oblężnicza, fortyfikacje, oblężenie, bastion, historia wojskowości, Śląsk, Nowa Marchia, Pomorze

Pommern, the historic Neumark (also Neumark) and Schlesien were areas where intensive warfare was taking place during the Thirty Years' War. This armed conflict not only permanently shaped the political geography of this part of Central Europe, but also propelled the development of siege art and contributed to the spread of the bastion fortification in this area.

The bastion, as a new solution in the fortification, was born at the turn of the fifteenth and sixteenth centuries in Italy, but very quickly spread throughout Europe. The bastions, five-sided defensive structures, were much better than the previous solutions – generally referred as *bastei*. Not only did they enable more effective defence using artillery but also protected the artillery of the defenders against the attacker's shooting. The precision of the flank fire provided by the bastion front and covering the whole foreground with fire, without 'blind' fields, again gave the defenders an advantage over the attackers. The advantage

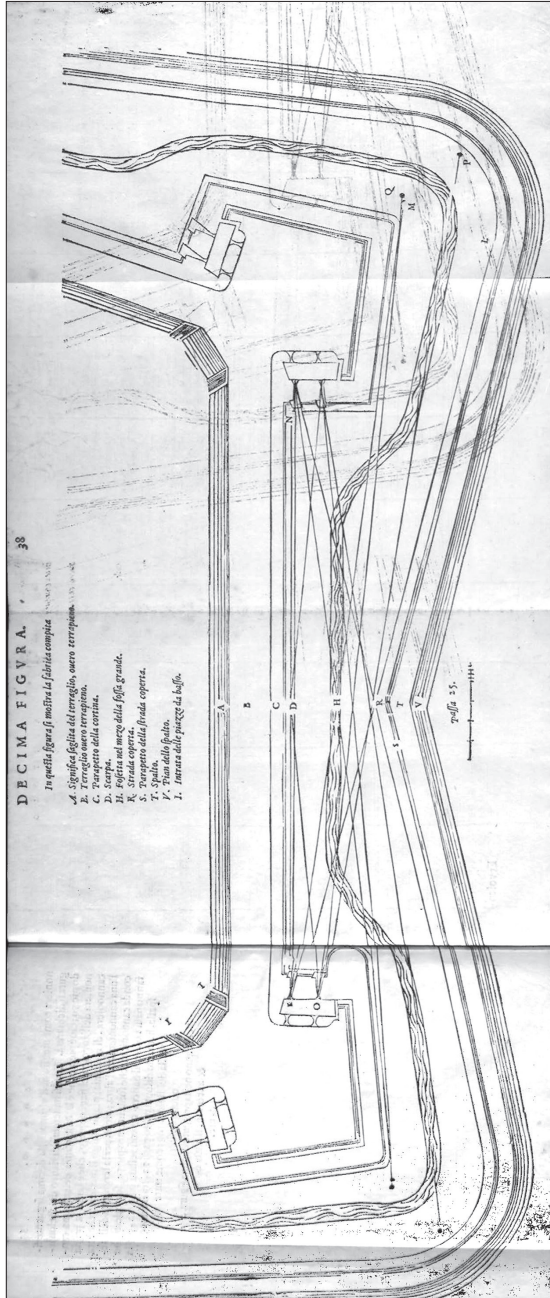


Figure 1. Bastion front operation scheme

G. Cataneo, *Libro Nuovo di fortificare offendere et difendere*, Brescia 1567, p. 38.

previously violated by the introduction of black powder artillery. The bastion fortresses started to be built outside Italy as early as the 1530s. The oldest bastions in Central Europe appeared as early as in the 1540s (Dresden) and in the present-day Poland in the next decade (Küstrin).¹ Nevertheless, a century later, at the outbreak of the Thirty Years' War, bastion fortresses were still uncommon in this part of the continent. This should not come as a surprise as the surrounding bastions of the entire defence perimeter was a considerable expense that only wealthy subjects – states or large and rich cities – could afford. Referring to the discussed area before 1618, there were actually two fortresses here, surrounded by a complete wreath of bastions – the already mentioned Küstrin and also Driesen situated in the Neumark.² Interestingly, in Pommern, before the outbreak of the Thirty Years' War, the above-mentioned fortifications were never built but they were definitely built in Schlesien. The city closest to the creation of a full-scale bastion frontline was Breslau, where 7 bastions were erected before 1618, together with the curtains connecting them, successfully surrounding almost half of the city.³ Much smaller scale was the bastion fortifications in Brieg with only 2 bastions and two sections of curtains.⁴ The appearance of the bastion fortifications in Neiße remains a mystery still today. In 1594 architect Johann Schneider von Lindau designed a project of bastion reconstruction covering entire fortifications – surrounding the bastion circuit of the New Town and the seven-bastion-front in the Old Town area. However, it is likely that this project was only carried out in a minimised form.⁵ Of the Silesian towns where new bastion fortifications ap-

¹ M. Wichrowski, *Budowniczy twierdz*, in: *In silentio et spe fortituda mea. Johann von Küstrin – Jan z Kostrzyna*, Kostrzyn nad Odrą 2014, pp. 274–275; Wichrowski M., *Najstarsze bastiony w Polsce. Zagadnienie chronologii budowy renesansowej twierdzy Kostrzyn w zwierniście uczonej literatury i źródeł archiwalnych*, “Nowa Marchia – prowincja zapomniana” 2016, no. 12, pp. 197–201.

² G. Podruczny, M. Wichrowski, *Kostrzyn i jego satelity. Brandenburskie fortyfikacje stałe w dorzeczu Środkowej Odry od wojny 30-letniej po wojny śląskie*, in: *Dziennik jeńca i inne szkice. Twierdza Kostrzyn w przeszłości*, eds. B. Myketow, K. Sanocka, M. Turek, Kostrzyn–Zielona Góra 2006, pp. 24–26.

³ G. Podruczny, *Twierdza Wrocław w okresie fryderycjańskim. Fortyfikacje, garnizon i działania wojenne w latach 1741–1806*, Wrocław 2008, pp. 19–22.

⁴ G. Podruczny, *Twierdza Brzeg w okresie fryderycjańskim*, in: *Wokół bitwy pod Małujowicami. Studia z dziejów XVIII-wiecznego Brzegu i ziemi brzeskiej*, eds. G. Podruczny, A. Peszko, Brzeg 2017, pp. 22–23.

⁵ The issue of the degree of implementation of this project is difficult to determine. Although the perspective view of Neiße by Georg Hayer, created in the early 17th century, shows the existence of one bastion and two pieces of curtains in the perimeter of the New Town and almost half of the front defending the Old Town, the sources known from the first half of the 17th century seem to

peared, only those in Breslau could play a significant role in the defence, although here, too, about half of the city district consisted of older, early-modern bastions.

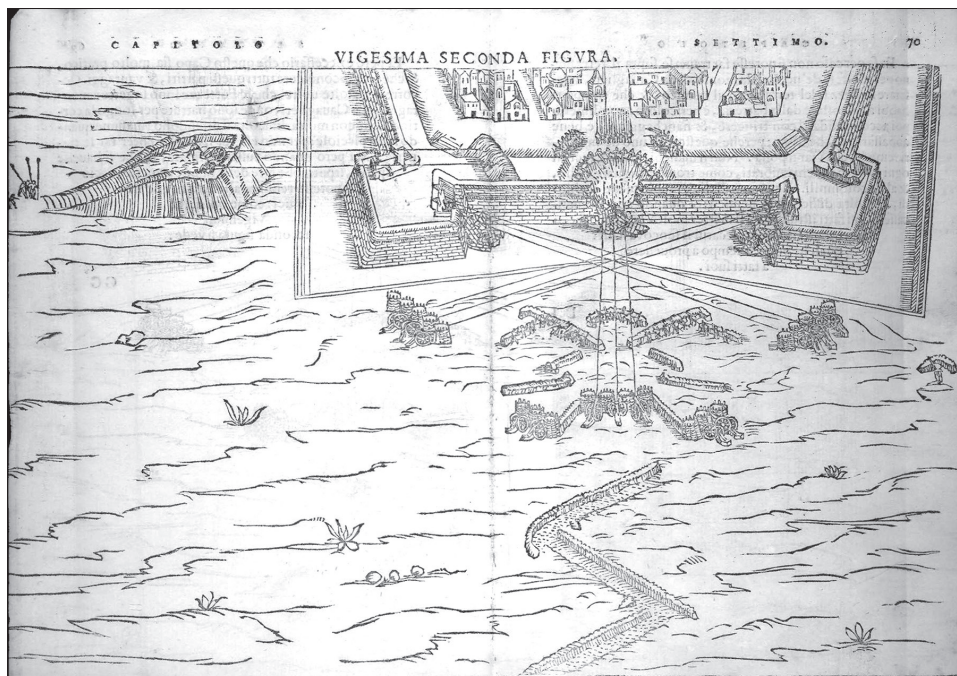


Figure 2. Siege of the bastion fortress: proximity works (sap) scheme of artillery firing against the fortress, defence of the breach in the rampart behind the retreat
G. Cataneo, *Libro Nuovo di fortificare offendere et difendere*, Brescia 1567, p. 70.

Being parallel to the emergence of new types of fortifications, ways were sought for their effective conquest. Some of the siege techniques, such as storming, have been known since the dawn of time, but the introduction of artillery and bastion fortifications resulted in new ones. First of all, there were forms of a close-up attack, consisting in the construction of zigzagging trenches in the foreground of the fortress, which were used to approach the attacked fortress. Their arrangement into a complete procedure was a complicated matter but guaranteed to conquer the fortress. Remarkably, it was not developed until the

contradict this. Confirmation of the partial realization of at least the bastion front of the Old Town is, on the other hand, the relics of the bastions that can be read on the plans of the Neiße Stronghold from the second half of the 18th century.

time between the 17th and 18th century although the most important elements of a proximal attack – zigzagged trenches called ‘sap’ – appeared as early as the 16th century. Besides, artillery firing techniques were developed and quite swiftly, the attackers learned how to concentrate artillery fire on one point in order to break the breach in the rampart. The development of artillery and the emergence of new types of missiles (exploding, incendiary) and new cannons (mortars) resulted in new techniques of firing on the fortress – throwing bombs at the object together with incendiary gunfire. Finally, there were also attempts to use the energy of a black powder explosion without cannons. The most popular technique used until World War I was the mine warfare, which consisted of excavating the enemy fortifications and blowing them up from underneath. Another technique was the use of petards, specific explosive charges consisting of two heavy elements connected together in the form of a long cylinder. There was a powder cavity in one of them and a petard would be lit up and placed in front of the element to be destroyed. It would then be placed by a fortress gate from one side whilst being blocked by the ground from the other end. A petard explosion sets off its top like a rocket, destroying the target. Setting up a petard was a very difficult and risky task, and this technique has disappeared over time.⁶

The Thirty Years' War, or more specifically the intensive fortress war using all siege techniques known at the time, clearly demonstrated the weakness of the fortifications in the area described and, as a result, contributed to the spread of the bastion fortification. Towards the end of this conflict, the bastion fortifications – on a larger or smaller scale – had several dozen towns. In Schlesien, new fortifications gained: Brieg, Neiße, Glogau, Ohlau, Namslau, Liegnitz, Jauer, Reichenbach and Schweidnitz, Wohrlau, Groß Wartenberg, Oels, Oppeln, Sprottau, Hirschberg and other cities were slightly strengthened, Breslau was also completely fortified. On the territory of the Neumark it was the strongholds in Crossen an der Oder, Frankfurt (Oder), Oderberg and Landsberg a. Warthe. In Pommern, on the other hand, strong bastion fortifications were built in Stettin, Damm, Kolberg, Stralsund, Anklam, Demmin, Greifswald, supplemented by smaller defense complexes in Cammin in Pommern, Rügenwalde, Dievenow, Stargard, Swinemünde, Dammgarten, Penemünde, Wolgast, Gartz, Greifenhagen and Uckermünde. Such

⁶ The best synthetic overview of modern siege techniques is offered by the works of Ch. Duffy, including *Fire and stone: the science of fortress warfare, 1660–1860* (the work used the Czech translation *Kamen a ohen. Bastionova pevnost, její zrod a vyvoj v dejinach pevnostního velectnictví*, Brno 1998, pp. 104–167).

a multiplication of new fortifications should not come as a surprise, taking into account the fact that in the discussed area during the Thirty Years' War, and more precisely between 1625 and 1648, 121 events took place, which can be classified as fortress war: shootings, assaults or regular sieges with the use of trench attacks.⁷ For example, in Schlesien, 32 towns were attacked 75 times in total. On the territory of the Neumark – 5 localities in total 16 times, and on the territory of Pommern – 12 localities in total 29 times. The fights were carried out for all the field points that were important at the time of the war. Small towns, not important as defensive points were not militarised so were occupied without a fight. On the other hand, the largest or strongest fortified towns were not conquered due to the whole range of potential difficulties – but this only applied to places like Breslau, a large, rich and strongly fortified town,⁸ as well as Küstrin, which was a small but very strongly fortified town, and very favourably situated in the middle of the floodplains of the Warthe estuary to the Oder.

Some towns, which were particularly attractive from a military point of view, were attacked many times, sometimes even with some very short intervals. The record holder is Gartz, located at one of the crossings from Pommern to the Neumark, attacked between 1630 and 1638 as often as six times: in 1630, 1635, 1636, 1637 and even twice the same year in 1638.⁹ As many as six cities were conquered five times during this period. Wolgast was attacked in 1628, 1630, twice in 1637 and 1638.¹⁰ The Stargard was conquered in 1630, 1635, twice in 1636 and 1637.¹¹ Small Wohrlau was attacked five times in four years between 1640 and

⁷ The number of examples of a fortress war defined in this way cannot be considered as definitive. The main source of this is the references in *Theatrum Europaeum* which are often ambiguous. In search of examples of this kind of war events, attention was paid to key words such as: shelling, assault, siege, defense, but sometimes it is difficult to determine whether the mentioned sieges of the city was violent and related to fighting, or whether its conquerors did not meet with resistance. For a complete list of recorded occupations, see Annex 1.

⁸ On the list of sieges in Annex 1, Breslau is listed under two dates: The first concerns the Saxon assault on Ostrów Tumski occupied by the Swedes, which, although it is located in Breslau, belonged to the Breslau bishops and was located outside the city fortifications. The second date concerns the approach to the city by Swedish troops and the two-sided firing, which resulted in one cannonball falling on the city ramparts.

⁹ *Theatrum Europaeum*, 2, p. 262; *Theatrum Europaeum*, 3, pp. 711, 824, 919, 961; W.F. Gadebusch, *Chronik der Insel Usedom: Mit einer Charte der Insel Usedom*, Anclam 1863, pp. 127, 128, 130.

¹⁰ *Ibidem*, pp. 116, 130, 131; *Theatrum Europaeum*, 2, p. 236; *Theatrum Europaeum*, 3, pp. 884, 898.

¹¹ Ch.G. Teske, *Geschichte der Stadt Stargard*, Stargard 1843, pp. 117, 121, 122, 125; *Theatrum Europaeum*, 3, pp. 678, 707 and 874.



Figure 3. Crossen an der Oder, a hornwork from the Thirty Years' War

Photo: G. Podruczny.



Figure 4. Hirschberg, St. Ann's Chapel, former bastei

Photo: G. Podruczny.

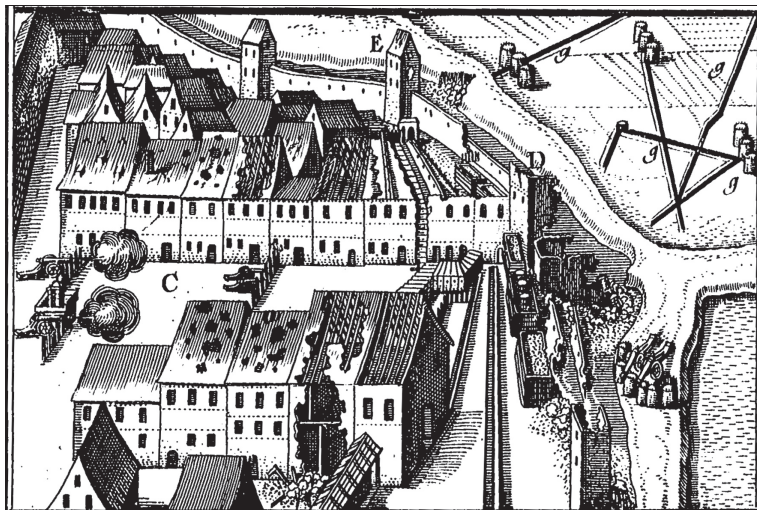


Figure 5. Defending the retirata during the siege
Theatrum Europaeum, 5, taf. 4.



Figure 6. The siege of Zittau in 1643. Retirata marked with R
Theatrum Europaeum, 5, taf. 12.

1644 – twice in 1640, twice in 1642 and once in 1644.¹² The city of Oppeln was attacked in 1627, twice in 1633, 1634, 1642 and 1643.¹³ Leobschütz was captured by storm in 1626 by the Danish army, a year later by the Imperial army, in October 1632 the Swedish attempt to capture the town failed, but they succeeded in 1642 and 1645.¹⁴ Finally, the list of towns attacked five times is closed by Glogau attacked in 1632, 1633, 1634 and twice in 1642. Four times each the Pomeranian Demmin (1631, 1637, 1638, 1639¹⁵), the New Marchian Landsberg (1631, 1633, 1634, 1639¹⁶), the lower-silesian Groß Wartenberg (1634, 1642, 1643, 1646¹⁷) and Hirschberg (1634, and three times in 1640¹⁸) were conquered.

Worth mentioning is the fact that the level of intensity of fights for any fortified targets did not depend on their size and strength. Bloody and violent battles were fought over large fortresses such as Stralsund in 1628, Brieg in 1642 and Glogau in 1642, as well as small, provisionally fortified towns. In the latter case, the fights for Wohlau, Crossen an der Oder and Hirschberg are clear examples. Particularly interesting are the fights for these smaller strongholds, because enemies were attacking weakly fortified places and yet the severe struggle was very often the main and only outcome.

In the case of Wohlau, this small stronghold, defended only by the city walls and an early modern rampart, probably reinforced by some kind of sconces, was attacked 5 times in total. The severest defence was the one that took place in January 1644. After a period of blockading the area, the imperial army began a siege, fired a breach in the city wall and stormed it. However, the Swedish crew

¹² J. Maroń, *Militarne aspekty wojny trzydziestoletniej na Śląsku*, Wrocław 2000, pp. 138, 4, pp. 226, 227, 863, 687; *Theatrum Europaeum*, 5, p. 273.

¹³ F. Idzikowski, *Geschichte der Stadt Oppeln*, Oppeln 1863, p. 170; *Theatrum Europaeum*, 1, p. 990; *Theatrum Europaeum*, 3, pp. 7, 24, 262.

¹⁴ F. Troska, *Geschichte der Stadt Leobschütz*, Leobschütz 1892, pp. 124–126, 130, 134–135.

¹⁵ *Theatrum Europaeum*, 2, p. 343; *Theatrum Europaeum*, 3, p. 898; *Theatrum Europaeum*, 4, pp. 71, 72; W.F. Gadebusch, *Chronik der Insel Usedom...*, p. 131.

¹⁶ *Theatrum Europaeum*, 3, p. 70.

¹⁷ *Theatrum Europaeum*, 4, p. 687; *Theatrum Europaeum*, 5, p. 187; M. Merian, M. Zeiller, *Topographia Electoratus Brandenburgici et Ducatus Pomeraniae*, Frankfurt am Main 1652, p. 189.

¹⁸ J.K. Herbst, *Chronik der Stadt Hirschberg in Schlesien bis zum Jahre 1847*, Hirschberg 1849, pp. 108–112; J. Maroń, *Militarne aspekty wojny trzydziestoletniej...*, p. 142; *Theatrum Europaeum*, 4, pp. 227–228.

defended themselves stubbornly, repulsed the attack and forced the besiegers to retreat. As a result the Emperor's army lost 500 men in combat.¹⁹

Additionally, in Crossen an der Oder, the successful Swedish defence against the assault occurred as many as three times. Surprisingly, this small town in 1631 manned by a tiny Swedish garrison (260 soldiers) defended itself twice (in May and August), when the first time it was attacked by an army of 6,000 soldiers. The other successful defence took place in May 1634, when the town was defended by a small, 200-person crew supported by the townspeople against the 4,000 Imperial Army. It should be mentioned that this was before the modernization of the fortifications and only after the siege of 1634 the Swedish erected the first bastion fortifications. The city, which was fortified in this way, was only conquered as a result of a regular attack, lasting 8 days, by the combined Brandenburg and Swedish armies.²⁰

The best example of how fierce was the defence of the poorly fortified city could be the siege of Hirschberg in the autumn of 1640, one of the four different sieges of the city during the conflict. The fortifications of this town were relatively weak, limited to the double, still of medieval origins, town wall with three gates reinforced by early modern bastions together with an earthy rampart erected during the war. The siege of 1640 lasted more than 2 months, from September the 5th to November the 10th. The city was besieged by a large army of 18,000 soldiers commanded by General Martin Maximilian von der Goltz. Inside, a small Swedish crew supported by the townspeople strived to defend themselves. Imperial troops tried to conquer the city in many ways. They were attacked with proximal attempts – by means of twisting trenches, firing – with both flat-track and bombardment (it was here that the bombardment with the largest, 200-pound bombs, was recorded) and firing with the use of incendiary ammunition. Five times the mines under the city fortifications were blown up, each of them led to a breach in the wall, one of them even blew up the city tower. There were also attempts at subterranean breakthrough in order to enter the city this way. As a result, the city was stormed many times – the biggest attack of this kind involved a total of 1000 attackers. Another assault, which was carried out on 31 October, focused on a mine breakthrough in the wall and even led to the entry of a few hundred imperial troops into the city. However, after three hours of street fighting they

¹⁹ J. Maroń, *Militarne aspekty wojny trzydziestoletniej...*, p. 138; *Theatrum Europaeum*, 5, p. 273.

²⁰ C. von Obstfelder, *Chronik der Stadt Crossen*, Crossen 1895, pp. 76–78.

were pushed out and the assault finally failed, so did the rest of the “siege, which lasted over 10 weeks.”²¹

Different techniques for fighting fortifications

To conquer the city defended by the enemy all siege techniques known at that time were used; the most common being artillery fire. Various ammunition was used – both iron solid shot and stone bullets, as well as explosive ammunition (mortar bombs, the largest recorded are those from a 200-pound mortar) and incendiary projectiles, like carcasses or hot round shots (cannonballs). The aim of the shooting was either to force the enemy to surrender the city - this was often achieved by setting fire to the city (see Opava 1627²²), but more often the aim was to break out a breach in the rampart/city wall. The latter technique was usually associated with an assault (although not always, sometimes the breaking through the breach induced the besieged to surrender) – after the breaking through the wall, there was usually an open attack, and interestingly, very often it was an unsuccessful ending with great losses among the besieged. The explanation for such a turn of things, apart from poor organization of the attack and fierce defence, may be the use of temporary fortifications erected at the back of the breach called *Retirata*. Unfortunately, the majority of the references about this type of sieges are inaccurate, therefore it is not known how many cases of the successful defence against the breakthrough was due to *Retirata*, but at least three of them were clearly identified. The oldest known example of this solution in a battlefield took place in 1631 in Greifenhagen. The town was then poorly fortified – it had a single line of medieval wall and a shallow moat, and as part of a rapid reinforcement in 1630, the Pomeranian garrison erected an earthwork defending the bridge and a blockhouse. In December 1630, the city was already manned by a strong imperial army garrison of 2,500 men. The attack was carried out by the 18 thousand Swedish army led by King Gustav Adolph. On December 23rd, after a violent shooting from land and water (80 cannons in total), its artillerymen fired a breach in the wall. After a few more hours, the opening was wide enough to allow three people, at the same time, to enter the enemy’s area. Immediately, the soldiers were sent to take over the breach but it was impossible, because the defenders prepared the above mentioned extra fortification retrenchment (*Retirata*)

²¹ J.K. Herbst, *Chronik der Stadt Hirschberg...*, pp. 127–136.

²² *Theatrum Europaeum*, 1, p. 991.

and defended themselves fiercely. Only the introduction of a field cannon into the breach and the firing of this makeshift fortification allowed it to be forced through. A mention that may indicate the use of this extra retrenchment can also be found in the description of the 1640 imperial siege of Hirschberg – according to the *Theatrum Europaeum*, after a breach in the wall was achieved on 17 September, General Golz stopped the assault and the breach was rebuilt overnight. Another case of retaliation was the storming of Wohlau in 1644 – according to a description from the *Theatrum Europaeum* “haben die Belagerte hergegen inwendig dargestalt sich verbawet und eisen solchen widerstand gethan, dass die Keyserlichen mit verlust in 550 mann, so wohl Beschädigter als Todten wieder zu rück weichen müssen”. Other, unambiguously identifiable examples of the use of retaliation could not be found, but they were probably more frequent and finally quite obvious way to continue the defence. A good example of the application of this solution, outside the area of our interest was the siege of Zittau and Freiburg in 1643. The plans of these occupations show several enforcements (Retirata) (Zittau)²³ and one (Freiburg)²⁴ – erected in advance in one place, whilst in Zittau – after one of the breakthroughs. As far as the second town is concerned, the image of defending such a retaliation is also known.

However, the storm also proved to be effective. A great example of this is the final assault in Greifenhagen, which saved only 200 people from the cast of this city, and the day after that the attack on Gartz. A similarly devastating effect on the enemy was the assault of Frankfurt (Oder) in 1631, one of the greatest triumphs in the fortress war of Gustav Adolph.²⁵

The second most frequent attack technique was the storm – in total, there were 44 identifiable references to the 44 sieges in which it was carried out.²⁶

Often, earthworks were also used during the siege. Usually it was the construction of siege batteries, but the conquering of fortresses were also attempted with an trench attack. Not only large and strong strongholds were attacked, but also temporary reinforced city fortifications and small entrenchments. We know

²³ *Theatrum Europaeum*, 5, taf. 12 (description of the siege of Zittau), pp. 201–203.

²⁴ *Theatrum Europaeum*, 5, taf. 4 (description of the Freiberg siege), pp. 21–28.

²⁵ Christian Wilhelm Spieker, *Geschichte der Stadt Frankfurt an der Oder*. Part 1: *Von der Gründung der Stadt bis zum Königtum der Hohenzollern...*, Frankfurt/Oder 1853, pp. 188–191. The attack on Frankfurt was widely described in Erik Dahlberg’s novelised biography by Peter Englund, entitled *Lata wojen*, Warszawa 2013, pp. 123–125.

²⁶ A complete list of identified assaults from this period is included in Annex 2.



Figure 7. The storm of Frankfurt (Oder) in 1631
Theatrum Europaeum, 3, taf. 13.

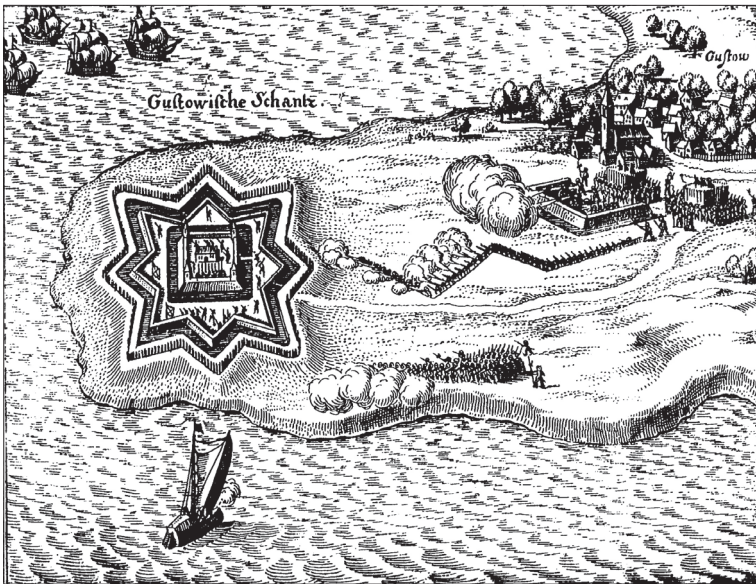


Figure 8. The attack in 1630 on Alte Fehr Schanze near Gustov on Rügen
Theatrum Europaeum, 3, p. 160.

about the use of the sap from 15 sieges from 1628 (Stralsund) 1630 (Alte Fehr Schanze near Gustow on Rügen,²⁷ Greifenhagen) 1631 (Demmin,²⁸ Frankfurt (Oder), Kolberg),²⁹ 1634 (Oppeln, Crossen a. Oder, Frankfurt (Oder), Landsberg),³⁰ 1637 again Demmin,³¹ 1639 again Landsberg³² 1640 Hirschberg, 1642 Brieg³³ and Glogau.

Mines were used relatively rarely in attacks on fortresses. The technique is mentioned in 1631 from Demmin,³⁴ 1640 from Hirschberg and 1642 from Brieg. In the first two cases, mines were used to break out a breakthrough in the medieval wall, in Brieg, ravelin was captured with mines (and, what is important, counter-mines were used there for defence).³⁵ This technique was very dangerous for the attackers, as evidenced by the example of Hirschberg, where mines killed more imperial soldiers than defenders of the city.³⁶

A unique, rarely mentioned technique was the use of petards. Examples of this dangerous siege technique were found twice – in 1630 in Stargard, where the Red Sea Tower was captured using this technique, and during the Danish storm on Leobschütz, where the city gate was blown up using it.³⁷

Sieges and city fortifications

In total, 49 cities were besieged during the war, 45 were fortified with bastions. There is a rather limited sense in presenting the history of the creation and then demolition of them all. Basically, there are three groups of fortified towns – those

²⁷ *Theatrum Europaeum*, 2, p. 160.

²⁸ *Ibidem*, p. 343.

²⁹ O. Rubow, *Stadt und Festung Kolberg*, Kolberg 1936, p. 15.

³⁰ A. Engelien, Fr. Henning, *Geschichte der Stadt Landsberg an der Warthe von den ältesten Zeiten bis auf die Gegenwart, mit einer lithographierten Ansicht der Stadt vom Jahre 1650*, Landsberg 1857, p. 118.

³¹ *Theatrum Europaeum*, 3, p. 898.

³² A. Engelien, F. Henning, *Geschichte der Stadt Landsberg...*, p. 120.

³³ *Theatrum Europaeum*, 4, pp. 873–874.

³⁴ *Theatrum Europaeum*, 2, pp. 343–344.

³⁵ G.F. Buckisch, *Schlesischer Religions Acten Fifth Part, dealing with the unfortunate times of the Mannsfeldisch-Saxon and Swedish wars, also what dabey bies to the...*, Książnica Cieszyńska, sygn. SZ DD II 2 f, k. 1230.

³⁶ J.K. Herbst, *Chronik der Stadt Hirschberg...*, pp. 127–135.

³⁷ F. Troska, *Geschichte der Stadt Leobschütz...*, p. 124.

that lost their importance just after the war, those that disappeared within a century after the war, and those that remained important until the 19th century.

In the first group, there are 21 bastion fortifications constructed during the war, including Beuthen, Leobschütz, Jauer, Kosel, Reichenbach, Rügenwalde, Hirschberg, Trahenberg, Oppeln, Sprottau and Schweidnitz. The second group consists of 15 towns, which were also important defensive points in the decades following the war. They were: Namslau, Liegnitz, Ohlau, Jabłonkowska Pass, Crossen an der Oder, Frankfurt (Oder), Oderberg, Landsberg, Greifswald, Anklam, Demmin, Gartz, Cammin i. Pommern, Dievenow, Wolgast, Dammgarten and Stargard. Most of these fortified complexes were somehow modernized after the war, but to a small extent, they never reached the status of a fully-fledged fortress (except for the one in the Jabłonkowska Pass) and gradually lost their importance. Some of them were liquidated after the end of the Great Northern War, others only after the Seven Years' War. In the last group – cities whose fortress history began during the Thirty Years' War, and as such, they functioned for a long time – there are only 9 locations – Brieg, Neiße, Glogau, Stettin, Damm, Kolberg, Stralsund, Swinemünde and Penemünde. Of these, 6 were large, important fortresses that constituted the backbone of the defence system for the lands in which they were located.

In Schlesien, this concerns Glogau, Neiße and Brieg. The first stronghold survived the longest functioning as a fortress until World War I, and in some aspects, even until 1945. During the Thirty Years' War, the town was fortified by the imperial Army, the first fortifications were made as early as 1620. The fundamental reconstruction took place in the years 1630–1632 and was influenced by the Swedish army joining the war. The construction of a new city bastion has caused the demolition of suburbs. Despite new fortifications, the town was conquered in 1642 by the Swedish and later still fortified by them. After the end of the war, the fortress was thoroughly rebuilt and new, much more massive works erected during the war were created. The process of re-erection of the city enceinte continued until the beginning of the 18th century. Further extensions took place after the Prussian occupation of Schlesien, when new external works were erected, in front of the main ditch, as well as the extended works – Fort Stern and the Wasser Redoute defending the Dominssel. In the 19th century, after the Napoleonic Wars, the fortress gained strong fortifications by the Old Oder and new external works. In the second half of the nineteenth century, new external works were created, and the city district was expanded. Despite the liquidation of some

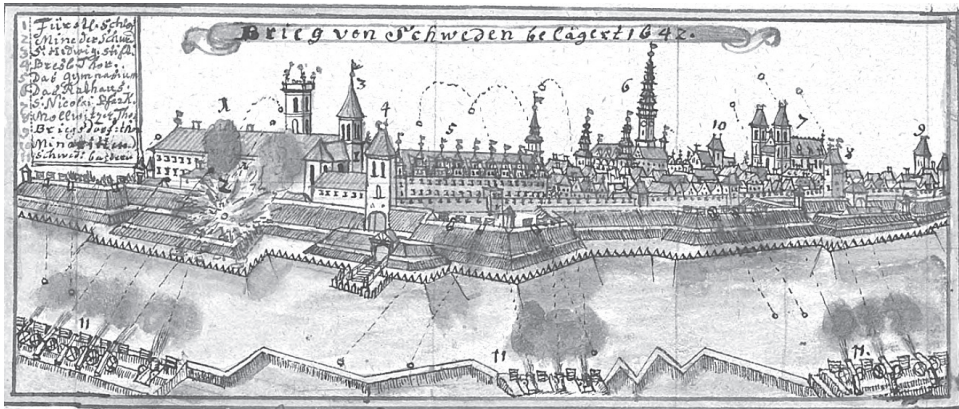


Figure 9. Explosion of a mine during the Siege of Brieg in 1642

F.B. Wernher, *Topographia oder Prodromus Delineati Principatus Lignicensis Bregensis, et Wolaviensis*, University Library of Wrocław, Acc. 1948/1094, k. 84 (340).

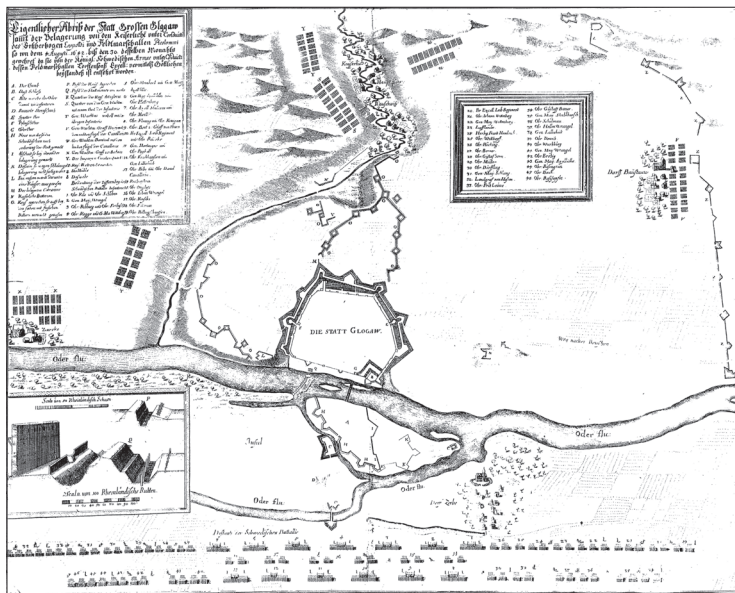


Figure 10. Siege of Glogau in 1642

Theatrum Europaeum, 4, taf. 41.

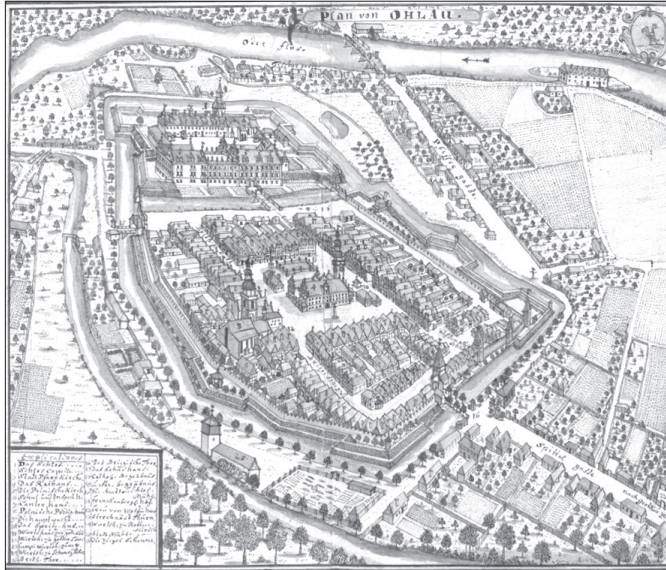


Figure 11. Ohlau in 1750

F.B. Wernher, *Topographia oder Prodromus Delineati Principatus Lignicensis Bregensis, et Wolaviensis*, University Library in Wrocław, Acc. 1948/1094, k. 396–397.



Figure 12. Fortifications of Stettin

M. Merian, M. Zeiller, *Topographia Electoratus Brandenburgici et Ducatus Pomeraniae*, Frankfurt am Main 1652.

of the fortifications at the turn of the 19th and 20th century, Glogau still served as a fortress – thanks to the erection of new sconces in the northern foreland. Finally, these works laid the foundations for the defensive lines planned in the 1920s and 1930s.³⁸

The Neiße stronghold lasted as a fortress until 1903. The decision to fortify the town was made by the Bishop of Breslau and the Duke of Neiße Charles Habsburg at the beginning of the Thirty Years' War. Despite the commencement of works, including the demolition of suburbs and buildings in the Old Town, the effect of these actions was rather small. The construction of new fortifications was not seriously started until after the catastrophic siege of the city and its conquest by the Swedish in 1642. A year later, the construction of a new rampart began, the bastion expansion of the town's fortifications lasting until the beginning of the 18th century. The next fortifications were reconstructed during the age of Frederick the Great, when not only strong fortifications were built in front of the main city rampart, but also the fort of Prussia with two redoubts north of it. These fortifications were extended after 1763. Further modernisations and extensions took place after the Napoleonic wars – new forts were built in the foreground at that time and, after the railway line was built, with a new defensive rampart protecting it.³⁹

In the case of Brieg, already in the year of the outbreak of the Thirty Years' War, it was decided to end the bastion circuit started in the 16th century. New bastions and ramparts were already erected from the ground, following the Dutch example, for the most part, the bastion circuit was completed by the 1630s. After the end of this conflict, the work on the fortifications of the fortress consisted of regular repairs of poor quality ramparts and bastions. A fundamental change was brought about during the age of Frederick the Great, when the fortress was extended and extensive external fortifications were erected, which in turn were demolished in the second half of the 18th century. After 1763, only one external fortified work in Brieg was created, and about 1800 – a large bridgehead in the

³⁸ G. Podruczny, *Król i jego twierdze. Fryderyk Wielki i pruska fortyfikacja stała w latach 1740–1786*, Oświęcim 2013, pp. 98–106, 205–207; W. Eckert, *Fortyfikacje Głogowa*, Zielona Góra 2006, pp. 19–55.

³⁹ G. Podruczny, *Król i jego twierdze...*, pp. 106–115, 246–257; J. Bogdanowicz, *Twierdza w Nysie*, in: *Fortyfikacja*, vol. V, Warszawa–Kraków 1998, pp. 197–198.

form of a hornwork. The history of the fortress ended with its conquest by the French, who demolished the local fortifications.⁴⁰

The Stettin stronghold was developing very intensively. Before the war, it was defended by city walls locally reinforced by a rampart with bastions. Construction of the bastions began as early as in the 1620s, even before the Swedes took power. After 1631 the work significantly accelerated and led to the completion of the bastion circuit around the city, the bastion fortification of Łasztownia, and the fortification of the area south of the city, for the army's fortified camp, in form of rampart with a single external sconce. After the war, the fortifications of the camp were liquidated and the focus was on the main city fortifications, which were regularly repaired and strengthened after the sieges during the wars of the second half of the 17th century. After Stettin was taken over by Prussia as a result of the Great Northern War, the city was strongly reinforced – with a belt of external works, in which two of their special groups called Leopold and William forts stood out, as well as a new, protruding Fort Prussia – a small, independent fortress on a star-shaped plan. After the completion of the expansion in 1740, the fortress did not develop until the 19th century, there were even plans to demolish it. This did not happen, after 1815 the fortress was maintained and in the years 1845–1857 it was extended, due to the necessity to include a new railway line in the defensive circuit. Finally, the end of the Stettin stronghold came in the 1870s.⁴¹

The fortress in Kolberg had a similar history to Stettin. The first bastion fortifications were erected by the municipal, Pomeranian crew in 1627.⁴² After the Swedish occupation of the city in 1631 a full bastion circuit was created. After the end of the war and the takeover of the fortress by Brandenburg, the main circuit was erected again, during a long process lasting from 1655 to 1715. Another stage, was the period of the Seven Years' War, after which the fortress was thoroughly modernised again. During the course of the event, among other things, new external works were created, including the Fort Münde defending the harbour. Another modernization took place after the Napoleonic Wars, when new external works were erected in front of the town to form a fortified camp. The fortifications were

⁴⁰ G. Podruczny, *Król i jego twierdze...*, pp. 161–166; G. Podruczny, *Twierdza Brzeg w okresie fryderycjańskim...*, pp. 34–49.

⁴¹ H. Berghaus, *Geschichte der Stadt Stettin der Hauptstadt von Pommern...*, Berlin 1876, pp. 548–631; G. Podruczny, *Król i jego twierdze...*, pp. 39–40, 295–300.

⁴² R. Stower, *Geschichte der Stadt Kolberg*, Kolberg 1897, p. 120.

maintained and modernized until the 1870s, later they were suppressed with the exception of the longer maintained coastal fortifications.

The beginnings of the bastion fortifications in Stralsund date back to the mid-1720s. In 1625 the Dutch engineer Johan van Valckenburgh designed a new fortified district, which has been in operation since 1626. After the Swedish took power in the city, the city gained a full bastion circuit. After the war, during almost 200 years of Swedish rule, the fortress was besieged and blocked five times, forcing constant modernization and expansion. It continued after the city was taken over by Prussia after 1815, when the main circuit was modernized in the New Prussian style. Prussian fortifications were also built on the island of Danenholm, defending Stralsund port. During the Franco-Prussian War another 4 forts were erected on the foreground of the fortress, but this was the last phase of its development, because in 1873 the fortress was deleted.⁴³

In addition to these key fortresses, there are three weaker but equally long lasting ones. The first is the fortress in Damm, existing in the shadow of the Stettin stronghold. The beginnings of the bastion fortifications are not clear, they were probably started during the war, after the Swedish occupation of the city, but they were not completed before the end of the conflict, the plan from Stockholm's Kriegsarkivet in 1649 shows a gap in the seven-bastion circuit – one of the bastions and one and a half curtains were missing.⁴⁴ This fortress was conquered several times during the wars of the second half of the 17th century, after Stettin was taken over by Prussia, the importance of the fortress decreased to such an extent that before the Seven Years' War the Prussian ruler allowed for the splicing of the local fortifications. However, after the end of this conflict, it was decided to rebuild and expand the fortress, lasting from 1772 to 1786. The fortified function of Damm lasted until the second half of the 19th century.⁴⁵ Another fortress, Penemünde, is actually a large coastal fort. It was founded in 1627 by the Imperial Army. In 1630 it was captured by the Swedes and then kept until the end of the

⁴³ G. Möller, A. Pfenning, *Die Stralsunder Festung*, in: *Festungsbaukunst in Europas Mitte. Festschrift zum 30-jährigen Bestehen der Deutschen Gesellschaft für Festungsforschung*, Regensburg 2011, pp. 199–205.

⁴⁴ Damm Ao. 1649, SE/KrA/0406/25/043/003.

⁴⁵ Lack of a complete study of the history of Damm fortifications. References to his history can be found in G. Podruczny, *Król i jego twierdze...* The fact that the fortress functioned after 1815 is evidenced by the plans of the fortress and its parts stored in Berlin's GStA SPK from 1823–1866, as well as its detailed plans from 1843 by Erich, lieutenant of the engineering inspection, *Die Festung Stettin und Damm*, bearbeitet im Jahre 1843, SBB Denkschriften des Preussischen Generalstabes, XXXVIII Stettin, no. 39.



Figure 13. Erik Jönsson (Dahlbergh),
View of Kolberg in the middle of the 17th Century

M. Merian, M. Zeiller, *Topographia Electoratus Brandenburgici et Ducatus Pomeraniae*,
Frankfurt am Main 1652.

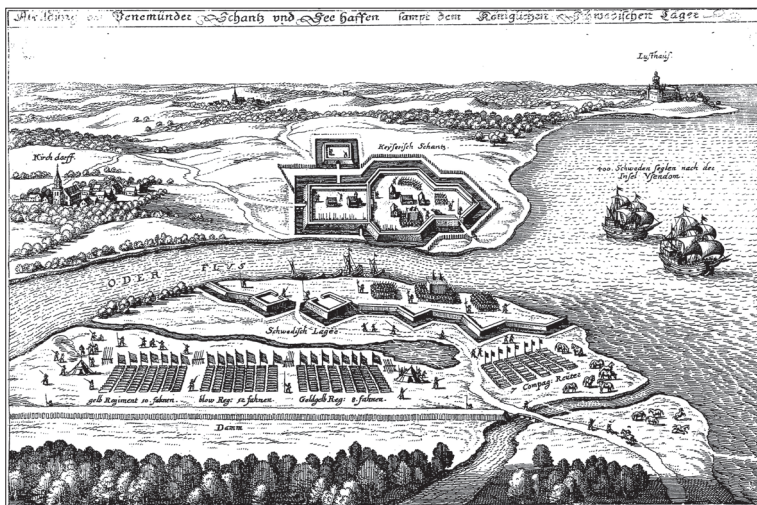


Figure 14. The fort of Penemünde
Theatrum Europaeum, 3, taf. 9.

war.⁴⁶ During the Brandenburg-Swedish wars of the 17th and 18th centuries it was repeatedly conquered and modernized, the last time in the 1840s. Later on, it slowly fell into oblivion, although the Prussian planners of the defence system did not forget about this place. Moreover, in the 1840s-renovation works were carried out there.⁴⁷



Figure 15. Swinemünde, fortifications

M. Merian, M. Zeiller, *Topographia Electoratus Brandenburgici et Ducatus Pomeraniae*, Frankfurt am Main 1652.

Swinemünde is a special case, because as a result of the Thirty Years' War, only relatively small and unimportant defensive objects were built here. In 1627 the Imperial Army erected several redoubts and associated batteries there, maintained in the standard of a field fortification.⁴⁸ Nevertheless, on every war occasion these fortifications were repaired or erected anew, or planned to be rebuilt. This was the case during the Seven Years' War, when the reconstructed sconces

⁴⁶ W.F. Gadebusch, *Chronik der Insel Usedom...*, pp. 116, 119.

⁴⁷ G. Podruczny, *Król i jego twierdze...*, pp. 45, 170–171; U. von Bonin, *Geschichte des Ingenieurkorps und der Pioniere in Preußen*, Berlin 1878, vol. 2, p. 256.

⁴⁸ W.F. Gadebusch, *Chronik der Insel Usedom...*, p. 116.

were captured by the Swedes. After the end of this conflict, a project of erecting a fortress there was created, which was ultimately not realized. Also during the war unrest at the end of the 18th century (1791) and the beginning of the 19th century (1806), the fortifications defending the mouth of the Swine River were built anew. In this makeshift form, Swinemünde as a defensive complex survived until the first half of the 19th century, when it was decided to erect permanent fortifications, extended until 1945.

Among the large urban fortresses, three of them – Neiße, Glogau and Kolberg – should be given special attention. The fortresses have the same genesis and they developed in a very similar way as later on. Their fortified circuits were built from scratch, on the basis of medieval city fortifications, during the war. Although they were extensive and quite strong, they were de facto field fortifications, which is perfectly illustrated by the cross-section through the fortifications of Glogau from 1642. For this reason, in the period of several dozen years after the war, they were rebuilt into permanent fortifications – the curtains and bastions were put up again – higher, thicker and preceded by wider moats, in place of the old, provisional ones. In Kolberg this process lasted from 1655 to 1715, in Glogau from 1650 to 1720, in Neiße from the end of the 30-year war until 1709.

It should be emphasized that not all fortified towns attacked during this long conflict were equipped with bastion fortifications during the war. In total, out of 60 towns conquered, 11 cases (Bunzlau, Grottkau, Guhrau, Jägerndorf, Lüben, Löwenberg, Oppau, Parchwitz, Strehlen, Striegau, Sprottau) are involved. Besides, there were places where such fortifications were created and which were not attacked. Out of 45 examples of fortified settlements during this war, 5 were never attacked (Damm, Greifswald, Uckermünde, Rügenwalde, Stettin). There was also no correlation between the frequency with which the towns were attacked during the war and their post-war fates – for example, Kolobrzeg was conquered only once, and there is no doubt about its importance as a fortress. Hirschberg, on the other hand, which was attacked 5 times, in one siege lasting more than 2 months, was not considered at all as the location of the permanent fortress. The final decision, which fortified complex was finally transformed into a fortress, depended on the post-war analysis (Schlesien, a process traced by Willi Klawiter) and subsequent wars (mainly in Pommern and Neumark). There is no doubt, however, that the Thirty Years' War was a conflict which permanently influenced the shape of fortified systems in the described area.

Annex 1

The sieges during the Thirty Years' War

Schlesien

Beuthen – 1640,⁴⁹ 1642⁵⁰

Brieg – 1642⁵¹

Bunzlau – 1642⁵² and again later in 1642⁵³

Reichenbach – 1633⁵⁴

Grottkau – 1633⁵⁵

Guhrau – 1642⁵⁶

Glogau – 1632, 1633, 1634, 1642 – Swedish attack, shelling, breaking out the breach, assault successful, again in 1642 – the imperial attack – trenches, shelling, three failed assaults⁵⁷

Leobschütz – 1626, 1627, 1632, 1642, 1645⁵⁸

Jauer – 1640,⁵⁹ 1648⁶⁰

Hirschberg – 1634,⁶¹ 1640,⁶² 1640 another one⁶³ and again in 1640

Kosel – 1627 assault on the entrenchment, 1642 assault on the city⁶⁴

Jägerndorf – 1627,⁶⁵ 1643⁶⁶

⁴⁹ *Theatrum Europaeum*, 4, p. 228.

⁵⁰ *Theatrum Europaeum*, 4, p. 863.

⁵¹ *Ibidem*, pp. 873–874.

⁵² *Ibidem*, p. 863.

⁵³ *Ibidem*, p. 872.

⁵⁴ *Theatrum Europaeum*, 3, p. 7.

⁵⁵ *Ibidem*, p. 8.

⁵⁶ *Theatrum Europaeum*, 4, p. 867.

⁵⁷ F. Minsberg, *Geschichte der Stadt und Festung Gross Glogau*, vol. 2, Glogau 1853, pp. 29–32.

⁵⁸ F. Troska, *Geschichte der Stadt Leobschütz*, Leobschütz 1892, pp. 124–126, 130, 134–135.

⁵⁹ *Theatrum Europaeum*, 4, p. 226.

⁶⁰ J. Maroń, *Militarne aspekty wojny trzydziestoletniej...*, p. 145.

⁶¹ Johann Karli Herbst, *Chronik der Stadt Hirschberg...*, pp. 108–112.

⁶² *Theatrum Europaeum*, 4, p. 227.

⁶³ *Ibidem*, p. 228.

⁶⁴ *Theatrum Europaeum*, 1, p. 990; A. Weltzel, *Geschichte der Stadt, Herrschaft und ehemaliegen Festung Kosel*, Kosel 1888, pp. 170, 191.

⁶⁵ *Theatrum Europaeum*, 1, p. 990.

⁶⁶ *Theatrum Europaeum*, 5, p. 170.

Liegnitz – 1634⁶⁷

Lüben – 1640⁶⁸

Löwenberg – 1642,⁶⁹ 1642,⁷⁰ 1643⁷¹

Neiße – 1633⁷² 1642⁷³

Namslau – 1634,⁷⁴ 1643⁷⁵ 1646⁷⁶

Oels – 1634,⁷⁷ 1640⁷⁸

Ohlau – three times 1633, 1642, 1647⁷⁹

Oppau – 1627,⁸⁰ 1634,⁸¹ 1642, 1646⁸²

Oppeln – 1627 (two companies of soldiers were bravely entrenched),⁸³ 1633 (the Emperor's troops, they defeated the Saxonians),⁸⁴ 1633 again,⁸⁵ 1634⁸⁶ (shelling, including incendiary ammunition), firing a breach in the wall and an assault – repulsed, 1642 – storm, Torstenson,⁸⁷ 1643 – three unsuccessful assaults⁸⁸

Parchwitz – 1642⁸⁹

Jablunka Pass – 1625, 1645⁹⁰

⁶⁷ J. Maroń, *Militarne aspekty wojny trzydziestoletniej...*, p. 129.

⁶⁸ *Theatrum Europaeum*, 4, p. 227.

⁶⁹ *Ibidem*, p. 863.

⁷⁰ *Ibidem*, p. 872.

⁷¹ *Theatrum Europaeum*, 5, p. 190.

⁷² *Theatrum Europaeum*, 3, p. 8.

⁷³ M. Merian, M. Zeiller, *Topographia Bohemiae...*, p. 165.

⁷⁴ *Ibidem*, p. 163.

⁷⁵ *Theatrum Europaeum*, 5, p. 189.

⁷⁶ M. Merian, M. Zeiller, *Topographia Bohemiae...*, p. 163.

⁷⁷ *Theatrum Europaeum*, 3, p. 262.

⁷⁸ M. Merian, M. Zeiller, *Topographia Bohemiae...*, p. 169.

⁷⁹ F. Lucae, *Schlesiens curiose Denckwürdigkeiten, oder vollkommene Chronica Von Ober- und Nieder-Schlesien*, Franckfurt am Mayn 1689, p. 1480.

⁸⁰ *Theatrum Europaeum*, 1, p. 991.

⁸¹ *Theatrum Europaeum*, 3, p. 262.

⁸² M. Merian, M. Zeiller, *Topographia Bohemiae...*, p. 188.

⁸³ *Theatrum Europaeum*, 1, p. 990.

⁸⁴ *Theatrum Europaeum*, 3, p. 7.

⁸⁵ *Ibidem*, p. 24.

⁸⁶ *Ibidem*, p. 262.

⁸⁷ F. Idzikowski, *Geschichte der Stadt Oppeln...*, p. 170.

⁸⁸ *Ibidem*.

⁸⁹ *Theatrum Europaeum*, 4, p. 875.

⁹⁰ K. Burk, *Handbuch der Festungen des Historischen Deutschen Ostens*, Osnabrück 1995, p. 98.

Steinau – 1632⁹¹

Strehlen – 1633⁹²

Striegau – 1640⁹³

Schweidnitz – 1633,⁹⁴ 1642⁹⁵

Groß Wartenberg – 1634,⁹⁶ 1642,⁹⁷ 1643,⁹⁸ 1646⁹⁹

Sprottau – 1642¹⁰⁰

Trahenberg – 1640,¹⁰¹ 1642,¹⁰² 1644¹⁰³

Wohlau – 1640,¹⁰⁴ 1640 again,¹⁰⁵ 1642,¹⁰⁶ 1642 and again¹⁰⁷ 1644¹⁰⁸

Breslau Dominsel – 1633¹⁰⁹

Breslau – city 1647 (not a siege, exchange of fire between the city and the Swedes, only one round shot hit the city walls)¹¹⁰

Neumark

Crossen an der Oder – 1631 (assault by Emperor's troops) – twice,¹¹¹ 1633,¹¹² 1634¹¹³

⁹¹ *Theatrum Europaeum*, 2, p. 669.

⁹² *Theatrum Europaeum*, 3, p. 8.

⁹³ *Theatrum Europaeum*, 4, p. 226.

⁹⁴ J. Maroń, *Militarne aspekty wojny trzydziestoletniej...*, p. 126; *Theatrum Europaeum*, 3, p. 95.

⁹⁵ *Theatrum Europaeum*, 4, p. 869.

⁹⁶ M. Merian, M. Zeiller, *Topographia Bohemiae...*, p. 189.

⁹⁷ *Theatrum Europaeum*, 4, p. 687.

⁹⁸ *Theatrum Europaeum*, 5, p. 187.

⁹⁹ M. Merian, M. Zeiller, *Topographia Bohemiae...*, p. 189.

¹⁰⁰ F. Matuszkiewicz, *Geschichte der Stadt Sprottau*, Sprottau 1908, p. 106.

¹⁰¹ O.L. Goedsche, *Geschichte und Statistik des Militsch-Trachenberger Kreises*, Breslau 1847, p. 248; *Theatrum Europaeum*, 4, p. 226.

¹⁰² *Theatrum Europaeum*, 4, p. 867.

¹⁰³ J. Maroń, *Militarne aspekty wojny trzydziestoletniej...*, p. 139.

¹⁰⁴ *Theatrum Europaeum*, 4, p. 226.

¹⁰⁵ *Ibidem*, p. 227.

¹⁰⁶ *Ibidem*, p. 863.

¹⁰⁷ *Ibidem*, p. 687.

¹⁰⁸ J. Maroń, *Militarne aspekty wojny trzydziestoletniej...*, p. 138; *Theatrum Europaeum*, 5, p. 273.

¹⁰⁹ *Theatrum Europaeum*, 3, p. 140.

¹¹⁰ *Theatrum Europaeum*, 6, p. 151.

¹¹¹ C. von Obstfelder, *Chronik der Stadt Crossen...*, p. 76.

¹¹² *Ibidem*, p. 77.

¹¹³ *Ibidem*, p. 78.

Frankfurt an der Oder – 1631, 1633,¹¹⁴ 1634¹¹⁵

Oderberg – 1637,¹¹⁶ 1639¹¹⁷

Landsberg – 1631, 1633, 1634, 1637, 1639¹¹⁸

Driesen – 1639¹¹⁹

Pommern

Anklam – 1637¹²⁰

Dammgarten – 1630¹²¹

Demmin – 1631,¹²² 1637,¹²³ 1638,¹²⁴ 1639¹²⁵

Greifenberg in Pommern – (1630)¹²⁶

Garz – (1630),¹²⁷ 1635,¹²⁸ 1636,¹²⁹ 1637,¹³⁰ 1638,¹³¹ and again in 1638¹³²

Gustow, entrenchment – 1630¹³³

Kolberg – 1631¹³⁴

¹¹⁴ *Theatrum Europaeum*, 3, p. 140.

¹¹⁵ *Ibidem*, p. 277.

¹¹⁶ J.M. de la Pierre, *Ausführliche Geschichte der Uckermark, nach Urkunden bearbeitet und mit besondern historischen Untersuchungen begleitet*, Prenzlau 1847, p. 205

¹¹⁷ F.L.J. Fischbach, *Statistisch-topographische Städte-Beschreibung der Mark Brandenburg: Des ersten Theiles, erster Band, enthaltend den Ober-Barnimschen Kreis*, Potsdam 1786, pp. 381–382.

¹¹⁸ A. Engeliën, F. Henning, *Geschichte der Stadt Landsberg...*, pp. 115–121.

¹¹⁹ *Theatrum Europaeum*, 4, p. 71.

¹²⁰ *Theatrum Europaeum*, 3, p. 824.

¹²¹ *Theatrum Europaeum*, 2, p. 249.

¹²² *Ibidem*, p. 343.

¹²³ *Theatrum Europaeum*, 3, p. 898.

¹²⁴ W.F. Gadebusch., *Chronik der Insel Usedom...*, p. 131.

¹²⁵ *Theatrum Europaeum*, 4, pp. 71, 72.

¹²⁶ *Theatrum Europaeum*, 2, p. 261.

¹²⁷ *Ibidem*, p. 262.

¹²⁸ W.F. Gadebusch., *Chronik der Insel Usedom...*, p. 127.

¹²⁹ *Ibidem*, p. 128; *Theatrum Europaeum*, 3, p. 711.

¹³⁰ W.F. Gadebusch., *Chronik der Insel Usedom...*, p. 130; *Theatrum Europaeum*, 3, p. 824.

¹³¹ W.F. Gadebusch., *Chronik der Insel Usedom...*, p. 131; *Theatrum Europaeum*, 3, p. 919.

¹³² *Theatrum Europaeum*, 3, p. 961.

¹³³ *Theatrum Europaeum*, 2, p. 160.

¹³⁴ O. Rubow, *Stadt und Festung Kolberg...*, p. 15.

Peenemünde – 1628, Danish siege,¹³⁵ 1637¹³⁶

Stralsund – 1628¹³⁷

Stargard – 1630,¹³⁸ 1635,¹³⁹ 1636,¹⁴⁰ and again in 1636,¹⁴¹ 1637¹⁴²

Swinemünde – 1628 stormed by Danish troops¹⁴³

Wolgast – 1628 Danish,¹⁴⁴ 1630 Swedes,¹⁴⁵ 1637,¹⁴⁶ again 1637,¹⁴⁷ 1638¹⁴⁸

Annex 2

Storms during the sieges

Schlesien

Brieg – 1642¹⁴⁹

Guhrau – 1642¹⁵⁰

Glogau – 1632, 1634, 1642, 1642¹⁵¹

Leobschütz – 1626, 1627, 1632

Jauer – 1640¹⁵²

Hirschberg – 1640¹⁵³

¹³⁵ W.F. Gadebusch., *Chronik der Insel Usedom...*, pp. 115–116; *Theatrum Europaeum*, 1, p. 1089.

¹³⁶ W.F. Gadebusch., *Chronik der Insel Usedom...*, p. 130.

¹³⁷ *Theatrum Europaeum*, 1, pp. 1065–1067.

¹³⁸ Ch.G. Teske, *Geschichte der Stadt Stargard...*, p. 117.

¹³⁹ *Ibidem*, p. 121.

¹⁴⁰ *Ibidem*, p. 122; *Theatrum Europaeum*, 3, p. 678.

¹⁴¹ *Theatrum Europaeum*, 3, p. 707.

¹⁴² Ch.G. Teske, *Geschichte der Stadt Stargard...*, p. 125; *Theatrum Europaeum*, 3, p. 874.

¹⁴³ R. Burkhardt, *Chronik der Insel Usedom. 3. Abschnitt: Seit der Reformation (1535)*, Swinemünde 1909, p. 25.

¹⁴⁴ W.F. Gadebusch., *Chronik der Insel Usedom...*, p. 116; *Theatrum Europaeum*, 1, p. 1089.

¹⁴⁵ *Theatrum Europaeum*, 2, p. 236.

¹⁴⁶ W.F. Gadebusch., *Chronik der Insel Usedom...*, p. 130; *Theatrum Europaeum*, 3, p. 884.

¹⁴⁷ *Theatrum Europaeum*, 3, p. 898.

¹⁴⁸ W.F. Gadebusch., *Chronik der Insel Usedom...*, p. 131.

¹⁴⁹ *Theatrum Europaeum*, 4, pp. 873–874.

¹⁵⁰ *Ibidem*, p. 867.

¹⁵¹ F. Minsberg, *Geschichte der Stadt und Festung Gross...*, pp. 29–32.

¹⁵² *Theatrum Europaeum*, 4, p. 226.

¹⁵³ *Ibidem*, pp. 227–228.

Kosel – 1627, 1642¹⁵⁴
 Namslau – 1634¹⁵⁵
 Ohlau – 1633¹⁵⁶
 Oppeln – 1633,¹⁵⁷ 1634,¹⁵⁸ 1642, 1643¹⁵⁹
 Strehlen – 1633¹⁶⁰
 Striegau – 1640¹⁶¹
 Schweidnitz – 1633¹⁶²
 Groß Wartenberg – 1634¹⁶³
 Sprottau – 1642¹⁶⁴
 Wohlau – 1644¹⁶⁵

New Mark

Crossen an der Oder – 1631, 1631,¹⁶⁶ 1633,¹⁶⁷ 1634¹⁶⁸
 Frankfurt an der Oder – 1631¹⁶⁹
 Landsberg – 1639¹⁷⁰
 Driesen – 1639¹⁷¹

¹⁵⁴ *Theatrum Europaeum*, 1, p. 990; A. Weltzel, *Geschichte der Stadt...*, pp. 170, 191.

¹⁵⁵ M. Merian, M. Zeiller, *Topographia Bohemiae...*, p. 163.

¹⁵⁶ F. Lucae, *Schlesiens curiose Denckwürdigkeiten...*, p. 1408.

¹⁵⁷ *Theatrum Europaeum*, 3, p. 7.

¹⁵⁸ *Ibidem*, p. 262.

¹⁵⁹ F. Idzikowski, *Geschichte der Stadt Oppeln...*, p. 170.

¹⁶⁰ *Theatrum Europaeum*, 3, p. 8.

¹⁶¹ *Theatrum Europaeum*, 4, p. 226.

¹⁶² J. Maroń, *Militarne aspekty wojny trzydziestoletniej...*, p. 126; *Theatrum Europaeum*, 3, p. 95.

¹⁶³ M. Merian, M. Zeiller, *Topographia Bohemiae...*, p. 189.

¹⁶⁴ F. Matuszkiewicz, *Geschichte der Stadt Sprottau...*, p. 106.

¹⁶⁵ J. Maroń, *Militarne aspekty wojny trzydziestoletniej...*, p. 138; *Theatrum Europaeum*, 5, p. 273.

¹⁶⁶ C. von Obstfelder, *Chronik der Stadt Crossen...*, p. 76.

¹⁶⁷ *Ibidem*, p. 77.

¹⁶⁸ *Ibidem*, p. 78.

¹⁶⁹ *Theatrum Europaeum*, 2, pp. 348–350.

¹⁷⁰ A. Engeliien, F. Henning, *Geschichte der Stadt Landsberg...*, p. 121.

¹⁷¹ *Theatrum Europaeum*, 4, p. 71.

Pommern

Dammgarten – 1630¹⁷²

Greifenberg in Pommern – 1630¹⁷³

Garz – 1630,¹⁷⁴ 1635,¹⁷⁵ 1638,¹⁷⁶ 1638¹⁷⁷

Penemunde – 1628¹⁷⁸

Stargard – 1630,¹⁷⁹ 1636,¹⁸⁰ 1637¹⁸¹

Swinemünde – 1628¹⁸²

Wolgast – 1637¹⁸³

Literature

Berghaus H., *Geschichte der Stadt Stettin der Hauptstadt von Pommern*, Berlin 1876.

Bonin von U., *Geschichte des Ingenieurkorps und der Pioniere in Preußen*, vol. 2, Berlin 1878.

Bogdanowicz J., *Twierdza w Nysie*, in: *Fortyfikacja*, vol. 5, Warszawa–Kraków 1998, pp. 197–198.

Burk K., *Handbuch der Festungen des Historischen Deutschen Ostens*, Osnabrück 1995.

Burkhardt, R. *Chronik der Insel Usedom. 3. Abschnitt: Seit der Reformation (1535), Swinemünde* 1909.

Duffy Ch., *Kamen a ohen. Bastionova pevnost, její zrod a vyvoj v dejinach pevnostniho velecnictvi*, Brno 1998.

Eckert W., *Fortyfikacje Głogowa*, Zielona Góra 2006.

Engelien A., Henning Fr., *Geschichte der Stadt Landsberg an der Warthe von den ältesten Zeiten bis auf die Gegenwart, mit einer lithographierten Ansicht der Stadt vom Jahre 1650*, Landsberg 1857.

¹⁷² *Theatrum Europaeum*, 2, p. 249.

¹⁷³ *Ibidem*, p. 261.

¹⁷⁴ *Ibidem*, p. 262.

¹⁷⁵ W.F Gadebusch., *Chronik der Insel Usedom...*, p. 127.

¹⁷⁶ *Ibidem*, p. 131; *Theatrum Europaeum*, 3, p. 919.

¹⁷⁷ *Ibidem*, p. 961.

¹⁷⁸ W.F Gadebusch., *Chronik der Insel Usedom...*, p. 131.

¹⁷⁹ Ch.G. Teske, *Geschichte der Stadt Stargard...*, p. 117.

¹⁸⁰ *Ibidem*, p. 122; *Theatrum Europaeum*, 3, p. 678.

¹⁸¹ Ch.G. Teske, *Geschichte der Stadt Stargard...*, p. 125; *Theatrum Europaeum*, 3, p. 874.

¹⁸² 182 W.F Gadebusch., *Chronik der Insel Usedom...*, p. 116.

¹⁸³ W.F Gadebusch., *Chronik der Insel Usedom...*, p. 130; *Theatrum Europaeum*, 3, p. 884.

- Englund P., *Lata wojen*, Warszawa 2013.
- Gadebusch W.F., *Chronik der Insel Usedom: Mit einer Chartre der Insel Usedom*, Anclam 1863.
- Goedsche O.L., *Geschichte und Statistik des Militsch-Trachenberger Kreises*, Breslau 1847.
- Herbst J.K., *Chronik der Stadt Hirschberg in Schlesien bis zum Jahre 1847*, Hirschberg 1849.
- Idzikowski F., *Geschichte der Stadt Oppeln*, Oppeln 1863.
- Maron J., *Militarne aspekty wojny trzydziestoletniej na Śląsku*, Wrocław 2000.
- Minsberg F., *Geschichte der Stadt und Festung Gross Glogau*, vol. 2, Glogau 1853.
- Matuszkiewicz F., *Geschichte der Stadt Sprottau*, Sprottau 1908.
- Möller G., Pfenning A., *Die Stralsunder Festung*, in: *Festungsbaukunst in Europas Mitte. Festschrift zum 30-jährigen Bestehen der Deutschen Gesellschaft für Festungsforschung*, Regensburg 2011, pp. 199–222.
- Obstfelder von C., *Chronik der Stadt Crossen*, Crossen 1895.
- Pierre de la, J.M., *Ausführliche Geschichte der Uckermark, nach Urkunden bearbeitet und mit besondern historischen Untersuchungen begleitet*, Prenzlau 1847.
- Podruczny G., Wichrowski M., *Kostrzyn i jego satelity. Brandenburskie fortyfikacje stałe w dorzeczu Środkowej Odry od wojny 30-letniej po wojny śląskie*, in: *Dziennik jeńca i inne szkice. Twierdza Kostrzyn w przeszłości*, eds. B. Myketow, K. Sanocka, M. Turek, Kostrzyn–Zielona Góra 2006, pp. 9–48.
- Podruczny G., *Twierdza Wrocław w okresie fryderycjańskim. Fortyfikacje, garnizon i działania wojenne w latach 1741–1806*, Wrocław 2008.
- Podruczny G., *Król i jego twierdze. Fryderyk Wielki i pruska fortyfikacja stała w latach 1740–1786*, Oświęcim 2013.
- Podruczny G., *Twierdza Brzeg w okresie fryderycjańskim*, in: *Wokół bitwy pod Małujowicami. Studia z dziejów XVIII-wiecznego Brzegu i ziemi brzeskiej*, ed. G. Podruczny, A. Peszko, Brzeg 2017, pp. 21–51.
- Rubow O., *Stadt und Festung Kolberg*, Kolberg 1936.
- Spieker Ch.W., *Geschichte der Stadt Frankfurt an der Oder. Erster Teil: Von der Gründung der Stadt bis zum Königtum der Hohenzollern*, Frankfurt/Oder 1853.
- Stoewer R., *Geschichte der Stadt Kolberg*, Kolberg 1897.
- Teske Ch.G., *Geschichte der Stadt Stargard*, Stargard 1843.
- Troska F., *Geschichte der Stadt Leobschütz*, Leobschütz 1892.
- Weltzel A., *Geschichte der Stadt, Herrschaft und ehemaliegen Festung Kosel*, Kosel 1888.
- Wichrowski M., *Budowniczy twierdz*, in: *In silentio et spe fortituda mea. Johann von Küstrin – Jan z Kostrzyna*, Kostrzyn nad Odrą 2014, pp. 255–284.

Wichrowski M., *Najstarsze bastiony w Polsce. Zagadnienie chronologii budowy renesansowej twierdzy Kostrzyn w zwiernicy uczonej literatury i źródeł archiwalnych*, "Nowa Marchia – prowincja zapomniana" 2016, no. 12, pp. 144–203.

Old prints, sources and manuscripts

Buckisch G.F., *Schlesischer Religions Acten Fünfter Teil, handelnd von den unseeligen Zeiten des Mannsfeldisch-sächsischen und Schwedischen Krieges, auch was dabey bis zu dem Pragerischen Neben Recess und hernach in Schlesien Religions-Sachen vorgelaufen / durch Gottfried Buckischen Kays[er-] und König[lichen] Regierungs-Secretarium zum Brieg colligiret und zusammengetragen*, Książnica Cieszyńska, sygn. SZ DD II 2 f, k. 1230.

Cataneo G., *Libro Nuovo di fortificare offendere et difendere*, Brescia 1567.

Damm Ao. 1649, Riksarkivet Stockholm, SE/KrA/0406/25/043/003.

Die Festung Stettin und Damm, bearbeitet im Jahre 1843, Staatsbibliothek zu Berlin, Denkschriften des Preussischen Generalstabes, XXXVIII Stettin, no. 39.

Fischbach F.L.J., *Statistisch-topographische Städte-Beschreibung der Mark Brandenburg: Des ersten Theiles, erster Band, enthaltend den Ober-Barnimschen Kreis*, Potsdam 1786.

Lucae F., *Schlesiens curiose Denckwürdigkeiten, oder vollkommene Chronica Von Ober- und Nieder-Schlesien*, Franckfurt am Mayn 1689.

Merian M., Zeiller M., *Topographia Bohemiae, Moraviae Et Silesiae: das ist, Beschreibung vnd eigentliche Abbildung der Vornehmsten, vnd bekanttesten Stätte, vnd Plätze, in dem Königreich Boheim vnd einverleibten Landern, Mähren, vnd Schlesien*, Frankfurt am Main 1650.

Merian M., Zeiller M., *Topographia Electoratus Brandenburgici et Ducatus Pomeraniae*, Frankfurt am Main 1652.

Theatrum Europaeum, 1: *Abelinus, Johann Philipp Theatrum Europaeum, Oder Außführliche/ und Wahrhaftige Beschreibung aller und jeder denckwürdiger Geschichten...*, Franckfurt am Mayn 1635.

Theatrum Europaeum, 2: *Theatrum Europaeum, oder außführliche und warhafftige Beschreibung aller und jeder denckwürdiger Geschichten...*, Bd. 2, Franckfurt am Mäyn 1646.

Theatrum Europaeum, 3: *Theatri Europaei Continuatio III. Das ist: Historischer Chronicken Dritter Theil...*, Franckfurt am Mäyn 1670.

Theatrum Europaeum, 4: *Theatri Europaei Vierdter Theil Das ist: Glaubwürdige Beschreibung Denckwürdiger Geschichten die sich in Europa...*, Franckfurt am Mäyn 1692.

Theatrum Europaeum, 5: *Theatrum Europaeum, oder außführliche und warhafftige Beschreibung aller und jeder denckwürdiger Geschichten, so sich hin und wieder in der Wel...*, Franckfurt am Mäyn 1651.

Theatrum Europaeum, 6: *Theatri Europaei Sechster und letzter Theil, das ist Ausführliche Beschreibung der Denkwürdigsten Geschichten...*, Franckfurt am Mayn 1663.

Wernher F.B., *Topographia oder Prodromus Delineati Principatus Lignicensis Bregensis, et Wolaviensis*, Biblioteka Uniwersytecka we Wrocławiu, Oddział Rękopisów, Akc. 1948/1094.

**DZIAŁANIA OBLĘŻNICZE W TRAKCIE WOJNY TRZYDZIESTOLETNIJ
I ICH WPŁYW NA BUDOWĘ NOWOŻYTNYCH TWIERDZ NA TERENIE POMORZA,
NOWEJ MARCHII I ŚLĄSKA**

ABSTRAKT

Fortyfikacja bastionowa narodziła się na przełomie XV i XVI wieku we Włoszech i bardzo szybko rozpowszechniła się w całej Europie. Na terenie Pomorza, obecnej Ziemi Lubuskiej i Śląska pojawiły się już w połowie XVI wieku, jednak, u zarania wojny trzydziestoletniej twierdze bastionowe nadal były rzadkością w tej części kontynentu. Po wojnie trzydziestoletniej sytuacja zmieniła się diametralnie. Bastionowo ufortyfikowano 45 kolejnych miejscowości. Stało się to na skutek bardzo intensywnych działań oblężniczych na tym terenie. W okresie między 1625 a 1648 rokiem, doszło do 121 oblężeń. Miasta zdobywano ostrzałem, atakiem zbliżeniowym, szturmem i minami lub też kombinacją tych technik.

Spośród miejscowości bastionowo ufortyfikowanych w czasie tej wojny, 21 straciło znaczenie tuż po tym konflikcie, 15 zanikło w ciągu stulecia po wojnie, a 9 zachowało znaczenie aż po XIX wiek. Spośród tych ostatnich trzy były niewielkimi i mało istotnymi warowniami (Dąbie, Szczecin i Peenemünde), pozostałe – Brzeg, Nysa, Głogów, Szczecin, Kołobrzeg i Stralsund zachowały znaczenie jako istotne warownie aż po XIX, a niekiedy aż po połowę XX wieku.

**SIEGE ACTIVITIES DURING THE THIRTY YEARS' WAR AND THEIR IMPACT
ON THE CONSTRUCTION OF MODERN FORTRESSES IN POMMERN,
NEUMARK AND SCHLESSEN**

ABSTRACT

The bastion fortification was born between the fifteenth and sixteenth century in Italy and spread very quickly throughout Europe. In Pommern, today's Lubusz Land and Schlesien, bastion strongholds appeared as early as in the mid-16th century, however, at the outbreak of the Thirty Years' War, bastion strongholds were still a rarity in this part of the continent. After the Thirty Years' War, the situation changed dramatically. The bastion was fortified with 45 more towns. This was due to very intensive siege operations

in the area. In the period between 1625 and 1648, there were 121 occupations. Cities were captured by fire, proximity attack, assault and mines or a combination of these techniques.

Of the bastion fortified towns during the war, 21 lost their importance just after the conflict, 15 disappeared within a century after the war and 9 remained important until the 19th century. Of the latter, three were small and insignificant strongholds (Damm, Stettin and Penemünde), while the others – Brieg, Neiße, Glogau, Stettin, Kolberg and Stralsund – retained their importance as important strongholds until the 19th and sometimes until the mid-20th century.