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ORIENTAL INFLUENCES ON POLISH ARMS

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The subject of my paper is vast, and a popular one among art experts, historians and scholars of arms and armor. The hour I have is far too short to cover and understand the complex cultural and political hotchpotch that was Poland in the age of the First Republic. I have chosen the four hundred years from the 15th to the 18th century as the period central to this topic. I will examine the types of arms used in Poland that were influenced by the civilization broadly known as “the East” – above all the Islamic states of the Ottoman Empire and Persia, the Tatars, and to a lesser extent also Russia and India – but I would first like to give a brief outline of some of the historical processes underway in Poland in that period, in order to provide a context for the processes that contributed to the orientalization of Polish life.

The map of contemporary Poland betrays no reason for the sudden fascination with the Orient that overtook the country centuries ago (Picture 1).

1 translation Jessica Taylor-Kucia (text) and Michał Dziewulski (arms & armor nomenclature, picture captions)
2 NOTE: this lecture is just a brief work on the subject, originally written as a live presentation with slides. Due to short time of prelection it was impossible to present all influences and all nuances of the subject. So please treat this lecture only as an informative paper. For more information or questions please contact with the author: wolviex_pl@yahoo.com
Set in the heart of Europe, bounded to west and east by the Nysa, Oder and Bug rivers, to the north by the Baltic Sea, and to the south by the Carpathians and Sudeten Mountains, Poland today is firmly anchored among countries in the orbit of western influences. Between the 15th and 18th centuries, however, Poland was an entirely different entity (Picture 2). It was geographically oriented toward the south-east, and at the height of its territorial spread it stretched from the Baltic to the Black Sea, and well into what is now Russia, including Kaluga, Tula and Kursk. Poland proved unable to retain control of all these territories until the end of the 16th century. Wars with Russia pushed its eastern border a long way west, and the anti-Polish maneuvers of the Moldavian hospodars brought the lands of Moldavia under Ottoman rule, so making Poland a direct neighbor of the High Porte. From then on Poland was seen as the outpost of Christianity, guarding Europe from Muslim advances – though this only in a military sense: as we will see in due course, the situation of the Polish Republic gave it a unique place on the cultural map of Europe as a bridge between east and west, fertile ground where influences of east and west mingled and blended freely.

In the 15th century Poland was joined in personal union with the Duchy of Lithuania, and by the 16th century the two countries were almost ideally fused, united by the person of the king, and by numerous common trade and political interests. They fought together in the 16th-century wars with Russia, against the Swedes in the 17th and 18th centuries, and to repel the Crimean Tatars invasions in the 16th and 17th centuries and the advances of the Ottoman Empire in the 17th century.

One important demographic characteristic of Poland, central to what follows, is its large noble population (the szlachta) – around 10%, which was far more than in other European countries. The szlachta class would be the main market for luxury Oriental arms, the trendsetters and dictators of fashion, and also the most open to Oriental influences. The middle-class (bourgeoisie) and the clergy were more deeply rooted in Western culture and much less easily impressed by the new ideas brought back by the szlachta from Muslim lands.

Throughout the Middle Ages, up to the 16th century, Poland remained firmly within the sphere of Western European culture. All the arts, from crafts to architecture, followed the same trends as the other states of the old continent. The same went for arms, which essentially differed nothing from other European arms and armor. Modern archeologists have shown that the Polish knightly class was very modern, always attempting to keep up with military innovation in other countries. Contacts with the Orient in the Middle Ages were rarer than in the 15th and 16th centuries, and were not always positive. The event that made the greatest impression on the Polish consciousness was the Mongolian Tatar invasion of 1241, when one of the divisions, under Sheiban, smashed the Polish armies and their European allies at Legnica. This event had traumatic reverberations in Medieval Polish society, likened by historians today to the legacy of the Second World War. Hence also the weapons carried by the invaders, above all the saber, bore very negative connotations among both the bourgeoisie and the szlachta. These attitudes
were only overcome by King Stefan Bathory in the 16th century. The 15th century saw the defeat at Varna in 1444, when the king of Poland and Hungary, Ladislas III, was killed, and the fate of Byzantium sealed. But the 16th century saw a considerable thaw in Polish-Ottoman relations. Trade flourished and amicable envoys shuttled back and forth between Suleiman the Magnificent and the court of Sigismund the Old. King Sigismund even refrained from sending further aid to Hungary and later Austria when the Ottoman armies advanced on Vienna the first time, in order not to endanger the peace. Suleiman himself also valued the positive relations with Poland, and his wife Roxolana, herself of Polish noble stock, exerted considerable influence on courtly life in the Sultanate.

A few decades later, however, relations deteriorated. The election of the Transylvanian prince Stefan Bathory as king of Poland prompted the High Porte to see Poland as a potential vassal. Bathory himself thought about liberating Hungary using his Polish armies, but he was enmeshed in a war with Muscovy and his reign proved too brief. At the beginning of the 17th century, King Sigismund III’s pro-Habsburgian and hence anti-Turkish policies provoked the initiation of a state of war between the two countries. Attacks by the Crimean Tatars on Lithuanian lands, and raids by the Cossacks – formally subjects of the Polish king – on the Black Sea coast, soon led to armed conflict. The defeat at Cecora in 1620 was a black day in Polish history that was not recompensed even by the victory at Chocim in 1621. Then came the second victory at Chocim in close succession, in 1673, followed by the Siege of Vienna in 1683, which saw the rout of the Ottoman armies. None of this favored either the expansion of trade with the Levant or the establishment of positive relations.

Relations with Persia, however, were very good. Persia was a natural ally against the Ottoman Empire, perceived as a friendly state and a representative of “positive Islam”, as it was known. The 18th century saw a renaissance in Polish-Turkish-Persian trade and ushered in a long period of peace between the two countries. Polish merchant trains traversed the Ottoman lands with transports of Persian and Indian wares. The Sultanate was the only European country to protest at the partitions of Poland by Austria, Prussia and Russia in 1772, 1793 and 1795.

The orientalization of life in Poland can be divided into several phases. The first covers the period from the Middle Ages to the mid-16th century. It was during this period that the first signs of Eastern thought emerged in Poland, largely thanks to the Tatars and Armenians who were settling here and the influx of military mercenaries from Hungary and the Balkans. The second phase marks the real orientalization of life in Poland. It begins with the reign of King Stefan Bathory and continues until the mid-17th century, when escalating internal and external conflicts brought the Polish economy into ruin and the military into crisis. A third phase can be seen in the revival of interest in the Orient under Jan III Sobieski, more precisely the period from around 1672, the subsequent renewal of Black Sea trade, and the renaissance of the artisanry in Poland’s easternmost territories. This stage lasted until the mid-18th century, when it was arrested by the Partitions and the demise of the Polish state.
PHASE I
THE FIRST EASTERN INFLUENCES IN POLAND
PHASE I – THE FIRST EASTERN INFLUENCES IN POLAND

The 13th and 14th centuries brought the first signs of Oriental influences in the Polish lands. It was then that Tatar colonization took hold in the Grand Duchy of Lithuania on a larger scale. This movement was originated by Duke Olgierd and continued by Witold, one of the heroes of the battle against the Teutonic knights at Grunwald (Tannenberg) in 1410, in which his Tatars had also participated. This period marks the start of the influx of Eastern thought into the Polish lands, slowly at first, but reinforced by the fusion of Poland and Lithuania and the assimilation of the Tatars into society.

The next stage in Poland’s rapprochement with the East was the inflow of Armenians from the Ottoman Empire and Persia. They settled on the southeastern fringes of the Grand Duchy of Lithuania and the Polish Republic (in what is now Ukraine) and slowly took control of Black Sea imports to Poland. This formerly had been the domain of Italian merchants, chief among them the Venetians, who had trading posts in the two major cities in southern Poland, Krakow and Lviv. The Armenians were shortly to play a crucial role in the orientalization of areas including the weaponry of the Polish armies in the 17th and 18th centuries. But until the mid-16th century their main imports were spices and fabrics from Turkey and Persia. At this time Poland also became a transit country on the route taken by Oriental goods to the west of Europe, and Turkish caravans brought wares from the Levant to Poland.

Poland also strengthened its links with Hungary during this period. The two countries were united in a personal union in the 14th and 15th centuries under the Jagiellons, while Hungary was also exposed to Ottoman influences. Soon afterwards part of Hungary was annexed by the Empire, but this did not put a stop to Polish-Hungarian contacts. These links bore fruit in the early 16th century in the military context, when Serbian and other mercenaries began to enter Poland from Hungary. This marked the start of a new chapter in Polish military history: the Serbs are documented as the creators and first members of the hussar regiments in sources from ca. 1500. The hussars in Poland were used in battle against the Crimean Tatars and the Russian armies in the early 16th century. Both these adversaries fought in a different manner to any hitherto known in Western Europe and Poland. They had a huge advantage in the form of their swift light cavalry, for which the heavy cavalry was no match. Thus one of the reasons behind the orientalization of the Polish armies is an attempt to copy the enemy and adopt his way of fighting, his armor and his tactics. The first step towards changing Polish military thought was the creation of these regular forces of Serbs on their fast horses. They were lightly armored, with shields for protection and light lances for attacking at the gallop, as well as sabers. This latter weapon was still a novelty at the time, as the rest of Poland was still using swords. The hussars served in the Polish armies alongside Tatar horsemen who had settled in Poland. The Tatars fought with bows, and with them fought indigenous Polish “Tatar-style” cavalry units, also with bows instead of the traditional
crossbows. The hussars were derived from the Turkish *sipahi* (or *spahi*) cavalry (Picture 3) and the *deli*, or “crazy”, the formations they were created to fight with during the reign of the Hungarian king Matthias Corvinus.

![Picture 3: Turkish sipahi cavalryman at the end of the 16th century (Codex Vindobonesis, 1595 y.)](image)

A comparison of etchings of warriors from the Ottoman Empire with those in Hungary (Picture 4) and Poland (Picture 5) show how much the former influenced the appearance and arms of the latter two.

![Picture 4: Hungarian hussar, mid 16th century](image)

![Picture 5: Polish hussar officer at the end of the 16th century](image)
As the Ottoman cavalryman reached Poland indirectly, via Hungary, the original form had already been altered and hence not all of the elements of the Oriental equipment were assumed here. Those that did survive were the zischagge, or schischak, the saddle, the winged mace, or buzdygan-mace, the war-hammer, and the saber. The shield and certain other aspects of the dress were of the Hungarian style. Instead of bows the hussars used pistols. I will return to these weapons in the section of my paper on the 16th and 17th centuries, as there are more iconographic sources and surviving original pieces from this period with which to supplement this lecture.

In addition to the expansion of Armenian trade with Muslim countries, the assimilation of the Tatars, the wars with the Crimean Khanate and Muscovy, and the emergence of the hussars based on the Serbian light cavalry, one more early 16th-century event was also to make an indelible mark on Polish history and a valuable contribution to the orientalization of all areas of life. In 1521, a work by Maciej Miechowita (Picture 6), a geographer and professor of the Jagiellonian University, was published, entitled *Tractatus de duabus Sarmatis* – *A Treatise of Two Sarmatias*. In it, the author uses ancient texts supplemented with his own speculations and polemics to support his theory that the Polish noble class, the szlachta, was directly descended from the Sarmatians. The Sarmatians were a nomadic people related to the Persians, who inhabited the territory of present-day Ukraine and the Black Sea coast from the 6th century BC until the 1st century BC, and subsequently moved into what is now Hungary. Miechowita’s work, though in part a flight of fantasy, found fertile ground in the minds of the szlachta themselves, and before the century was out it had spawned more than one imitator who recognized the Polish nation’s roots in Sarmatia. Thus was Sarmatism born, an idea nurtured by the szlachta in their idiosyncratic dress, the ideal of their “Golden Freedoms”, their fervent Catholicism, and their self-imposed role of defenders of the Catholic faith from Islam. This latter notwithstanding, by virtue of the szlachta’s supposed Eastern origins, many areas of life were orientalized, based on Persian and Ottoman models.

![Picture 6: Maciej Miechowita, prof of Jagiellonian University, 16th century](image-url)
PHASE II
THE HEYDAY OF ORIENTALISM & SARMATISM
PHASE II – THE HEYDAY OF ORIENTALISM AND SARMATISM

Yet had the Transylvanian prince Stefan Bathory not acceded to the Polish throne, the early orientalization of the first half of the 16th century might have remained no more than a quaint episode in Polish history.

Initially, there was no indication that Bathory, a Turkish vassal, was destined to be king of this vast two-nation state. After the death of the last of the Jagiellons, Sigismund Augustus, in 1572, the Polish nobility convened for the election of a successor in 1573, and Henri Valois, a 23-year-old member of the French Valois dynast, was elected king of Poland. Had the young king remained on the throne longer than four months, Poland might have been drawn toward stronger Western European currents and put down stronger roots in the culture that had been its strongest influence for centuries. But Henri Valois fled Poland undercover on learning of the death of his brother, Charles IX, king of France. It is hardly surprising that, presented with the opportunity of ruling in his own country, he abandoned Poland, which already seemed alien in culture to him, and where his powers were limited from the outset by the nobility (something that would have been unthinkable in France). To add insult to injury, he had been married off to Anna Jagiellonka, 30 years his elder. Crowned Henri III, he was successful on the French throne, but in Poland he was finished.

Presented with this fait accompli, the szlachta gathered for a re-election, and this time they chose Stefan Bathory (Picture 7), with the approval of the Ottoman Empire.

The decade of his rule, until his death in 1586, was sufficient to make Bathory one of the nation’s most popular monarchs ever, and his personality cult held sway long after his death. Indeed, sabers bearing his
image, known as “Batorówki”, were still being made in Warsaw 150 years after his reign!

Bathory’s greatest achievements were his military reforms and the introduction of Oriental fashions, which he brought with him from Hungary. One of the most important reforms was the modernization of the hussars. The image so well known to us today is his creation from the 16th century. The hussars were a unique formation. Their dress and armor evinced, like no other, the intermingling of eastern and western influences so characteristic of the Poland of the day. The first change in their dress was the introduction of the cuirass as protection for the torso. The breastplates, initially known as anime, made of overlapping plate were certainly a purely Western invention, originating from Italy. It was only later that the Polish hussar’s breastplate evolved. An exception to this were the bekhters, cuirasses made of separate sections of overlapping plates linked with mail. These first appeared in the mid-16th century, probably exclusively as armor for the hussar elite or as luxury equipment. It was a classic Oriental item, extremely rare in Poland and Europe but well known in India, Persia and Turkey, where it usually took the form of a long tunic, even to the knees. The bekhters found in Poland are similar to those used in Russia, and are familiar to the present-day scholar from sources including the painting of the Battle of Orsza in 1514. One held in the National Museum in Krakow (Picture 8) is composed of 1074 plates in 11 rows overlapping from the bottom up and is modeled on the then fashionable doublet. The short fauld is finished in brass plates ornamented with a Netherlandish rollwerk motif.

Picture 8: Bekhter (and details of Bekhter), National Museum in Krakow
This was clearly an extremely rare type of armor, because there is only one other surviving example in Polish collections that was definitely made in Poland in the 16th century. This second piece is a cuirass made in 1580 and is now held in a museum in Poznań (Picture 9). This one is more similar to the Russian-style bekhter, and instead of the European short fauld and the accentuated waistline of the other piece has a mail apron that hangs below the waist. It is ornamented with medallions decorated with writing, pictures of men, and the Poznan coat of arms. The mail is made of very high quality rings that are also stamped with patterns and the monogram NS. The whole is an exceptional example of masterful platework by Polish craftsmen.

If the cuirass fashioned after the Italian anime was a development that came from Western Europe, the zischagge (or schischak), the headgear worn by the hussars, was definitely Turkish. The first schischaks appeared in the mid-16th century, while Sigismund Augustus was still on the throne. These had the pointed skull of the Turkish style (hemispherical skulls were rare) and were equipped with cheekpieces, neck-guards, and visors with nosepieces attached on the underside. Fine illustrations of this type of helmet are to be found in the Codex Vindobonesis of 1595, which shows Turkish sipah cavalrymen in gilded schischaks with ornamental feathers. A similar schischak is painted onto an etching by Gustos in the Armamentarium Heroicum at the feet of Stefan Bathory (Picture 10). Several original 16th-century schischaks have survived in collections in Poland and throughout the world. Some of them, including the one held by the National Museum in Krakow, were made in the West, which would seem to confirm the hypothesis.
that in the mid-16\textsuperscript{th} century many goods and eastern influences were still reaching Poland via western merchants, who had not yet been ousted from the market by the Armenians. Indeed, a lot of hussar equipment was made in Nuremberg, as Maximilian I had also formed a hussar regiment in Germany (Picture 11). However, this formation developed in an entirely different direction to that created in Poland.

![Picture 11: Zischagge in Turkish style, made in Nuremberg, Germany, 16th c., National Museum in Krakow](image1)

![Picture 12: Kapalin – hussars war-hat, end of the 16th century, Museum of Polish Army in Warsaw](image2)

![Picture 13: Fully developed Polish hussars zischagge (szyszak), half of the 17th century](image3)
In the early 17th century – after the death of Stefan Bathory – a new type of schischak emerged in Poland that blended eastern and western influences. The first signal of change is the appearance in sources of the hussar’s war-hat (Picture 12). The skull of this helmet was directly copied from the medieval European kettle-hat, while the neckguard, cheekpieces and visor with its jointed nasal were eastern in origin. The next stage, again partly influenced by Hungarian and Austrian styles, was the evolution of the hussar schischak with hemispherical skull, either forged as a single piece or made of two halves riveted together. This model also had neckguard, cheekpieces, visor and nasal, and soon developed uniquely Polish decorative features (Picture 13).

Bathory demonstrated immense percipience and genius in abandoning the shields that the hussars had traditionally used but leaving them their hallmark weapon, the lance (Picture 14). This was a hollow wooden shaft between 13 and 14 and a half feet long that broke on impact. This might have seemed an outmoded weapon for a modernized army, but it was a calculated tactical decision. Wielded by the Polish hussars, the lance was to become a fearsome weapon, a fact that the Swedes could attest to after their spectacular defeat at Kirholm in 1605 (Picture 15). The hussar’s lance was not modeled on the lances we are familiar with from jousting tournaments, which were still in fashion in Europe in the 16th century. The European model was far shorter, heavier, and broadened towards the grip in order to provide the necessary balance, though even so special hooks were attached to the armor for further support. The Turkish version, like the later Hungarian and Polish lances, was
slender along its whole length. The counterbalance was provided by a huge ball near the grip, and the attacking end was tipped with a spearhead (Picture 16).

Picture 16: Spear head and counterbalance balls of the hussars lance

The Polish hussars were masters with this seemingly awkward weapon. Its length gave them the advantage of distance over their opponents, whom they could stab far sooner than with the pikes, halberds or other weapons used by Western European soldiers, not to mention swords. In the charge they aimed mainly at the navel, which was usually the adversary’s weakest point, even if it was shielded by the breastplate. Once the lance broke – and this was vital if the hussar was not to be unseated by the force of the impact, the warrior then drew his sword or firearm. The use of the lance enabled the hussars to perform perhaps their most important role, which was to break through the enemy’s front line and drive a wedge into its ranks to smash them from within. The hussars were perhaps the only formation in the world to retain the lance until the 18th century, although by then its purpose was almost exclusively ceremonial. The legend of the hussar’s lance was so potent that in the second half of the 18th century, and on a wider scale in the 19th and 20th centuries, it was superseded by the cavalry lance, which, though much shorter and used slightly differently, was nevertheless the direct descendant of the hussar’s lance.

After the shields had been discarded, though probably not until the first quarter of the 17th century, about the time Western armies were abandoning the steel gloves, the hussars started to use arm-guards, or vembraces, in the highly popular Eastern fashion. Protection of the forearms was vital in hand-to-hand combat, and this element of the armor also allowed the soldier to take advantage of the natural human reaction to shield oneself from a blow without risking the loss of a limb. Vembraces were already in use in the 16th century among the Tatars in Poland, but in iconography depicting hussars it does not appear to be used by Polish soldiers until around the 1620s or 1630s. The Polish name for these arm-guards, karwasz, is derived from the Hungarian term karvos. In time, two distinct types of vembraces evolved in Poland: the one used by the
hussars, which was similar to the Turkish model, comprising only the arm-
guards themselves, without gauntlets, and the other, based on Persian styles,
which had textile gauntlets with mail, and often were ornamented with gold
incrustation. These latter usually were used by the “pancerny”, the light
cavalry (Picture 17).

Bathory’s unsurpassed achievement, however, was the popularization
in Poland of the saber. As I mentioned, this had not been a popular weapon.
Admittedly, interest in the saber did gradually increase over the 16th century,
also in the West, but these were sabers with hilts that were either produced in
the West, often grotesque imitations of Oriental motifs, or almost entirely
covered, like those of rapiers. Indeed, it is significant that Poland began to
take to the saber at just the time that the sword had been almost entirely
eclipsed in Western Europe by rapiers and short-swords, the straight-
bladed weapons, that was to be the main in Western Europe for the next
150 years. Poland at this point veered eastward. The saber that Bathory
brought to Poland as his own was of course a Hungarian version, but
nevertheless the advent of sabers in Poland can generally be considered an
eastern influence. The Hungarian saber is directly descended from the
Turkish models used in the 16th century, which had open hilts, very long,
straight quillons, and very long langets, one of which was parallel to the
grip and the other to the forte. The Military Museum in Warsaw is home
to the saber that traditionally belonged to Bathory (Picture 18). Fashioned
in the Hungarian style, it bears the struck symbol of the lion on the blade
that is well known from Persian pieces. It was not long before an
equivalent was devised, known as the Hungarian-Polish saber (Picture 19).
This had a slightly shorter quillon, and the pommel was set at a sharper
angle. The blade was always slightly curved, with a fuller and a protrusion
called a feather that extended into a double-edged yelmen. This was
significant at the moment of the blow, when in the final phase of the thrust
there was additional weight behind the broader part of the yelmen around
the feather, and this helped to cut through the opponent’s armor.
Bathory’s achievement was tremendous: in the course of his reign, this eastern invention became not only the Polish national weapon, but one of the symbols identifying a nobleman. Like the sword before it, the saber attained the cult status of a chivalric weapon among the Polish szlachta. Without it the nobleman (szlachcic) neither felt nor was considered a nobleman. If he was poor and could not afford one, he would strap a wooden imitation to his side as a mark of his nobility. Miniature sabers were placed in babies’ cradles that they might prepare for a future military career. The Polish saber very quickly became not only a manifestation of
social status but also a political, religious and patriotic propaganda tool, with all kinds of inscriptions engraved into the blades. After Bathory died, a model called the “Batorówka” emerged as a mark of mourning, adorned with a symbolic bust of the deceased king, and often a commemorative inscription. In this same period another camp manifested its support for the new king, Sigismund III Vasa, in the form of sabers dubbed “Zygmuntówki”.

Other elements of the hussar’s armament that originated in Islamic countries were the staff-weapons. Perhaps foremost among them was the war-hammer known as the nadziak, which was also known in Europe, as the knight’s war-hammer, and hence was not always associated with the Orient, but it came to Poland and Hungary via Turkey (Picture 21). It had a long, slender spike, unlike the European version, which demonstrated a shortened tendency. Any doubt as to the eastern provenance of this weapon in the Polish context should be banished by the etymology of its Polish name, nadziak, which comes from the Turkish nadzhak.

Picture 20: Symbolic pictures of Polish kings, Stefan Batory and Sigismund III on Polish sabres called “Batorówka” and “Zygmuntówka”, National Museum in Krakow

Picture 21: Polish war-hammers, nadziaks, National Museum in Krakow
This was a weapon against which even the best armor offered meager protection. The kinetic force at the moment of impact was always devastating. In hussar formations this weapon even became a symbol of the rank of lieutenant, but by the mid-17th century it began to disappear. The main reason for the decline of the nadziak was that armor was becoming obsolete. A further reason were the bans imposed by the Polish parliament in an attempt to curb the acts of cruelty committed with it, and to temper political tub thumpers who sometimes used it as an argument during sessions of parliament. Also in the 17th century a variant version of the nadziak was developed, called the obuch, on which the long spike was blunted and hooked (Picture 22).

A vivid description of nadziaks and obuchs can be found in the work of the 18th-century chronicler Jędrzej Kitowicz, *A description of Customs*, which is an invaluable source of information on Poland during that period:

*The nadziak – what a terrible instrument that was in the hands of a Pole wherever the atmosphere favored brawling or fighting. With a saber one might sever another’s arm, slash his face, deal him a wound to the head, and the blood thus drawn from the adversary tempered his fury. But with the obuch he could deal what was oft a deathly blow seeing no blood, and so, seeing none, he did not sober up at once but dealt blow after blow, not piercing the skin, but breaking ribs and shattering bones. The szlachta, carrying these obuchs, injured mostly the health of their serfs, and often took their lives. Hence at large conventions, diets, dietines, tribunals, where a fracas was no uncommon thing, anyone with a nadziak was barred. And in the cathedral church at Gniezno a sign hangs on the great door warning of a curse on any who might dare to enter that house of God with such a ruffianly instrument. Truly, a ruffianly instrument it was, for when one man struck another with the sharp end of the nadziak behind the ear, he killed him at once, driving the fatal iron clean through the temple.*

Buzdygan-maces, and bulawa-maces are further elements of the Polish hussar armaments that came from the East (Picture 23). The bulawa-mace, a relative of the club, had a round, slightly flattened, or
occasionally oval head set on a shaft. In Poland they were never used in battle, serving only a ceremonial purpose, as a distinction unique to the hetman, the supreme commander of the Polish armies (Picture 24). This is the reason why there are so few bulawa-maces extant in Polish collections, compared to buzdygan-maces. Neither were they items that evolved a regionalized version unique to Poland, as did vembraces, the schischak or the saber, for instance. All the bulawa-maces known to have belonged to Polish hetmen were of or imitations of Turkish or Persian workmanship. This was not the case with buzdygan-maces (Picture 25). These differ from bulawa-maces in that the head is divided into flanges (usually 6). Far more of them have survived, not only in Polish collections, because they were issued to rotmistrz rank, the equivalent of officers, and were therefore manufactured on a larger scale. Up to the middle of the 17th century buzdygan-maces were usually iron, and used more for combat purposes than on parade. Like the nadziak, the buzdygan had been used in earlier periods by Western European knights, when they were known as knights’ maces. These were bigger and heavier than the oriental variety, however, and their flanges were often shaped and serrated. However, again the proof of the oriental origins of the Polish buzdygan is its name, which derives from the Turkish bozdogan. Later buzdygans, which were exclusively ceremonial items, will be discussed further on. In this period, however, they were usually made of iron, and set on wooden shafts, just like the Hungarian version. Hence they are also known in Polish parlance as “Hungarian-type” maces (Picture 26).
Another of the hussar’s accoutrements, although not a weapon nevertheless a central feature of the image of Poland’s armies, were his wings. These again were elements sanctioned by Bathory and originating in the East, and they survived in Poland for over 100 years. The direct model for the use of feathers by the hussars was the Turkish cavalry deli (Picture 27)

Bathory issued an edict to the hussars ordering every cavalry-captain (the rotmistrz) dressed “in the Hungarian style” (!) also to wear feathers and other adornments, for splendor and to terrify the foe, each according to
his fancy. Hence the magnificent feather headpieces worn by the hussars and set into their horses’ headgear, and the wings attached to their lances or more often positioned behind the rider, either side of the saddle (Picture 28). Wings of this type can be seen in sources including the painting “Stockholm Roll”, where they are made of black painted feathers affixed to wooden frames. 

This of course gave rise to the legend of “winged horsemen”, and images of the hussar with an arc of feathers protruding from his back and high over his head are common. Whatever their purpose, it is now known that they certainly did not possess their rumored combat properties. Another element of decoration ordained by Stefan Bathory were wild animal skins, usually leopard and tiger, also imported chiefly from the East (Picture 29).

Picture 28: Polish hussars with wings attached to the saddle, The Stockholm Roll, early 17th century, Royal Castle in Warsaw

Picture 29: Hussars armor with parade wings and animal skin, 2nd half of the 17th century
Bathory’s successes based on Oriental molds were not limited to the hussars. Alongside this formation, which soon developed into a heavy cavalry, there was also a lighter cavalry, the “pancery”. Armed with saber and bow, and protected with chainmail, a round shield and a mail-helmet called a misiourka, they modeled themselves closely on the Turkish cavalry. However, at the end of the 16th century they constituted merely a fraction of the Polish armies. Their heyday came in the second half of the 17th century, and I shall return to them in this context.

The orientalization of the army, the popularity of Stefan Bathory, closer union with Lithuania, the war with Muscovy, and the influx of foreigners – all these factors also affected foreign trade. As import and export expanded, the Polish market opened up to luxury Oriental armaments. This was a market largely controlled by the Armenians in the southeastern corner of the Republic, chiefly in Kamieniec Podolski and Lviv. Lviv in particular played a key role in the further development of armaments in the Polish lands. Armenians from Poland made numerous trade expeditions to Turkish lands – above all Istanbul, Trabzon, Tabriz and Ankara – and sometimes even on into Isfahan in Persia. Across country to Persia through the Ottoman Empire was a dangerous journey that took 120 to 160 days one way, not counting stops for doing business. Turkey itself was much closer, a journey of between 25 and 60 days, though sometimes bad weather could delay the journey by as much as two months, for instance if the winds on the Black Sea prevented travel. Merchants were at constant risk of having their wares confiscated or of being forcibly quarantined due to political incidents and wars, which raised the stakes – and cost – of such journeys. For many years it was mainly fabrics and spices that were traded in this way. It is probably no coincidence that the first mention of a big transport of luxury weapons to Poland from Turkey made by Ormians, recorded in 1578, dates from Bathory’s reign. The merchant in question was the Greek Affendykowicz, who brought to Poland 11 Turkish sabers, two Ajami (Persian) kalkan-shields, and seven caparisons. Previous sources cite only imports of leather goods used to make trappings for horses. But in 1578 armaments became one of the main categories of merchandise imported to Poland by the Lviv traders.

At this point it is worth taking a look at the prices of armaments imported by Armenian traders, which is possible thanks to surviving authentic trade documents from Lviv. In the period 1578–82, Turkish bulat sabers with Damascene blades cost 4–5 zloty in that city. A few years later, in around 1600, Persian kalkan-shields cost 23 zl. The bows used by the light cavalry could be had for 2 zl, but a luxury bow-case decorated with gold and embroidered with silk thread, sold for 8 zl. A complete set of quiver and arrows, with bow and bow-case, cost 20 zl. A Turkish saddle cost 6 zl, while a caparison could command anything between 8 and 60 zl! And in the mid-17th century a Turkish tent could go for as much as 480 zl. The leopard and tiger skins popular among higher-ranking hussars were imported for around 5 zl a piece, or about the same price as a saddle. By comparison, a set of five plates cost 1 zl, as did four large tankards. The annual pay of a rank-and-file infantryman in the Polish
army was around 26 zl in 1581! However, a cavalryman in a good company earned around 60 zl a year.

The Polish army entered the 17th century stronger as a result of Bathory’s reforms. Already at the beginning of the century sources indicate that the hussars and light cavalry were fully developed and were commanding spectacular victories over the Swedes, the Tatars and the Russians. Over this century relations with the Ottoman Empire deteriorated, which led to greater restrictions on trade. The Turkish embargo imposed on arms exports to Poland meant that at least some weaponry was smuggled into the country. The risk must have been a lucrative one, given that there were eager clients not only in Poland but also in Russia, which imported its Turkish goods via Poland during this period. Neither did fashions change among the Polish nobility, who continued to favor wares from the Levant.

This period of prosperity came to an abrupt end in 1648, when the Cossack rebellions under Bohdan Chmielnicki not only broke Polish military power but also precluded safe trade for a time. In addition to the dangerous roads, the main trading towns such as Lviv were often locked in siege against the Cossacks. Then, in 1655, came the Swedish invasion, which brought Poland to the brink of ruin. Trade in crafts also fell into decline. As such, then, this marks the end of the second major period of the orientalization of Poland and its military.

Picture 30: Polish nobleman (szlachcic) with sabre, half of the 17th century
PHASE III

JAN III SOBIESKИ AND THE CLIMAX IN ORIENTALIZATION
PHASE III - JAN III SOBIESKI AND THE CLIMAX IN ORIENTALIZATION

Oriental fashion and crafts, especially Armenian products, experienced a renaissance in Poland during the reign of Jan III Sobieski (1674-1696) (Picture 31). Paradoxically, this was a time of tension and border clashes with Turkey, which continued to seriously hamper trade between the two countries. However, they were the source of considerable numbers of war trophies, and these rekindled an interest in eastern armaments of new and unsurpassed intensity.

Two crucial Polish victories against Turkey were the Battle of Chocim in 1673 and the famous Battle of Vienna of 1683, which was the last great victory of the Polish hussars. One of the effects of these triumphs was the capture of vast quantities of spoils, especially after Vienna. On this occasion the Poles occupied the entire camp of the Grand Vizier and came into possession of all its tents, and huge volumes of weapons, horse trappings, garments, vessels and other riches. Sobieski himself dispatched 400 carts filled with Turkish war booty directly after the victory. Each of these carts had a capacity of between 1,500 and 4,500 pounds, which means the mean average gives us a guideline weight for the transport of 500,000 tons! This wave of Turkish merchandise swept the country, bringing prices of luxury goods down and reinforcing the fashion for all things Turkish with the desire to possess a piece of the Polish success. The impact of this victory was so great that “relics” of the Battle of Vienna were still being produced and “discovered” well into the 19th and 20th centuries, often with blatant disregard for historical truth. Even without these counterfeits, however, it is from this period that museum collections today boast the largest numbers of sabers, equestrian trappings, tents and other treasures of Turkish art.

The fashion for orientalia was perpetuated by King Jan III Sobieski himself, who took a lively interest in the current fashions of the Crimea
and Turkey. He would even have weapons sent him as gifts from Western Europe made over according to eastern designs.

This was also a period in which new types of armor became popular and earlier ones returned to favor. The light cavalry, by now a fully fledged formation, played an increasingly important role. Its members wore exactly the same armor as the Turkish cavalry: misiourka-helmets, long-sleeved, knee-length chainmail tunics for freedom of movement, and on the forearms Persian-style vembraces with gauntlets (Picture 32).

At their side they carried a saber, and on their belt a cartridge box, battle-axe, kalkan-shield and reflex bow, also an eastern weapon. Indeed, the similarity was so great that Jan III Sobieski ordered his troops to wear straw sashes so that the Germans did not mistake them for Turks.

Another product of the eastern influence on Polish armor was the “karacena” scale armor, though this was neither a Turkish nor a Persian legacy (Picture 33).
It dates back to the ancients, to images of Sarmatians and Scythians, with some input from the Roman Empire. The karacena is armor made from scales riveted to a leather garment (Picture 34).

They provided full protection for the legs, torso and head. The Polish karacena usually did not have full-length sleeves; instead it featured elbow-length pauldrons. The protective headgear used was the schischak, usually modeled on the hussar style, though some were inspired by the turban, including that held by the National Museum in Krakow. The karacena was popularized by King Sobieski, who had several portraits of himself painted in this armor. Karacenas were so expensive that they were only accessible to senior-ranking hussars and high commanders (Picture 35), and they were so heavy that they were virtually impossible to fight in; hence this remained essentially a ceremonial item.

Picture 34: Construction of the karacena armor (from the inside). Visible rivets of the scales attached to the leather garment

Picture 35: Paintings of Polish noblemen in karacena armors, end of the 17th century
In the second half of the 17th century another weapon that gained in popularity was the karabela, a type of saber that probably originated in Turkey, though the origins of its name are unclear. The karabela usually has an open hilt, with short quillons that are either straight or curved toward the blade, and the grip of the hilt is fashioned at the pommel into an eagle’s head in profile (Picture 36).

In later periods the shape of the hilt varied, and the name karabela survived only as a traditional reference. This type of saber probably appeared in Poland in its established form and in larger quantities in the first half of the 17th century, although some scholars have found references to a “carabella” in sources from as early as the end of the 15th century. In the 17th century the karabela was still being used as a combat weapon; it was not until the 18th century that it became a ceremonial sword, in response to the introduction of items made by the Lviv Armenians. This saber was so popular that it soon gained the status of a national weapon, worn with the equally national dress, the kontusz (Picture 37).
The karabela was still being made in the 19th century, as a patriotic weapon carrying the symbolic charge of the Poland’s former greatness and importance during the difficult time of the Partitions. Indeed, to this day most of the karabelas in world collections are attributed “Polish” almost as a synonymous genus. It is often very difficult to differentiate between Ottoman, Persian and Polish pieces. Zdzisław Żygulski Jr. is the only scholar to have undertaken a classification and categorization of karabelas including identification of the features of oriental and Polish pieces. He distinguishes five groups of Polish karabelas, using date of production as the classification criterion. Even so, it can be incredibly hard to distinguish a Polish karabela from an oriental one, especially as many Turkish karabelas were simply altered in accordance with Polish tradition, for instance by the addition of inscriptions on the blade, or coats of arms and initials on the hilt, which can be misleading to the scholar.

An item that, while not a weapon, was nevertheless closely linked to militaria, as one of the distinguishing elements of the hetman’s ensign, was a 13-foot pole almost identical in shape to the hussar’s lance. The only outward difference is that instead of the spearhead, this pole was tipped with a spherical or oval ball, with a plume of feathers and cotton ribbons affixed underneath it. This was the mark of the hetman, borne before him; hence its role was virtually identical to that of the Turkish thug (Picture 39). Some experts consider the hetman’s pole a native Polish item, which is accurate only inasmuch that it was constructed on the basis of the hussar’s lance used in Poland. But its use and genesis are oriental, the only difference being that in Turkey the thug took the form of a tail of horsehair hanging freely from a decorated ball, usually affixed on a shorter pole than its Polish equivalent. And while the hetman’s mark was carried singly, in Turkish tradition the number of thugs was an indication of seniority of rank. Only two hetman’s ensigns have survived to the present, one of which is in Sweden, and the other we are lucky enough to have in the National Museum in Krakow.

The Armenians played a crucial role in reinforcing and popularizing Eastern influences and artistic tastes. If in the first half of the 17th century they had distinguished themselves through trade, in the last
quarter of that century through the mid-18th century they led the field in crafts. The abundance of Turkish goods also renewed interest in Persia and Persian products. There was strong demand for slender-bladed sabers, buzdygan-maces and bulawa-maces, precious stones, fabrics, and above all Persian rugs (known abroad as Polish rugs, which indicates the extent of their popularity in Poland). However, most Persian goods had to travel via the Ottoman Empire, and so in time of war prices soared owing to the risk factor – merchandise was frequently requisitioned, or both it and the merchant might be quarantined for months at a time before they were allowed to leave the Empire. In addition, bans on exports of militaria caused a dearth of supply in Poland. This situation was to the advantage of the Armenian craftsmen, in particular those who had arrived in Poland as refugees from Persian Armenia in the 17th century, and hence were well oriented in the artistic tastes favored in the Safavid Empire.

The main center of this population was Lviv, which became the main Polish production base for weapons based on Persian originals, using the same decorative techniques: filigree, incrustation, enamel, and above all niello, a technique which they perfected (Picture 39). The patterns and motifs that they used were also styled on the oriental originals. Most common were tendrils of vegetation with bunches of flowers, and decorative gold cartouches, though without the inscriptions that these would have contained in Persia. They also used precious stones incrusted with gold wire after the fashion of the Ottoman artisans. In this way they found themselves a keen market in the szlachta, starved of luxuries until only recently accessible only to the magnates, and now cheaper, yet in no way inferior to the originals. In terms of production and ornamentation of armaments, the Lviv Armenians excelled above all in karabelas, hussars’ sabers, buzdygan-maces, kalkan-shields, quivers, and equestrian tackle.

In the case of karabelas and sabers, the Armenians concentrated above all on ornamentation and setting, while the blades themselves were often imported oriental ones. Perhaps the most stunning are 18th-century karabelas with chalcedony hilts richly decorated with gold incrustation (Picture 40).
These are superb examples of the Armenians’ skill at blending the art of the East with motifs from the West. A frequent source for the decoration were Rococo patterns intertwined with the plant decoration typical of Persia or Turkey. Other sabers with hilts made of other materials, such as wood, often had gilded ferrules with elements of the colored enamel so characteristic for Persia. The shape of the quillons was always similar to the traditional Eastern style – with short, usually straight arms, though sometimes curved in the direction of the blade in the manner of early Persian sabers (Picture 41).

Kalkan-shields, composed of ribs of fig wood bound together with colored twine, were also made in the Lviv ateliers (Picture 42). In this case the problem with differentiating Polish and original oriental pieces is much greater than in the case of the karabela. Scholars have only been
able to confirm the provenance of a few Lviv kalkans with any certainty. It is thought that the Armenians made the boss with a spiral or rosette and knot pattern, but there is criticism of this distinction. This mystery will now never be solved. Already by the 18th century the kalkan had become more popular as a parade weapon. Prior to that the cavalry had used it as an excellent defense against arrows in particular. Even if an arrow pierced the kalkan, the dense binding of the twine prevented it from penetrating deeper than 2–3 cm, and even this did not affect its usefulness in battle or the stability of its construction. It was of less use against blades.

But among the greatest masterpieces are the buzdygan-maces. Inlaid with filigree and painstakingly covered with exquisite niello work, they are a true mark of the mastery of the Armenian craftsmen. The Lviv buzdygans can be distinguished by a number of features, including “s”-shaped flanges (Picture 42).

Many of them could also be dismantled, which was important inasmuch as by this stage steel buzdygans had been abandoned as battle weapons, and were used exclusively as a mark of officer rank. As a ceremonial piece only, they could be taken apart and stored in a case. Another common feature is the optical division of the shaft into sections, achieved by varying the depth of the carving and chiseling of the metal. Miniature javelins also started to be included in many buzdygan-maces, concealed in the shaft and secured by a screw thread. These were reduced-scale copies
of the Oriental javelins once thrown from horseback, and were often decorated with gold tongues of flame applied onto the surface of the javelin. Similarly, gold or brass rosettes were also added to the mace itself. None of these elements is decisive in confirming or discounting whether a given piece was made in Lviv, but they do indicate perhaps a characteristic of one particular atelier, and are helpful in establishing the provenance of buzdygans from this period. In the 18th century buzdygans were once more imported on a larger scale directly from Turkey, by one Grzegorz Nikorowicz, who in 1753 opened a trading post in Istanbul and began importing luxury goods including Damascus sabers, ferrules for such sabers, and “indyczki”, or Indian sabers, to Warsaw. This was the twilight of the Armenian workshops in Lviv and trade in this type of merchandise.  

In certain periods the Armenians also rivaled oriental craftsmen in the production of saddles. As early as the 16th century saddles in Poland began to move away from the Western European construction with the boards attached perpendicular to the horse’s spine, and instead they adopted the eastern model, with a frame laid parallel to the animal’s backbone. The Armenians used many of the same techniques to make saddles as to make other things. These included niello, often as the inlay filling in cartouches cut out of silver sheet and applied onto the saddle, and incrustation of precious stones with gold (often using European designs).
Caparisons, cushions and undercoats were embroidered. As for the construction of the saddles, those produced in Poland differed little from the Turkish models. Nevertheless, Prof. Żygulski has attempted to differentiate the two. He believes that the Polish saddle has a smooth line, a rather shallow seat, and wider set boards than the Turkish saddle. The underside of the Polish product tended to be finished in birch bark, or the entire saddle might be made of birch wood. As in Turkey, the saddle coverings would be made of embroidered velvet, but according to Prof. Żygulski the embroidery was less disciplined in composition, less technically accomplished, and often employed a mixture of oriental and western motifs. However, these indicators are very hard to identify, and largely are based on comparative observation. It is therefore easy to make a classification error, especially as Hungarian and Muscovy saddles also drew on oriental know-how and designs, and these variants were equally similar to both Turkish and Polish saddles.

Polish collections also contain numerous quivers, cartridge boxes, misiourka mail helmets, and other pieces of Armenian produced armor. In these items also the Lviv craftsmen succeeded in creating often remarkable fusions of Western and Eastern motifs. One excellent example of this is a pair of vembraces held in the National Museum in Krakow (Picture 47). They are made of steel, with leather gauntlets to which is attached mail plaiting decorated with rosettes identical to those on the buzdygan-maces I described a few moments ago. The decoration is Oriental, with characteristic cartouches encasing a floral design, and partly studded with small stones. We know that in Europe there was never a strong tradition of ornamenting armor with religious wording, apart from one brief period and a few isolated cases in the 16th century. Yet this is a common motif in the countries of the Orient. The vembraces we have in Krakow are deceptively similar to eastern ones, as they feature wording alongside the cartouches forming the edging decoration. However, closer examination reveals that the wording is Latin, and is a quotation from the
Old Testament. The quote on the right embrance reads: Therefore *now let your hands be strengthened, and be ye valiant* (II Samuel, chapter 2, 7), and the left: *Thy right hand, o Lord, is become glorious in power* (Exodus, chapter 15, 6)

The 18\textsuperscript{th} century also brought further orientalization of Polish military formations. In addition to those already mentioned, there were now the janissaries, which were dressed almost identically to their Turkish namesakes. By their sides they carried short cutlasses with karabela-style hilts (Picture 48). The Tatar regiments were given kolpak-hats in the style of turbans, and some divisions even used the Turkish names of the ranks. Similar tendencies were also seen at this time in other European armies.

Picture 47: Arm-guards from Lviv Manufacture, late 17th c., with details of decoration and Latin inscription, National Museum in Krakow

Picture 48: Hilt of cutlass used by Polish janissaries, early 18th century, National Museum in Krakow
The 1750s and 1760s were the last decades of the orientalizing influences on Polish life. A new current, the Enlightenment, had once more directed Polish thought towards Western Europe, and the rapid decline of the Polish state put an end to its previous sovereign expansion. Many Oriental elements survived in Poland into quite recent times: the karabela saber and kontusz as elements of the national dress into the 19th and 20th centuries. In reborn Poland Tatars divisions were created where thug as a military symbol was used, and even after the Great War the bulawa-mace continued to be used as the symbol of supreme power in the Polish army.

Of course, the material I have covered here provides only a very brief outline of the subject, which embraces many artistic disciplines. Neither is my description of the army a full one, because time restriction forced me to pass over Western influences, which were equally significant in shaping it.

Oriental art and influences were appreciated on a different level in Poland than in Western Europe. In the West it was often distorted, interpreted bizarrely and superficially, on the level of genre scenes and arcane exotica. In Poland oriental motifs were accepted at face value, and with imitation came the creation of a new quality born of the blend of Oriental and Occidental thought in the context of the Polish Republic. Hence Polish art abounds in hybrids such as Eastern Orthodox liturgical vessels and crucifixes in Gothic shapes, vessels inspired by Persian shapes with Renaissance ornamentation, European blades with Turkish incrustation in thick gold wire formed into cartouches, with wording, but Latin wording, etc., etc. This selectivity is characteristic of the Polish version of orientalization. The Catholic Church resisted these influences altogether, and remained faithful to European culture, never succumbing to the temptation of using Turkish- or Persian-style ornamentation. Only certain types of weapons adopted it, and even these developed Polish characteristics. With the exception of the karabela, sabers were not set in Turkish or Persian hilts. While the blades were imported, they tended to be reset in Poland. Those with Turkish or Persian wording were treated solely as war booty, thought we can find some examples used by Polish soldiers but often with the addition of extra Polish accents. Only the shape of staff-weapons was adopted; the weapons themselves were made in Poland. The battleaxes and hatchets characteristic for Persia and Turkey were almost not used in Poland. Firearms were identical to those used in the West; few divisions used janissaries’ matchlock guns. Polish military culture is entirely void of references to knives. We know that short edged weapons were imported for several decades via the Crimea, but we know nothing about their appearance or use. No type of knife that could lay claim to national status never emerged in Poland comparable to the kard, jambiya, kinjal, pesh-kabz, etc. of the Muslim countries. The only mention is a 16th-century reference to “czwelinki”, knives imported from Poland to Turkey, where they were very popular, but nothing further is known.

Nevertheless, orientalization in Poland was so strong that in the 17th century, when interest in Turkey was at its height in the face of the threat from Islam, all Europe viewed Turkey from the perspective of Poland. The Frenchman Louis d’Arvieux, recently returned from the
Ottoman Empire, likened a company of deli cavalry he had seen to the Polish hussars. Another, one Daleyrac, wrote in 1683 that in Turkey, a thug a la polonaise was carried before the Pasha! And the karabela saber became so deeply rooted in Polish culture that by the 18th century the Turks believed it was a Polish invention!

Selected bibliography:

- Andrzej Dziubiński, Na szlakach orientu, Wrocław 1997
- Jacek Gutowski, Broń i uzbrojenie Tatarów, Warszawa 1997
- Włodzimierz Kwaśniewicz, 1000 słów o broni białej i uzbrojeniu ochronnym, Warszawa 1981
- Włodzimierz Kwaśniewicz, Dzieje szabli w Polsce, Warszawa 1999
- Tadeusz Mańkowski, Influences of Islamic Art in Poland, “Ars Islamica”, vol. II, part 1
- Tadeusz Mańkowski, Orient w Polskiej kulturze artystycznej, Wrocław 1959
- Tadeusz Mańkowski, Sztuka Islamu, Warszawa 1959
- Ormianty polscy. Odrębność i assimilacja, red. Z. Gołubiew, Kraków 1999
- Jerzy Werner, Polska broń. Łuk i kusza, Wrocław 1974
- Andrzej Zajączkowski, Główne elementy kultury szlacheckiej w Polsce, Wrocław 1961
- Zdzisław Żygulski jun., Brōń w dawnej Polsce, Warszawa 1975
- Zdzisław Żygulski jun., Husaria Polska, Warszawa 2000
- Zdzisław Żygulski jun., Odsiecz wiedeńska 1983, Kraków 1988
- Zdzisław Żygulski, jun., Ottoman art in the service of the Empire, NY 1992;
- Zdzisław Żygulski, jun., Stara broń w polskich zbiorach, Warszawa 1982
- Zdzisław Żygulski jun., Henryk Wielecki, Polski mundur wojskowy, Kraków 1988;

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**Picture 45:** Saddle made by Lviv Armenians, 1st half of the 18th century, National Museum in Krakow, picture by Michał Dziewulski;

**Picture 46:** Detail of stone attached to the saddle, inlayed with gold wire, Lviv manufacture, 18th century, picture by Michał Dziewulski;

**Picture 47:** Arm-guards from Lviv Manufacture, late 17th c., with details of decoration and Latin inscription, National Museum in Krakow, pictures by Michał Dziewulski;

**Picture 48:** Hilt of cutlass used by Polish janissaries, early 18th century, National Museum in Krakow, picture by Michał Dziewulski;