THE OBJECTIVE of this essay is to give a short description of the types of arms and armour used by Hospitaller knights and their adversaries, the Ottoman Turks. The inventory of the Palace Armoury of Malta is an important collection depicting a variety of arms and armour collected by the knights of the Order of St John from the time of the Great Siege of Malta of 1565 until their departure from Malta in 1798. This article analyzes and presents a selection of these items from both Hospitaller Knights and Ottoman warriors from sixteenth to the eighteenth centuries.

Introduction

On 18 May 1565, a 40,000-strong Ottoman army arrived at Malta in roughly two hundred vessels of different types: galleys, galliots, galleass, transport vessels and trade sailing ships (according to the Order of St John's official historian, Giacomo Bosio, the fleet consisted of 193 vessels). The campaign anticipated a long siege with multiple assaults of well-defended forts in a challenging rocky terrain. Infantry units, artillery batteries, sappers and engineers were assembled for that purpose. Given the logistics and geography of the objective, cavalry did not play an important role in this battle, unlike other Ottoman campaigns. During the Malta campaign, the Ottoman armament complex was fully developed; its high efficiency and compliance with Ottoman tactics had been developed over the numerous wars and battles of the sixteenth century. The Ottomans inherited long-established weapon-making
traditions, incorporating the technologies of conquered nations and increasing their production capacity by imposing the deportation and employment of foreign craftsmen from all corners of the empire. Many weapons were also seized from the arsenals of conquered countries such as Byzantium, the Mamluk Sultanate, Persia, and the South and Eastern European States. This was the force confronting the Christian defenders led by the Hospitaller Knights.

The Hospitaller Knights of the Order of St John formed the pillar of the Maltese defensive forces arrayed in opposition to the Ottoman invasion and subsequent siege. Thus, they employed the military technologies of all continental Europe and the knightly armaments which had been tested and proven on legendary medieval battlefields. In terms of weaponry, trends which had been established in the fifteenth century continued well into the sixteenth century, in particular with regard to the development of firearms.\(^2\) The Order of St John functioned as a pan-European community because many knights and mercenary troops from different countries joined it. However during the Malta campaign, the Order relied heavily upon Spanish and Italian military powers. Thus, at the time of the Ottoman invasion, according to different contemporary accounts, the Order fielded a force of between 6,000 (Balbi)\(^3\) to 8,500 (Bosio)\(^4\) and more than half of them were Maltese inhabitants (Spiteri).\(^5\) The core of this force consisted of 500 heavily armoured knights, who by May 1565 had answered the Grand Master’s summons to Malta.\(^6\) During the siege, additional supporting troops and supplies arrived, mostly from Sicily. In this regard, Spanish and Italian military trends were predominant in the armament inventory of the Maltese defenders.

**Types of arms and armour used by Hospitaller Knights**

The establishment of a military storehouse within the Grand Masters’ Palace in the seventeenth century may have been the start of the collection of arms and armour in the Palace Armoury of Malta, which appears to be corroborated by the existence of predominantly late sixteenth, seventeenth- and eighteenth-century arms and armour in the collection.\(^7\) But the collection also has a number of various medieval and early-sixteenth century pieces, suggesting that the origin of the assemblage might well be much older, perhaps dating back to the time when Grand Master Wignacourt started reorganizing the magisterial palace as a military headquarters. One should note that the Hospitaller Order of St John traces back its existence as far as the

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4 Giacomo Bosio, *Della Istoria della Sacra Religione Gerusalemmitana*, 3 vols (Rome, 1594-1602)
6 Ibid. p. 57
7 Ibid. p. 17
Crusades. As a military organization, the Hospitallers established one of the twin pillars of the Crusades Kingdoms next to the Templars.\textsuperscript{8}

In 1530, the Order of St John took possession of Malta and the fortress of Tripoli, a Spanish North African outpost. Of the two available strongholds, they chose the Castrum Maris and its suburgu inside the Grand Harbour as their seat.\textsuperscript{9} Similar to other medieval strongholds, the Castrum Maris was equipped with its own modest arsenal of arms and armour as recorded in early documents dating to 1274.\textsuperscript{10} Unfortunately, no documents regarding the armouries of Malta at the time of the arrival of the knights of the St John are known to exist but Spiteri states that one thing is clear - the artillery inventory was deficient.\textsuperscript{11} Based on the statements of Bosio, the knights found a "mezzo cannone petriero", two "falconetti" and some bombards. Interestingly, composite gun of the port piece type held in the collection of the Palace Armoury is thought to be one of the medieval bombards found by the knights.\textsuperscript{12} It is not clear what types of arms and armour the Hospitaller knights brought with them to Malta, but a percentage of their equipment may have been salvaged from Rhodes in 1523 and this in turn would have been used to stock the armouries of the Castrum Maris.\textsuperscript{13} A number of items in the Palace Armoury can be traced back to this period such as the North Italian Sallet, a Maximillian close helmet and the remains of a brigandine.\textsuperscript{14}

**Daggers and short swords employed by Hospitallers and Ottomans**

The Hospitaller knights wielded weapons with short blades (short swords) together with straight daggers and fighting knives. Sword-hilted daggers with quillons remained popular since the fifteenth century. However in the sixteenth century, sword guards became quite elaborate, so the practice of carrying sword guard designs over to daggers went into decline. Among the most representative weapons were the so-called Maximillian daggers and Italian fish-tail daggers.\textsuperscript{15} In the period of the Malta campaign, a new fundamental style in European swordsmanship had been developed (starting from 1550). This style involved the use of a special left-hand dagger in conjunction with a sidesword or a rapier.\textsuperscript{16} In the sixteenth century, the so-called Landsknecht daggers with a straight, double-edged blade, massive cylindrical hilt and scabbards, as well as ballock daggers with a handle in the shape of inverted cone and

\textsuperscript{8} Ibid.
\textsuperscript{9} Ibid, p. 47
\textsuperscript{10} Ibid, p. 47
\textsuperscript{11} Ibid, p. 49
\textsuperscript{12} Ibid.
\textsuperscript{13} Ibid, p. 50
\textsuperscript{14} Ibid.
\textsuperscript{15} Bashford Dean, *Catalogue of European daggers 1300-1800: including the Ellis, De Dino, Riggs, and Renbell Collections* (New York, 1929), p. 96
\textsuperscript{16} Ibid, p. 111
rounded downward ledges as the guard were popular. The majority of the sixteenth century ballocks have a thin blade with a tetrahedral shape in the cross-section.

Traditional Turkish knives (‘bichak’) were distinguished by a straight single-edged blade without fullers and with a smooth forte and a straight handle which extended near the top. The form of the curved Turkish dagger (‘khanjar’) was common for all areas in the Middle East. Such daggers were circulated from Maghreb and Arabia to Persia and Moghul India. They are distinguished by a heavy, slightly curved, single-edged blade with fuller or fullers or a raised midrib and a reinforced tip to penetrate armour. The handle has the I-shaped form. One should note that sometimes the I-shaped handles of khanjars were combined with a straight blade in the form of long triangle. The sizes of knives and daggers greatly vary.

**Swords employed by Hospitallers And Ottomans**

One of the most important sideswords kept in Malta is the example known as ‘de Valette’s battle-sword’. This sword is kept in the chapel of Our Lady of Damascus in Birgu (Vittoriosa), ever since its presentation to the chapel at the end of the siege of 1565. It is presumed to be the personal battle sword of de Valette. Short swords such as the European baselard were mostly used by the infantry since the fourteenth century. It had either a single or a double-edged blade narrowing smoothly to the tip, and the length of blades varied greatly from little daggers to short broadswords. In the middle of the sixteenth century, the use of the baselard was still widespread, although the derivative Swiss dagger (the ‘Holbein dagger’) with a leaf-shaped blade gained popularity. Since the end of the fifteenth century the Schnepfer or Swiss Sabre that combined a broad, long, and gently curved blade with a bastard-sword hilt was developed. From the second part of the sixteenth century compound basket guards were often used instead of the earliest composite guards. In European countries of the High Middle Ages various types of big fighting knives with straight and curve blades were developed. Such one- and two-handed weapons with curve blades - badelaire (with a short, broad, falchion-shaped blade), düsack (a German short sabre) and others were popularized by the German and Italian fencing schools, while classic sabres spread in Europe mostly due to the Ottoman military presence.

Throughout the centuries, the sword remained the knight’s main weapon for melee combat. During the sixteenth century new types of long-bladed weapons such as sideswords and rapiers became fashionable. Swords gained certain features in response to new requirements. The majority of knightly swords of the sixteenth century had complex guard shapes incorporating long quillons, downward curving

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18 Franco Davies, *De Valette’s Battle-sword* (forthcoming publication).
side rings, and multiple bar knuckle-guards. Knights on the battlefield needed long, heavy cut-and-thrust blades with a long ricasso. Old blades were often used and remounted for over a century.\textsuperscript{19} Warriors commonly used the so-called bastard (hand-and-half sword) sword with a long grip divided roughly in half by a latitudinal ridge.\textsuperscript{20} Swords of that period mostly have a pear-shaped pommel.\textsuperscript{21}

Spiteri states that the best troops fighting under the knights of St John were the Spanish and Italian soldiers who were hardened and experienced warriors.\textsuperscript{22} Many of them were arquebusiers or pikemen but there were many swordsmen who were specialized in the use of double-handed swords known to the Spanish as montante and the slightly smaller hand-and-half bastard sword. Swords of this type were placed on panels so that if the Turks broke through the lines they could be readily fetched and used. Regarding the two-handed swords, the Italian fencing master Giacomo di Grassi emphasizes their importance in his book \textit{His True Arte of Defence} translated into English in 1594:\textsuperscript{23}

"The two hand Sword, as it is used nowadays being four handfuls in the handle, or having also the great cross, [...] And because his weight and bigness, requires great strength, therefore those only are allotted to the handling thereof, which are mighty and big to behold, great and strong in body, of stout and valiant courage".

Two European two-handed swords are currently kept in the Palace Armoury. These are of an older production date which will be compared in the following table. The two-handed sword is a fighting sword of the middle of the early-sixteenth century (Fig. 2). It is 141.1 cm long and weighs 1620 grams. Although it is a two-handed sword, it could also be considered as a “bastard sword” or a "hand and a half sword". The upper part of the blade or the forte is unsharpened so that one hand could be placed in front of the guard, while the other hand was on the lower portion

\begin{footnotesize}
\begin{enumerate}
\item[19] Ewart Oakeshott, \textit{The Sword in the Age of Chivalry} (Woodbridge, 1998), pp. 54-55
\item[20] Ibid. p. 131
\item[21] Ibid. p. 106
\item[22] Spiteri, p. 56
\item[23] Originally titled as \textit{Ragione di adoprar sicuramente l’Arme, si da offesa come da difesa} and written in 1570.
\end{enumerate}
\end{footnotesize}
of the grip. The blade can be dated to between 1520 and 1550. It has two fullers starting directly from the forte which run almost parallel for one third of the blade length. The blade has two inscriptions. On one side the engraved inscription reads: ‘Antoi me fie’ [Antoi made me]. The inscriptions are separated in two parts ‘Antoi’ placed in the upper fuller and ‘me fie’ in the lower fuller. Both are placed within double crescents, which are placed back to back, with three dots at each end. This is supposed to be an Italian (Venetian) proof mark which was often imitated on Indian and Nepalese blades as a sign of quality. The Persian manuscript on swords titled Tā’īd Besārat [Aid to Sight] written in India in the seventeenth to eighteenth centuries describes this sign as mokarri and states that that was the sign of a spider on some magrebi [Frankish/European] swords which had two crescents resembling two kamān-e kuruhe (stone bows) facing each other back to back with a distance between the two and a sign of a spider between them.24

At the end of the fullers a cross sign is placed on the blade. On the other side of the blade, there is a French inscription ‘Espoir en Diev [With hope in God]’. This inscription is also separated in two parts. ‘Espoir’ is placed in the upper fuller and ‘en Diev’ in the lower fuller. Both are placed within double crescents, which are placed back to back, with three dots at each end. At the end of the fullers a cross sign is placed on the blade. The sword has a long crossguard with two protective rings placed on each side. It has also a pear-shaped pommel. The wooden handle is wrapped with a cord. The handle is bulbous in the middle. Based on a sword in a Wallace Collection in London, this sword can be attributed to circa 1540. The inscriptions could also be read together as: ‘ESPOIR – EN DIEV / ANTOI – ME FIE’ means ‘WITH HOPE IN GOD / ANTOI MADE ME’. The use of the French language (in abbreviations) does not guarantee the maker was French, but opens that possibility. Another interpretation for reading the inscription is that the inscription actually reads ‘En Toī [je] me fie’ which means ‘In Thee [oh Lord] I trust.’ The reason is that “an” and “en” were interchangeable at the time. But this possibility

24 Mirzā Lotfollāh, Tāʾīd Besārat [Aid to Sight] (1706-1707 or 1696-1697), manuscript work on swords and swordmaking in the British Library. See also Manouchehr Moshtagh Khorasani, Lexicon of Arms and Armour from Iran: A Study of Symbols and Terminology (Tübingen, 2010)
can be almost ruled out as later 18th century Prussian blades were inscribed with the inscription “Me fecit Potzdam” [They made me in Potsdam].

The two-handed sword (Fig. 3) is of a shorter type. It allows one hand to be placed on the blade in front of the guard, while the second hand sits on the lower portion of the grip, or, to be used with both hands. This blade appears to be Spanish. It bears an inscription in Latin which is from Psalm and reads: "IN TE DOMINE SPERAVIT" and can be translated as “In Thee, O Lord, I have placed my hope.” This inscription is separated in two parts ‘In Te Domine’ and ‘speravit’. Each part of the inscription is placed within an incised X consisting of four points on each side. A cross is placed at the end of the unsharpened forte of the blade as well. The maker of this two-handed sword is unknown. A very similar two-handed sword is kept in the Wallace collection with the same blade design, crossguard, auxiliary rings, handle and pommel and above all with the same inscription followed by a cross and xx signs. The blade is unfullered, but in the forte area, there is a fuller close to the unsharpened edge on each side. The wooden handle is bulbous in the middle and is engraved with fullers. The pommel is made of steel and is pear-shaped. A brass ring is placed on the wooden handle close to the crossguard. The sword kept in the Wallace collection is described as an Italian or Spanish sword from circa 1540. With a length of 135.7 cm, the sword in Palace Armoury of Malta is longer compared to the length of 115 cm of the two-handed sword in the Wallace Collection. Interestingly, the two-handed sword in the Wallace Collection weighs 1620 grams compared to the weight of 1610 grams of the double-handed sword of the Palace Armoury in Malta.

The Palace Armoury of Malta has different types of swords. Among them there is a composite sword from circa 1720 with brass animal head handle from an English hanger (Fig. 4). Spiteri states that this sword was possibly repaired by the Order's armourers and is a composite sword with the brass hilt of a 1700

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British hanger. He adds that the hilt is missing its knuckle bow and the blade stems from a larger cutting weapon. The blade is double-edged in contrast to the blade of a cutlass. The pommel and grip were cast either in one single piece or in two halves plugged together. The roots of this type of handle go back to Ceylon (Sri Lanka). It was intended to be mounted on a local kastane sword. As copper and brass were valuable and such pommel-grip combinations were easy to carry, they even reached the point of being used for payments, as a currency. The blade on the piece kept in the Palace Armoury of Malta is an export blade made by the hundreds and shipped unmounted in bundles to harbors for naval equipment stores all over the British Empire. The fact that it shows a punchmark of the eighteenth century with the Cross of Malta reveals that it belonged to the Valletta Arsenal in Malta.

The Ottomans used a wide range of swords including straight swords, pallasches, sabres, estocks and early yataghans. The sabre was an important Ottoman weapon. Turkish invasions into Central and Eastern Europe contributed to the establishment of sabre in the European armies and the appearance of local variations. The Ottoman army used sabres of various morphological types, also popular in many countries of the Middle East and Europe. One of the most outstanding types was karabela sabre, which gained immense popularity in Central and Eastern Europe, especially in Rzeczpospolita. Karabela is characterized by a hilt with a crossguard and a pommel in the shape of a stylized head of a bird or an arc construction, even a shamrock (Fig. 5). This type of handle was usually mounted on long cavalry blades with many fullers and a large yelman (raised backedge).

Mamluk edged weapons played an important role in the armament of the Ottoman Empire. The Mamluk weapons and arms and armour tradition were fully

26 Spiteri, p. 151
integrated and adopted by the Ottomans and these were widely used in 16th century. One of characteristic features of Mamluk cold steel was ergonomic recess on sabre handle for fingers.

Ottoman warriors widely used Arabic-style weapons as well. The term ‘Saif’ was a general term meaning a ‘blade’ or a ‘sword’, but it was mostly used for sabres in later periods. It was also used to determine a characteristic type of Arabic sabre with a large hooked pommel on the hilt, tilted forward towards the blade and having the shape of a stylized lion’s head and short quillons. The blades are mostly not very long ranging from 65-75 cm. These were imported from various countries such as India, Persia and Europe. These sabres are generally considered horseman's weapons, being designed to slice.28

The nimcha (nimcha, nimsha) was another type of an Arab sabre which was often regarded as a type of saif. In modern historiography this term used to determine long-bladed weapons with a very distinctive hilt. The grip with its large one-sided pommel representing a lion’s head has a smaller slope of the classic saif. The half-closed knuckle guard, rectangular at the base and with drooping quillons, was inspired by some 16th century European swords. Such a weapon could be mounted with various blades and was most common in the Maghreb countries, especially Morocco.29

Fig 5: An Ottoman kilij sabre with a typical karabela hilt. (Heritage Malta Collection, Palace Armoury, inv. no. PA3592)

Fig 6: An Arab nimcha/saif with a steel blade, horn handle and a brass handguard. (Heritage Malta Collection, Palace Armoury, inv. no. PA95833)


29 Tarassuk & Blair, p. 352. See also George Cameron Stone, A glossary of the Construction, Decoration and Use of Arms and Armour in all Countries and in all Times (New York, 1999), p. 469
Another definition of *nimcha* is associated with a very distinctive blade form. It is gently curved, has several fullers and a huge *yelman* (similar to *Moplahs knife* or Indian *āyudha katti*). Such sword blades were common in the Arab world, particularly the maritime areas from South-East Asia to North Africa, and were found with a variety of hilts reflecting local taste. Obviously the form and length of the blade made this a convenient weapon at the sea as equivalent of a European cutlass.

**Lances and spears**

The popularity of the heavy lance for cavalry significantly decreased during the 16th century. Mounted lancers in full armour had no future in the new armies structures that were based on advanced economic and organizational principles and a widespread use of firearms. However, knights continued to fight in the old traditional style throughout the century. The European lance had been permanently modified since the fourteenth century. Lances of the sixteenth century differ slightly from those of the previous century. The formerly thick and heavy shafts became lighter. They were from 3.6 to 6.7 metres long and ended with the leaf or lozenge-shaped head needed to penetrate the reinforced armour of the time. In the mid-sixteenth century, historical documents mentioned a term ‘demi-lance’, denoting a light spear, carried by medium cavalry distinct from the fully armoured knights. The infantry pike still played an important role on the battlefield, although its absolute dominance came to an end as squads of pikemen began to be combined with musketeers.

Spears and lances in the Ottoman army were primarily used in the cavalry. Lengths of weapons significantly varied from 1.5 to 4m. The spear tip was reinforced to improve the armour-piercing capability of the weapon. The short throwing javelins (*jarid*) with the length of 80-100 cm were also used during the war and in competitions.

*Part Two of the essay will be published in Volume II of this collection of essays.*

32 Tarassuk & Blair, p. 309. See also Guy Francis Laking, *A Record of European Armour and Arms Through Seven Centuries*, 5 vols (London, 1921), IV, pp. 330-331
33 Ewart Oakeshott, *European Weapons and Armour from the Renaissance to the Industrial Revolution* (Woodbridge, 2000), p. 54
34 The authors would like to thank Rainer Daehnhardt, Bede Dwyer, Mark McMorrow and Dan Howard for their valuable inputs on European arms and armour. We would also like to thank Robert Cassar, curator of the Palace Armoury of Malta, for his permission to measure and photograph, Chris Cachia Zammit for taking photographs, Karl Agius, Andrei Xuereb, Franco Davies and Brian Robert Gatt for measuring and taking notes.