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THE SLOVENIAN LANDS AS THE ARMED FRONTIER OF THE HOLY ROMAN EMPIRE

Abstract: In the late Middle Ages, the Slovenian lands formed a major bulwark defending the south-eastern borders of the Holy Roman Empire. Relatively little is known of the military organisation in this strategically significant region due to the absence of sufficiently detailed primary sources. However, the recent discovery of an important and thus far unpublished document from the Bavarian State Library provides excellent insight into the structure and strength of the defensive network established by King Maximilian I of Habsburg at the beginning of the 16th century. The inventory book from Munich, Cod. icon. 222, contains extensive information on the armament kept at approximately 100 locations – from castles and towns to monasteries and fortified churches – within the historical Slovenian territories.

Keywords: military organisation, Slovenia, Maximilian I, armament, inventories

Throughout most of the medieval and early modern period, the territory of the present-day Republic of Slovenia played the role of a bulwark guarding the vulnerable south-eastern border of the Holy Roman Empire. Due to its geographic situation, it represented an important communication hub at the crossroads connecting South Germany, North Italy, the Pannonian Basin and the Balkans. In the late Middle Ages, particularly from the standpoint of the Habsburg dynasty, the Slovenian lands were also perceived as a vital bridgehead for expansion into Italy. Furthermore, control over the ports on the Adriatic coast promised the traditionally landlocked Habsburg Austria the only realistic prospect of establishing a maritime presence in the Mediterranean.

With a number of major regional powers competing for influence in the late Middle Ages – from the Habsburgs to Hungary, Venice and finally the Ottoman Empire – exercising a firm grasp over the Slovenian lands relied above all on military force. This consideration had been recognised earlier, as reflected in the great wave of castle building during the 12th and 13th centuries. These efforts resulted in the construction of a dense network of castles, concentrated especially along the borders with Hungary and Croatia, as well as Istria and Friuli. The majority of these fortifications were small, but their sheer number within a limited geographic area ensured a means of strategic defence in

depth and provided invaluable logistic support. They also provided a home to a comparatively numerous military class, namely the nobility and professional soldiers. During the period of relative peace and stability in the 14th century, this pool of fighting men often sought employment abroad, making a name for themselves as mercenaries predominantly in Italy, but also serving with distinction throughout Central Europe, Hungary, and Serbia, occasionally travelling as far as the Baltic crusades in Lithuania¹.

At first glance, very little remains today of this once formidable military complex. Our understanding of the defensive organisation of the Slovenian lands has been hampered by a general disinterest of Slovenian historiography in subjects related to medieval political and military history. The traditional focus on the research of the lower strata of the population, stemming from the nationalist perception of the peasantry as the only „true” carrier of Slovenian identity, has been prevalent until quite recently. While this situation has been reversed somewhat in the last decades thanks to the contributions advanced by younger generations of scholars, the military history of the medieval and early modern periods remains among the more glaring blank spots of the Slovenian historiography².

Admittedly, any serious attempt at in-depth research of the medieval military organisation in the Slovenian

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¹ Lazar 2009; Kosi 2011; Mlinar 2011; Lazar 2012a.

² Nabergoj 2001, 9-15; Lazar 2011, 27-28.



Fig. 1. Despite the relative lack of written sources, military operations in the late medieval period have left highly visible material traces in the archaeological record. © National Museum of Slovenia. Photo T. Lauko.

territory is frustrated sooner or later by the seeming absence of sufficiently detailed primary sources. With much of the relevant archival material either lost or dispersed abroad, often remaining unpublished or little known even to the scholarly public, any sort of satisfactory historical synthesis of the medieval military organisation in the Slovenian lands will require great efforts and systematic study.

Arms and armour in the late medieval period (Fig. 1)

The limitations described above become especially obvious regarding the study of arms and armour used in the Slovenian territory during the late Middle Ages. Apart from the surviving period artwork, particularly church frescoes, and relatively rich archaeological finds, written records reveal surprisingly little information about this vital aspect of military history.

Of the primary sources investigated by Slovenian scholars, only a handful of documented castle inventories from the 14th and 15th centuries have been discovered to date. Perhaps the most interesting are the records describing the inventory of the Škofja Loka (Bischofslack) castle, owned by the Freising bishopric. These documents, consisting of three reasonably exhaustive inventories compiled in 1315, 1318, and 1321, provide interesting insight into Škofja Loka's furnishing and armament³. Unfortunately, no other comparable records are known to exist from the 14th century. The chronologically closest to follow are a series of somewhat sparser armoury inventories from the 1430s and 1440s, describing the armaments of Škofja Loka, Vitanje (Weitenstein) and Bizeljško (Wisell) castles⁴.

Such a paucity of written records presents a difficult challenge to the study of late medieval arms and armour in the Slovenian territory. The few available inventory records do indicate a general transformation of military technology during the 14th and 15th centuries, in particular a growing shift from crossbows toward firearms and the increasing reliance on the hackbut and various types of light artillery as the primary means of castle defence by the 1440s. However, a limited quantity of surviving evidence precludes any wider conclusions as to the actual state of military readiness and troop disposition within the Slovenian lands.

Nevertheless, a recent „discovery” of exceptionally rich – and as yet entirely unexploited – archival material reveals a dramatically more detailed picture of the military organisation in the Slovenian lands at the beginning of the 16th century. In recent years, the Bavarian State Library in Munich has published a digitised version of the manuscript Cod. icon. 222⁵. This document, one of the several versions

of King Maximilian I's famed *Zeugbücher* – or lists of armoury inventories – has thus far eluded the attention of Slovenian historiography. And quite unjustifiably so, for a close look at its contents reveals a hitherto unmatched wealth of information pertaining to the military armament of the Slovenian lands at the very transition into the early modern period.

Maximilian I as an army reformer

Much has been written on the crucial role of King, and later Emperor, Maximilian I (*1459–†1519) in the transformation of the Habsburg domains into a modern state (Fig. 2). As a fighting man by nature, Maximilian also invested enormous efforts into reforming the armed forces at his disposal. At the start of his reign, their organisation was decidedly old-fashioned, relying to a considerable extent on the ancient commitments of feudal service, though in practice dependent largely on paid troops – yet without any proper system in place that would ensure a steady inflow of funds necessary to finance an effective military force ready to defend the realm at all times⁶.

Maximilian's love for hunting, tournament and military exploits, emphasised by his commission of semi-biographical propaganda texts such as the *Theuerdank*, *Freydal*, and *Weißkunig*, has inspired the image of a typical medieval ruler belonging to a rapidly fading age of chivalric values⁷. Yet such an impression has little foundation in the reality of his reign. While Maximilian may be remembered as the „last knight”, his contribution toward the creation of a powerful standing army equipped with the latest military technology is difficult to overstate⁸.

Achieving that goal may have seemed a nearly impossible task. In a period marked by the rapid rise of the centralised modern state, exemplified above all by the Kingdom of France, the Habsburg domains inherited by Maximilian upon the death of his father in 1493 represented a rather disjointed mass of territories eager to defend their local autonomy. Such a situation was by no means conducive to imposing centralised rule and efficient bureaucracy, or even a modern standing army under the sovereign's direct authority. However, Maximilian's first-hand contact with the highly developed military organisation of Burgundy, as well as his experience in wars with France and the Swiss, provided clear examples and impetus toward attaining that goal⁹.

Due to numerous obstacles and stiff resistance of his subjects, Maximilian's reforms were necessarily a prolonged process, yet one that produced markedly visible

³ Lazar 2012b.

⁴ ADG, HS 106, fol. 139v-140r, 141r-140v; ADG, HS 122, fol. 31v, 43v; Orožen 1887, 453-454; Orožen 1893, 454-457; Stopar 2006, 103-106; Bizjak 2007, 363; Bizjak 2008, 455; Lazar 2015, 32-46.

⁵ BSB, Cod. icon. 222.

⁶ Kurzmann 1985; Simoniti 1991, 26-71; Murphey 1999, 6-8. Cf. Nared 2009, 113-116.

⁷ Schultz (ed.) 1888; Kos 1997, 45-49.

⁸ Kurzmann 1985, 185-189.

⁹ Ayton and Price (eds.) 1995, 1-22; Hall 1997, 122; Contamine 1984, 136-137; Simoniti 1991, 30-39; Smith and DeVries 2005, 41.



Fig. 2. The military organisation of the Habsburg domains remained quite conservative until the string of reforms initiated by Maximilian I in the late 15th and early 16th centuries. © Kunsthistorisches Museum Wien.

results in the long run. Among the most obvious breaks with the past was the increasing reliance on the *Landsknechte*, professional infantry trained to fight in pike-and-shot formation. No less vital was Maximilian's creation of a first-rate artillery train, by the early years of the 16th century perhaps the most powerful of its kind in Europe. Such innovations were only possible thanks to a series of new ordinances, particularly the Innsbruck *Landlibell* of 1511, which ensured a steady inflow of taxes contributed by individual lands or provinces for the funding of an efficient military force capable of territorial defence as well as coordinated offensive action. At the same time, the foundations were laid for a massive network of logistic centres, based primarily on a number of central supply bases or arsenals¹⁰.

The Zeugbücher

These changes invariably required imposing a much stricter control over the subjects – and their military capabilities – than was the norm in the earlier periods.

Maximilian's efforts represented a major break with the customs of the feudal era, understandably raising concern among local nobility eager to preserve their ancient rights.

Around the year 1500, Maximilian's army reforms were still facing considerable challenges. Among the more pressing was the need to establish transparent control over the armament kept on the estates under the sovereign's direct jurisdiction – and, if possible, over the military equipment owned by his autonomous subjects. To this end, Maximilian was determined to carry out a systematic inspection of all the local armouries in his domains, accurately recording their inventories for future use.

This daunting task was entrusted to Bartholomäus Freisleben, the imperial master of artillery in charge of the great Innsbruck arsenal. Despite numerous difficulties, Freisleben was able to complete his assignment more or less in its entirety by 1507, just in time for the war against Venice that erupted in the following year. The final result of his painstaking work was the series of beautifully illustrated inventory books, or *Zeugbücher*. These were as much a triumph of the newly established bureaucracy employed by King Maximilian I as a testament to his

¹⁰ Kurzmann 1985; Lazar 2015, 56-81, 160-177.



Fig. 3. So begins the Munich *Zeugbuch* – introductory page followed by a fragmentary table of contents. BSB, Cod. icon. 222, fol. 2r.

authority and power as the leader of an increasingly centralised modern state¹¹.

The *Zeugbücher* were produced in several volumes. The best known, and ultimately the only one to have been edited in its entirety, is now in the possession of the Austrian National Library in Vienna. This monumental manuscript lists the inventories of Maximilian's central armouries in Innsbruck, Sigmundskron, Verona, Vienna, Osterwitz in Carinthia, Graz, Gorizia (Görz), Breisach and Lindau. Thanks to the publications by Wendelin Boeheim, the noted Austrian art historian specialising in arms and armour, the Vienna *Zeugbuch* has received considerable scholarly attention, especially with regard to its first-rate depictions of contemporary armament¹².

Less understandably, however, the other known versions of Maximilian's inventory books were largely ignored, probably due to a flawed assumption that they represented merely fragmentary, poorly preserved copies of the

famed Vienna *Zeugbuch*. In reality, the Vienna manuscript was produced only as one, though arguably the most important, volume in a series of inventory books intended to complement each other.

Cod. icon. 222

The now almost forgotten Munich *Zeugbuch* Cod. icon. 222 from the Bavarian State Library represents a historical source of immense importance (Fig. 3). It was originally conceived as a record of local armouries throughout the vast expanse of the Habsburg hereditary lands¹³. In its original state, it must have been an impressive piece of work, containing some 650 folios or 1300 pages. Of those, only 558 pages – less than one half of the original volume – have survived the ravages of time. Fortunately, high-resolution scans recently published on the Bavarian State Library website have put this invaluable resource within easy reach of the international public¹⁴.

¹¹ Boeheim 1892, 96-97.

¹² ÖNB, cod. 10824; Boeheim 1892, 116; Boeheim 1894.

¹³ Boeheim 1892, 99-107.

¹⁴ <http://daten.digital-sammlungen.de/~db/0002/bsb00020956/images/>

Even a quick glance at the manuscript reveals that the document is not always easy to follow. Due to a later binding of the codex, many of the folios no longer follow the original order, requiring a careful reconstruction of the document before a detailed study of its contents can be properly made¹⁵. No doubt the fragmentary nature of the manuscript was among the more relevant reasons that it has not been treated in greater detail to this date. In any case, a thorough analysis of the inventories requires a good command of the historical topography of highly diverse regions from South Germany to the Adriatic. Many of the recorded toponyms are difficult to locate accurately – some of them appear in heavily garbled form, no doubt due to the scribe's lack of familiarity with the local situation, while others could pertain to entirely unrelated locations in different geographic regions bearing an identical name¹⁶.

As far as the original structure of the manuscript may be reconstructed from the surviving folios and the introductory index, the inventory list began with Tyrol, continued with Swabia, Breisgau, Alsace, Sundgau, and Lower Austria¹⁷. From our perspective, the second part of the codex is of particular interest as the document begins to focus on the Slovenian lands around folio 500. At the beginning of this section, the manuscript is preserved only fragmentarily. Originally, it contained descriptions of the armouries of major towns and urban settlements such as Ptuj (Pettau), Ljubljana and Rijeka (Fiume). Much to the delight of the Slovenian historians; however, the following section from the original folios 544 to 615 is virtually complete. Here we find a detailed inventory list of approximately a hundred locations spanning most of the Slovenian territory and its immediate vicinity.

The Munich manuscript provides detailed information on the armament stored in various local armouries throughout the majority of the Slovenian territory – Carniola, Görz (Gorizia) and Istria. The sections dealing with Styria and Carinthia survive only in fragments. Nevertheless, even such a necessarily limited depiction provides a hitherto unprecedented insight into the military organisation of the Slovenian lands.

The localities documented in the manuscript include major points of military interest, such as towns and castles, but also a considerable number of other strongholds – fortified monasteries, churches (*tabori*)¹⁸ and mi-



Fig. 4. The hackbut generally required a crew of two. The gunner was responsible for aiming while his assistant ignited the powder charge with a slow-burning match or red-hot iron.

BSB, Cod. icon. 222, fol. 72r.

nor urban settlements, such as the Istrian *kašteli*¹⁹. Many of these fortifications were quite small, housing only a small armoury containing a handful of weapons, typically crossbows and hackbuts with a corresponding supply of ammunition, and would not have been able to withstand a prolonged siege. Their value lay primarily in providing the local population with some means of resisting a sudden attack. In contrast, considerably larger quantities of arms and supplies, as well as heavy weapons, such as field artillery, were kept within major towns and a select few castles of strategic importance (Fig. 4).

Types of armament common in the Slovenian lands

The armaments described in the inventory records can be divided into a few distinct categories – hand-held firearms, artillery, crossbows, gunpowder and ammunition, polearms and shields. In most cases, individual weapon

¹⁵ The original foliation of the manuscript is marked in Roman numerals on the upper right corner of the individual folios. The current pagination of the codex as bound in its present state is made in Arabic numerals on each respective page.

¹⁶ One such example is the castle of Prem in southern Slovenia, which was misidentified as Brem in South Tyrol. <http://daten.digital-sammlungen.de/~db/0002/bsb00020956/images/>

¹⁷ BSB, Cod. icon. 222, fol. 2r-8r.

¹⁸ The *tabor* was a fortified place of refuge built and used by the peasant population, usually in the form of a church reinforced by a stone wall, sometimes also a moat. A large number

of such fortifications were built in the Slovenian lands during the period of the heaviest Ottoman incursions in the second half of the 15th and early 16th centuries.

¹⁹ The *kaštel*, stemming from the Italian term *castello*, denoting a castle or fort, was a (very) small town or urban settlement protected by walls and various defensive structures. These heavily fortified settlements, restricted to the Italian-influenced peninsula of Istria, had a considerable military potential and played a vital role in times of war.

types are not described in any detail, but their identification is made easier by the clear and highly instructive artwork accompanying the text.

At the time of Freisleben's inspections, gunpowder technology already transformed almost every facet of European warfare. With the exception of some peripheral regions, and England as possibly the only major European power still to rely primarily on the (long)bow, the gun had become an indispensable factor within the military organisation at the threshold of the Modern Period. This trend can be seen very clearly in Freisleben's inventory records pertaining to the Slovenian lands. While the crossbow was still regularly used in the defence of fortifications during the early to mid-15th century²⁰, some five decades later it was clearly eclipsed in that role by firearms. In fact, the most common weapon by far to be found in the Munich *Zeugbuch* is the heavy hackbut or wall gun (*Hakenbüchse*), a rather cumbersome large-calibre firearm fired from a rest. At that particular stage of development, it was still a somewhat primitive design, fitted with a priming pan but no firing lock. Therefore, it had to be fired manually with a slow-burning match or priming iron, which was usually performed by the gunner's assistant.

A constructionally identical weapon, merely scaled down in size, was the lighter half-hackbut (*Halbhakenbüchse*), which occasionally appears in the records. However, this type was already surpassed technologically by the more modern „Italian-pattern” matchlock arquebus (*Handbüchse*). This was an altogether more practical weapon of smaller calibre, light enough to be operated by a single man from an off-hand position, without the need for a rest.

During the inspection, a considerable number of bows and crossbows were still kept at many armouries. However, a large proportion of stringed weapons listed in the inventories were damaged or inoperable and, in many cases, the stock of arrows or crossbow bolts was barely adequate or even non-existent. All these factors imply that stringed weapons were perceived as obsolete or at least of decidedly lesser military importance in the Slovenian lands at the beginning of the 16th century.

Cut-and-thrust weapons of various types are largely absent from the inventory records. Here and there, mention is made only of polearms, such as halberds, partisans, bills, boar spears (*Schweinspiess*, *Tierspiess*) and awl pikes (*Ahlspiess*). In many cases, the latter weapons are paired with shields or pavises (*Tartsche*). However, the armouries at the town of Radovljica (Radmannsdorf) and the nearby Kamen (Stein) castle represent a noteworthy exception. There, an enormous quantity of 8000 long pikes was kept in strategic reserve. This cache was no doubt intended to support Maximilian's field armies in preparation for the offensive

against Venice, and far surpassed the needs of local self-defence²¹ (Fig. 5).

Artillery forms another and clearly the most formidable and impressive category of armament listed in the Munich *Zeugbuch*. Unlike Maximilian's central armouries, where the majority of heavy artillery was kept to support field armies when needed, smaller towns and castles were usually – if at all – provided only with a limited number of light artillery pieces to bolster the defence of their walls. In this role, the types most widespread in the Slovenian lands were the light, trestle-mounted terrace guns (*Tarrasbüchse*), *Haufnützen* and long-barrelled culverins (*Schlange*), either of muzzle- or occasionally breech-loading construction. Short-barrelled mortars (*Mörser*) propelling shot in high-arching trajectories were also quite common.

Heavier guns were comparatively rare in the local armouries. Older, predominantly stone-firing bombards (*Hauptbüchse*) were already somewhat outmoded at the time. Another closely related weapon was the slightly longer-barrelled „quarter-gun” (*Viertelbüchse*), a precursor to the more modern cannon (*Kartaune*). Long-barrelled, heavy-calibre siege guns (*Scharfmetz*) belong to the same



Fig. 5. Representative pieces of heavy artillery were customarily named after towns or cities. The heaviest artillery ordnance kept at the Ljubljana castle in the early years of the 16th century was the bombard Triesterin – or „lady of Trieste”.

BSB, Cod. icon. 222, fol. 102r.

²⁰ As indicated by the contemporary inventory records of Škofja Loka (Bischofslack), Vitanje (Weitenstein) and Bizeljsko (Wisell) castles.

²¹ BSB, Cod. icon. 222, fol. 210r.



Fig. 6. Breech-loading culverins were among the most advanced weapon types found in Maximilian's arsenal. Despite various weaknesses, such as inadequate sealing and a corresponding loss of propellant gases, their structure permitted a high rate of fire. BSB, Cod. icon. 222, fol. 21v.

category. In rarer cases, we may also find other types of artillery weapons, such as organ guns (*Orgelbüchse*) with multiple small-calibre barrels. One particularly exotic design is the „hail gun” (*Hagelbüchse*), a short-barrelled anti-personnel weapon allegedly devised by Maximilian himself. This weapon was adapted to fire round shot fitted transversely with a protruding iron bar, seemingly in the hope of inflicting severe casualties in the tightly packed ranks of enemy infantry. Apparently, this experimental design did not live up to expectations, but it was nevertheless present at some inspected locations²² (Fig. 6).

The rest of the inventory records consists predominantly of shot and bullets, lead, gunpowder, crossbow bolts and arrows, various tools and accessories, quite frequently moulds (*Modl*) for casting lead projectiles as well. Aside from gunpowder, saltpetre and sulphur were often stored in the armouries separately, no doubt due to their longer shelf life as opposed to gunpowder in its mixed form, which was always susceptible to moisture and degradation²³.

²² Boenheim 1892, 108-111, 117-199; Kurzmann 1985, 122-138.

²³ Cf. Boenheim 1892, 109-199; Kurzmann 1985, 72-73; Kempers 1983.

A few case studies

While reproducing a full selection of inventory records pertaining to the Slovenian territory would take up too much space, analysing in some detail a limited number of particularly interesting localities appears worthwhile for the purposes of this publication. It is hoped that this brief overview will present at least some insight into the structure of the inventory book.

Of all the castles in the Slovenian lands visited by Freisleben, Turjak (Auersperg) was possibly the best supplied with arms of various types. That cannot have been a coincidence, for it was the seat of perhaps the most prominent noble family in the Duchy of Carniola at the time. The lords of Turjak, staunch supporters of the Habsburg dynasty, played a key role in the provincial government in Carniola. Particularly during the later decades of the 16th century, they also distinguished themselves in military engagements against the Ottomans, most notably as commanders of the Croatian military border²⁴ (Fig. 7).

Turjak (*Auersperg*) castle²⁵

- 14 iron *Haufnitzen*
- 1 copper *Haufnitz*
- 2 copper culverins
- 9 iron terrace guns
- 1 copper terrace gun
- 6 iron mortars
- 106 hackbuts
- 14 half-hackbuts
- 20,000 crossbow bolts
- approx. 20,000 bolt heads
- 1 keg of gunpowder
- large pile of small and large stone shot for mortars and *Haufnitzen*
- 2000 bullets for hackbuts

According to a remark added to this list, an additional stockpile of gunpowder, sulphur, lead, and other supplies was kept in a locked vaulted cellar. However, this inventory could not be inspected in detail due to the absence of Lord Volker Auersperg. In any event, the quantity of artillery pieces, light firearms and crossbow bolts in particular far surpasses the recorded inventories of most other castles – and even towns – in the Slovenian territory.

In contrast, the example of the town of Kamnik (Stein) is instructive insofar as it provides insight into the actual defensive capabilities of a small town, with no more than a few hundred inhabitants. The defence of Kamnik was further strengthened by two castles, one inside the town limits, which had already fallen in a state of disrepair in the

²⁴ Preinfalk 2005.

²⁵ BSB, Cod. icon. 222, fol. 227r.



Fig. 7. Turjak (Auersperg) castle. Its appearance today is largely the product of a rebuilding programme begun after the massive earthquake of 1511, which destroyed the older castle complex inspected by Freisleben only a few years earlier. Photo T. Lazar.

14th century, and another built on a hill overlooking the settlement, which was visited by Freisleben.

Kamnik (*Stein*) castle²⁶

- 1 copper *Haufnitz*
- 2 iron terrace guns
- 14 hackbuts
- 5 matchlock arquebuses
- 2 kegs of gunpowder
- 1 *Zentner* of lead
- 5 full kegs of crossbow bolts
- 1 full chest of bullets

Kamnik (*Stein*) town

- 2 iron *Haufnützen*
- 1 brass terrace gun
- 3 iron *Haufnützen*
- 10 hackbuts
- 8 matchlock half-arquebuses
- 1.5 keg of gunpowder
- 1000 bullets
- 1000 crossbow bolts

All in all, the combined armaments kept in the town and castle armouries appear quite modest, but the numbers overall seem representative of the general situation at the time. As in the previous case of Turjak, mention is made of many crossbow bolts even though no crossbows were apparently stored there. Most likely this refers to old stock kept in reserve, even though in the event of an attack the defenders would have been relying primarily on gunpowder weapons (Fig. 8).

Many of the larger monasteries in the Slovenian lands were prominent cultural and economic centres. As places routinely targeted by marauding armies, especially the much-feared Ottoman light cavalry, most were heavily fortified and well defended. The oldest monastery in Slovenia, the Cistercian abbey at Stična (Sittich), was founded in 1132. Due to the great destruction inflicted by the Ottoman incursions in 1471 and 1475, the Stična monastery was reinforced with stone walls and towers, transforming it into a formidable stronghold. It was also provided with substantial armament, predominantly hackbuts, and a solid supply of ammunition.

Stična (*Sittich*) monastery²⁷

- 30 new hackbuts
- 64 old hackbuts

²⁶ BSB, Cod. icon. 222, fol. 212r.

²⁷ BSB, Cod. icon. 222, fol. 243v.

5 matchlock arquebuses
 1.5 *Zentner* of gunpowder
 approx. 6000 bullets
 10 crossbows
 10 pavises
 1000 crossbow bolts
 8 *Zentner* of lead

The sheer scale and frequency of Ottoman raids during the period provided a further stimulus to the creation of numerous *tabori*, fortified churches spread across the countryside. Among the better defended was the one at Šentjernej in southeast Slovenia. Even though these fortifications were generally uninhabited places of refuge, lacking any prestige or power associated with feudal residences, their armament was often quite substantial and entirely comparable to that found at most smaller castles.

Fortified church (*tabor*) at Šentjernej (*St. Barthelmä*)²⁸

8 hackbuts
 2 half-hackbuts
 5 matchlock arquebuses
 3 *Zentner* of gunpowder
 200 bullets
 50 pounds of lead
 300 crossbow bolts
 2 crossbows

Discussion

To date, the Munich *Zeugbuch* still awaits full publication. The sections relevant to the Slovenian territories have been reproduced recently in the author's monograph on late medieval artillery in Slovenia²⁹, but apart from this contribution a general critical evaluation of the manuscript's contents remains highly desirable.

The immediate reason for Maximilian's desire to obtain a full list of military weaponry stored on the Habsburg estates seems clear enough – his preparations for a large-scale invasion of North Italy that materialised in 1508 no doubt weighed heavily on the King's mind. In fact, a small fragment survives in the manuscript noting that a number of heavy artillery pieces – „two basilisks, four *Scharfmetzen* and a good many other cannons and guns” – were made ready in the Slovenian lands for the offensive against Venice³⁰. Furthermore, it seems telling that the inventory record of the Istrian *kašteli* at Lupoglav (*Marnfels*), Kožljak (*Waxenstein*) and Kršan (*Karschan*) remained incomplete³¹. Their armouries were evidently never examined by Freisleben, possibly due to the outbreak of war.

²⁸ BSB, Cod. icon. 222, fol. 274r.

²⁹ Lazar 2015, 92-130.

³⁰ BSB, Cod. icon. 222, fol. 245r.

³¹ BSB, Cod. icon. 222, fol. 100r, 109v.



Fig. 8. The armoury of Jama (Lueg) castle was among those better supplied with arms. The inventory records are illustrated with the depiction of a muzzle-loading culverin.

BSB, Cod. icon. 222, fol. 263r.

In terms of scale and detail of the armoury inventories, the Munich *Zeugbuch* has no equal among any of the known primary sources pertaining to the Slovenian lands in the late medieval or early modern period. This fact alone makes it an unparalleled resource to any historian dealing with the military organisation of the Slovenian territory. It also enables one to attempt, for the first time, statistically much better-founded conclusions as to the actual potential and structure of the local defence network, as well as its technological state of development.

The types of armament listed in the manuscript records are largely consistent with those in the few surviving inventories from the mid-15th century. This makes sense, for many types of armament, particularly artillery, represented a huge investment. As long as older weapons remained in serviceable condition there was little incentive to immediately replace them with more modern patterns, particularly if the latter could not guarantee markedly superior performance.

It is important to note that the armaments listed in the Munich *Zeugbuch* do not by any means reveal the entire



Fig. 9. The most advanced type of hand-held firearms in Maximilian's arsenal around 1500 was the light arquebus of the Italian pattern. Light enough for off-hand operation, it was fitted with a simple matchlock mechanism.
BSB, Cod. icon. 222, fol. 61r.

stock of arms kept in the Slovenian lands at the time. Freisleben's inspections were for the most part limited to the ducal domains under direct Habsburg jurisdiction, and even among those, the manuscript's fragmentary state of preservation prevents us from establishing a more complete overview of the Habsburg domains in northern and north-eastern Slovenia, as well as in some of the larger towns (Fig. 9).

For the purposes of our study, we have restricted our analysis to the documented locations within the boundaries of the Republic of Slovenia, with the addition of the immediate Friulian border to the west, now in Italy, and the heartland of Istria, today part of Croatia; these territories were tightly connected with the Slovenian lands historically and belonged to the same political region. Generally speaking, this covers an area of approximately 20,000 km², with a population of up to 500,000 inhabitants³².

Even with the above limitations in mind, the quantity of arms kept in this territory according to the Munich manuscript seems quite impressive. Its true scale may be surmised more fully in the table below (Tab. 1).

The concentration of arms listed in the manuscript appears considerable. Perhaps the most striking is the relatively

	Serviceable	Unserviceable
<i>Haufnitzen</i>	54	6
Quarter guns	8	1
Bombards	3	
Culverins	30	1
Mortars	41	9
Terrace guns	98	9
Other light artillery	19	
Hackbuts ³³	2112	22
Matchlock arquebuses	445	1
Crossbows	334	36
Bows	45	
Polearms	8538	
Shields	50	

Table 1.

small quantity of heavy artillery pieces, though this may be explained at least to some extent by the poor preservation of the folios 500 to 544, specifically in the section that contained the inventories of most larger town armouries in the Slovenian lands. In contrast, the document lists 125 serviceable pieces of field artillery – *Haufnitzen*, culverins, and mortars – as well as another 27 pieces that in all likelihood could be refitted for action shortly. To this, we must add another 19 pieces of various light artillery as well as 98 terrace guns, which were intended mostly for wall defence, however.

The hackbut represented the primary defensive weapon found virtually on every single fortification. It could be used with effect on the battlefield as well, even though in this role the lighter matchlock arquebus was already well on its way toward becoming the standard infantry gunpowder weapon in European armies³⁴. Compared even to the relatively new matchlock arquebus, the crossbow was rapidly fading from the military armament. While many local armouries kept a sizeable supply of bolts, the number of crossbows was dwindling, and many of those in stock were no longer serviceable. Hand bows were even rarer. The largest stock, approximately 40 bows, was kept in the Friulian border town of Pordenone. It may be assumed that at least some of them were of composite construction, but the records also make clear reference to hand bows made of yew wood and even steel in a few individual cases, which seems particularly remarkable³⁵.

³³ The combined number of 51 hackbuts and matchlock arquebuses kept by the town of Pordenone must be added to this and the following category.

³⁴ Cf. Contamine 1984, 135; Willers 2001, 33.

³⁵ These isolated references clearly describe steel hand bows; therefore, making it highly unlikely that we are dealing with the much more common steel crossbow prods.

³² Štih et al. 2008, 127.

The category of cut-and-thrust weapons is limited exclusively to various polearms kept in the local armouries to be issued to the defenders in the event of an emergency. As noted above, the stock of 8000 pikes kept at Radovljica (Radmannsdorf) and Kamen (Stein) must have belonged to a strategic reserve kept in temporary storage for Maximilian's *Landsknechte* and hence presents a specific case. Among the polearms, reference is made to 45 awl spikes (*Ahlspiess*), as well as 50 pavises. This typical combination no doubt reflects the fighting styles of the preceding decades, when heavy infantry armed in the Hussite style was in great vogue throughout Central Europe³⁶.

When one considers the number of all the other armouries in the Slovenian lands, including those whose records have not survived or could not have been inspected by Freisleben's team during the inspection tour, the quantity of arms recorded in the Munich manuscript represents perhaps a half of all the armament of respective types kept there at that time. Based on this perhaps somewhat conservative estimate it may be concluded that the local armouries were supplied with quantities of hackbuts, arquebuses, crossbows and polearms sufficient to arm a force of approximately 10,000 men employed in the local defence³⁷. To this figure, we must add some 200 terrace guns and light artillery pieces, some 250 field guns and a small number of heavy bombards and „quarter guns“. Each of these pieces would require a trained crew of at least two or three men, as well as a number of assistants and means of transportation in the event of field service.

Obviously, the armaments recorded in the Munich *Zeugbuch* were intended foremost for the needs of local defence rather than stock from which field armies would be equipped on a regular basis. Nor should we draw any definite conclusions as to the quality of troops expected to use this weaponry in earnest. In the event of a sudden attack, any able-bodied man might be required to partake in the defence of his locality, even though it is equally true that at any castle, fortification or within an urban settlement of any size a number of people could be mustered at any time having at least a modicum of military skills and experience.

In any event, this quantity of arms appears quite considerable for a small geographic region with a population numbering half a million inhabitants at most. Moreover, the inventory records take no account whatsoever of the

armament belonging to the „real“ fighting men – the nobility and professional soldiers – excluding of course the reserve of 8000 pikes. These were the individuals on whom the defence of the realm rested in the first place. Each nobleman fit for service would have kept his own armament, and probably a sufficient quantity to equip at least a handful of followers as well. This is the reason that the arms and armour used by the heavily armoured cavalry are conspicuously absent from the inventory records. The same can be said about the professional troops, who were expected to provide their own equipment. Obviously, this weaponry was stored privately or in separate armouries out of bounds to Freisleben's inspectors.

In quantitative terms at least, an even greater number of weapons were owned privately by the lower classes. In the difficult times of the early 16th century, the need for effective self-defence was a very real proposition. Archaeological finds from the period include large numbers of side arms such as single-edged swords (*Messer*) and large fighting knives (*Bauernwehr*, *Hauswehr*) that were almost universally widespread among the townsfolk and peasants³⁸. In various passages of the Munich manuscript, Freisleben himself alludes to substantial quantities of arms owned by the local population and stored outside the armouries, including relatively advanced weapon types such as crossbows.

Within this context, the Munich *Zeugbuch* depicts the image of life in a relatively highly militarised frontier region where arms were very much an integral part of everyday life. While the brunt of large-scale military operations was borne predominantly by the fighting class – the nobility and trained professionals – the threat of violence was something felt directly by virtually every inhabitant of the region³⁹. In this regard, a dramatic difference is observed if one attempts to draw a comparison to the current military organisation of the Republic of Slovenia. With a population of two million, four times the number of Maximilian's era, Slovenia's defence now rests on a professional armed force of just over 7000 troops and a contract reserve of barely 900 men⁴⁰. A more meaningful parallel to the situation in the early 16th century could only be found in the former doctrine of „all-people's resistance“ established in the times of socialist Yugoslavia, backed by a powerful conscript army and a very large reserve force.

³⁶ Dürriegl 1977, 12; Waissenberger 1977, 22-26; Dürriegl 1986, 7; Lazar 2012a, 137-142.

³⁷ The stock of 8000 pikes from Radovljica (Radmannsdorf) and Kamen (Stein) is excluded from this number as it was clearly intended for service with the professional field armies. The calculation further takes into account that a hackbut generally required a crew of two. In contrast, arquebuses, crossbows, and polearms were essentially used as individual weapons wielded by a single man.

³⁸ Seitz 1965, 192-220; Dolínek and Durdík 1996, 87-90; Müller 2002, 62-67.

³⁹ Lazar 2009, 79-80, 523-524.

⁴⁰ <http://www.slovenskavojska.si/o-slovenski-vojski/>

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- ADG – Archiv der Diözese Gurk, Klagenfurt
 HS 106, Account book of the Gurk bishopric in the „March” 1425–1437
 HS 122, Account book of the Gurk bishopric in the „March” 1438–1452
 BSB – Bayerische Staatsbibliothek, Munich
 HSS Cod. icon. 222, Arms inventories of Maximilian I
 ÖNB – Österreichische Nationalbibliothek, Vienna
 Cod. 10824, Arms inventories of Maximilian I

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Streszczenie

Ziemie słoweńskie jako zbrojna granica Świętego Cesarstwa Rzymskiego

W obrębie organizacji wojskowej domen Habsburgów w późnym średniowieczu ziemie słoweńskie spełniały rolę bastionu chroniącego południowo-wschodni skraj Świętego Cesarstwa Rzymskiego. Stosunkowo niewiele wiadomo o tym konkretnym aspekcie dziejów Słowenii, głównie z powodu względnie niewielkiego zasobu informacji w zachowanych źródłach. Z drugiej strony, odkrycie niezwykle cennego dokumentu z Monachijskiej Biblioteki Państwowej pozwala na przeanalizowanie tego problemu z nowej perspektywy. Księga inwentarzowa z Monachium, Cod. icon. 222, zawiera szeroki zakres informacji o uzbrojeniu przechowywanym w około 100 miejscach, mających znaczenie militarne, począwszy od zamków i miast do klasztorów i ufortyfikowanych kościołów na historycznych terenach słoweńskich. Te niezwykle bogate zapisy dają ogłęd siły militarnej tego regionu w początkach XVI w.

Systematyczne studium *Zeugbuch* z Monachium wskazuje, iż obrona pogranicza słoweńskiego w znacznym stopniu opierała się na gęstej sieci zamków, miast i innych fortyfikacji. Każda z tych warowni była zaopatrzona w przynajmniej niewielką ilość uzbrojenia i amunicji, podczas gdy najważniejsze z warownych punktów mieściły arsenały wystarczające do wyposażenia znacznych sił militarnych, zapewne nawet 10 000 zbrojnych, wraz ze sporym taborem artyleryjskim.