At the dusk of the Middle Ages units of pavisemen and pikemen were considered elite. Both categories drew salaries equaling double of what was paid to handgunners (Grabarczyk 2000, p. 60), who were the rank and file of the armies. The reasons for such a situation should be seen in the risk and responsibilities resting on this particular group.

During the 15th and at the onset of the 16th centuries the pavisemen made a wall protecting shot units usually arrayed in square formations. The pavises held by them were supposed to protect own units from the enemy fire and cavalry charges. Breaking of their ranks may have, in many cases, spelled the beginning of an end to the whole formation. Thus, we can infer a special pressure was exerted on the pavisemen units with regards to their training, fighting spirit and likely the quality of their arms. It was this particular formation that in many cases had direct contact with the enemy. The handgunners, protected by the pavisemen, would direct their fire at the foes from the longest viable distance, entering the hand to hand combat only as a last resort. This direct contact and the requirement to withstand the impetus of a cavalry charge or a hail of crossbow bolts may have had an impact on the units’ quality.

It is therefore possible to conclude from the two abovementioned elements that both the command and the soldiers themselves had an interest in the best possible defense from physical harm. The first and most important element of this defense was of course the pavez, a massive shield, sometimes a metre tall (Denkstein 1965, p. 49). Its surface was supposed to be the main protection against the enemy swords and – probably above all – arrow- and boltheads. However, full protection of a warrior's body with a shield is not possible. During an attack or when advancing, sticking an arm, a leg or the head from behind the shield is unavoidable. In such situations the fighter
is vulnerable to blows. Thus, it can be surmised that pavisemen, being elite, acquired other protective equipment apart from the pavise.

Written sources are especially useful when researching pavisemen's armour. In the numerous muster rolls of enlisted units (Rotte) from the 15th and 16th centuries, pavisemen and all their weaponry are listed. A statistical summary of the weaponry used by these soldiers can be made with the use of materials collected by T. Grabarczyk and A. Bołdyrew. Out of 864 pavisemen known from the 15th century sources only 390 mentioned in the years 1471, 1477 and 1498 (only two) has more or less clearly indicated elements of protective equipment (Grabarczyk 2000, p. 180). To this number one has to add a difficult to interpret descriptive "paviseman's armour", itemized just 14 times (ibidem). Most likely, this refers to typical, most popular or possibly most desirable protective armour. Unfortunately, we do not know what it looked like. For the 16th century, we have at our disposal descriptions of 1386 soldiers with paveses and lists of the remaining arms (Bołdyrew 2011, pp. 262–263, 271).

Out of 1774 pavisemen with specified armour, 576 (32,4%) had helmets (Grabarczyk 2000, p. 182; Bołdyrew 2011, p. 271). Helmet is clearly the most important and desirable element. It has to be stressed that the number of helmets underwent a dramatic change with time. In the 15th century, 89,74% of pavisemen were in their possession, while only 16,31% in the 16th century had them. Next, 487 people (27,42%) with a myszka or a pair of them should be mentioned (Grabarczyk 2000, p. 82; Bołdyrew 2011, p. 271), it was either a part of a vambrace or a couter (Wagner, Drobná, DurdiK 1960, p. 29), or the lower cannon (Szymczak 1989, p. 120), or a spaulder (Nowakowski 1990, p. 79–80), or a full vambrace (Adamczewski 1989, p. 251). This piece can be seen with 76,41% of pavisemen in the 15th century and only 13,64% in the 16th century. Other pieces can only be seen in written sources of the 15th century provenience.

Fewer, that is 162 combatants (41%), had a szynka, a pair of these was in possession of just 88 of them (22,56%) (Grabarczyk 2000, p. 182). Interpretation of this piece also poses some problems, as sometimes it is thought to be a fragment of a vambrace and sometimes cuisses. Should we accept the first interpretation, it will mean that these pavisemen had no leg protection. This remark appears to be especially important in later analysis of pictorial sources. Some researchers think that szynka refers to some form of leg protection, cuisse or full leg armour. Such and interpretation might seem problematic. T. Grabarczyk suggested that protecting one leg only makes little sense. It has to be pointed out, however, that in case of a paviseman it is mainly the forward leg that is mostly vulnerable to attacks, and it is possi-
ble that an attempt was made to protect this leg only. What is more, amongst combatants in Paolo Uccello's *The Battle of San Romano* a soldier holding a large, oval shield can be seen, with only one of his legs armoured (Nicolle 1995, p. 36). By the same token, we will make an initial assumption that *szynka* might be a form of leg protection.

Only 35 (8.97%) of the soldiers were protected by plate gauntlets (Grabarczyk 2000, p. 182). Other pieces of armour are sporadically seen. These comprise of eight breastplates (2%), five bevors (1.3%), three cuirasses (0.77%) and two mail shirts (0.5%) (ibidem, p. 165).

Statistically, in 1471, of 518 listed pavisemen, 162 had no protective arms beside the shield. In 1477, 20 out of 67 soldiers were in a similar situation. In either case, the ratio of unprotected pavisemen fluctuates around 30% (ibidem, p. 183).

When analysing individual cases, it is worth to mention the descriptions of Paweł Prusz, who, apart from his pavise, had a sallet, a pair of *szynkas* and a pair of *myszkas* (ibidem, p. 160); Jakub Budkowski with a pavise, a kettle hat, *myszka, szynka*, bevor, breastplate and a sword (Adamczewski 1989, p. 250); Grot with a pavise, mail shirt, both *myszkas*, gauntlets and a bevor (Grabarczyk 2000, note 317). The armour of Twaróg seems to be equally impressive, who, apart from his pavise, wore a full cuirass, *myszkas, szynkas* and a sallet (ibidem, note 324).

These soldiers had, however, the most complete protective armour in their category. It comprised of a pavise, arm protection (usually without gauntlets) and legs, usually also a torso protection. The above descriptions suggest that an average paviseman, apart from his shield, also had a helmet and usually a partially covered arm (most likely the right one, which would come from behind the shield in combat) and one leg. Only sporadically his armour would have been made more complete with a torso or neck protection.

The period theoreticians of the art of war also confirm this very cherry-picking approach to protective armour in contemporary infantry. Niccolò Machiavelli in his *Dell'arte della guerra* (Machiavelli 2008, p. 67) writes: “It is usual armour for modern infantry, for few infantrymen have their backs protected, and their shoulders, and none protects his head...”¹. The Florentinian refers to infantry in general, and clearly contrasts this with ancient Roman doctrine, where infantry is comprised of men wielding great shields and clad in steel cap-a-pie. The 16th century writings, both legal and theoretical, even more forcefully set out in what way a pavisemen should be armed. According to the ruling *Artykuly rotmistrzom opowiadane* of 1561

¹ “Questo è l’armare ordinario delle fanterie d’oggi, perché pochi ne sono che abbiano armate le stiene e le braccia, niuno il capo...”.
(Articles given to Rottemasters), a shieldman should have a myszka, a kettlehat, a sword and an axe (Kutrzeba 1937, p. 90). According to Krzysztofa Myszkowskiego hetmana tempore interregni artykuły dla wojska na granicach śląskich of 1572 (Krzysztof Myszkowski Hetman Interregni Articles for Troops on Silesian Borders) such a set should include a myszka, a helmet, gauntlets and a gorget (Kutrzeba 1937, p. 149).

Among the required pieces of protective armour, there are no trunk or leg defences. It should be noted that the cited sources come from a period when the battlefield is dominated by pikemen and firearms, and protective armour begins to disappear. It is, however, also a period when simple pieces of protective armour become more commonplace, as metallurgical production develops.

What is striking, is the difference between the 15th and the 16th centuries. Obviously, the character of armies changed with time. The pavisemen ceased to perform duties of primary defence. From the end of the 15th century the battlefield sees the pikemen (kopijnik) as the most heavily armoured soldiers in full plate armour. The comparison of rates of number of helmets (5.5:1) and myszkas (5.6:1) between the 15th and the 16th centuries is the best evidence of this transition.

The knowledge of pavisemen's armour should be broadened with the study of iconography. I subjected a series of depictions of men at arms with pavises to an analysis. I rejected all pictures of knightly saints and riders with pavezka (a small pavise). In the first case, it seems that the armour is as full and exclusive as possible due to the characters' position and rank, in the second case, we wouldn't be dealing with this paper's subject.

An army on the move is depicted in mural paintings from the second quarter of the 15th century from St. Laurentius Church in Strzelinki (kościół św. Wawrzyńca) (Gotyckie malarstwo... 1984, p. 219, fig. 101; Wasiak 2009, pp. 147, 151–152, fig. 256). We can see a paviseman among other soldiers. The individual, though shown with a big shield covering him from knees to shoulders, is wearing a full plate armour. On his head we can see a sallet with a moveable visor, his neck is protected with a bevor. His arm covers the torso, but a plate fauld visible below suggests that he has a breastplate or a cuirass on. Plate armour also covers his legs and feet.

In a Knight Hospitallers' Church's poliptych from Stargard, there is a sleeping Sepulchre sentry with a large shield of an unusual shape (Malarstwo... 2004, p. 254). Irrepective of whether this indeed is a pavise or only a fantastical depiction (Żygulski 1978, pp. 598–599), it is worth noting that the soldier's body is clad in full plate armour, consisting of a helmet, bevor, Kastenbrust cuirass, full vambrace and leg armour with sabatons.
Made in 1466, the Legnica Poliptychon by Mikołaj Obilman has a similar chronology to the abovementioned Rotte muster rolls (Kochanowska-Reiche 2003, pp. 70–71, Malarstwo... 2004, pp. 218–219). In the quarter showing Resurrection, we can see a sleeping warrior with a modestly-sized pavise. He has no helmet on his head, just an ornamented cap. His trunk is protected by a blackened cuirass with fauld and tassets. His arms are covered with vambrace and plate gauntlets with articulated fingers (scale-type). His legs are also armoured with plate pieces, only his feet are unprotected. Even at the first glance, his armour seems to be much more complete than those listed in the written sources.

A pavise of possibly derisive character is being carried on the back of a soldier in a scene of Capturing Christ in the Jerusalem Altar in St. Mary’s Church in Gdańsk (Labuda 1979, pp. 197–200; Malarstwo... 2004, p. 171). His head is protected with a sallet with a moving visor. His body is covered with an ornamented red garb. Its shape makes it impossible to discern, if there was any armour intended by the author to be present underneath it. His arms are protected with couters, lower cannons and gauntlets with short collars. On his legs, clad in woolen hose, there are plate poleyns of intricate form.

A large flat pavise is being carried by a man-at-arms in a Passion scene from St Jacob’s Church in Toruń (Kopania 2008, pp. 91–112). In this painting, dated to the 1480s, we can see a soldier in a sallet, with a plate gorget, a breastplate or a cuirass. Another character partially blocks most of the shield-wielding man’s arm, but his spaulder is clearly visible. His legs are also fully plate-armed.

The depictions of pavisemen that I consider to be the most important for our discussion here come from The Siege of Malbork painting of ca. 1481–1488 (Labuda 1979, pp. 203–205; Malarstwo... 2004, p. 173), residing until the end of the World War II in Artus’ Court in Gdańsk, one of Balthasar Behem’s Codex of 1505 (Ameisenowa 1961, pp 41–42, fig 18; Kodeks... 2000; Bołdyrew 2011a, p. 67), and the painting The Battle of Orsza of ca. 1520–1534 (Białostocki 1955, pp. 80–98).

The Siege of Malbork remains probably the only battle depiction made in the Middle Ages in what is now modern Poland. It was painted some 20 years after the events shown took place. It seems that the author modernized the costumes and arms presented, so it should be regarded from the perspective of the 1480s and not the 1450s. Amongst a few dozen combatants, it is possible to discern 25 pavisemen. Describing each and every one of them does not seem to be necessary in this place. It is worth, however, to make a brief statistical summary of the warriors in the picture. Only one of the present-
ed pavisemen is not wearing a helmet. It is good to mention him at the outset, as, apart from his sword and shield, the only thing he has are his briefs. Possibly, the aim was to show a humorous situation or heighten emotions connected with a sudden attack, and not to demonstrate the actual look of a particular group of combatants. The others (96%) are wearing helmets, these being 16 sallets (64% of the pavisemen), six kettlehats (24%) and four open helmets, either of a sallet-type or a skullcap-type (16%). In eleven cases (44%), the helm is accompanied by some form of lower face and neck protection, a bevor or mail standard. 14 of the pavisemen have trunk protection (56%), most often, that is in case of 10 fighters, a breastplate, three are augmented by a mail shirt. Mail on its own is seen once only. A full cuirass is discernible thrice. Almost half of the pavisemen in *The Siege of Malbork* have visibly armoured legs. In all eleven cases, there are pieces protecting the hip, the knee and the shin, in four cases also the foot is protected. 14 of the combatants have arm protections. In all the cases, the whole vambrace is visible: spaulder, besagew, couter and the lower cannon, in 12 cases they are additionally accompanied by gauntlets.

The dissonance between the written sources and the painting should be made greater, as in many cases the shield-wielding warriors are not fully visible, their trunks and legs being blocked by their pavises or another combatant.

Balthasar Behem presented numerous scenes of everyday life in a city at the turn of the 16th century in his Codex. It is generally held that his work is a trustworthy source of information on city life in the period. Thus, special attention should be paid to a scene at a shooting range, where two crossbowmen are accompanied by two pavisemen. At their feet there are two shields reaching their waists, making their legs invisible to the viewer. On their heads there are sallets with moving visors. The neck of one of them is covered with a mail collar, the other’s just with a textile hood. The trunks of both of the soldiers are covered with breastplates, their arms and hands with vambraces and gauntlets. The whole armour seems to be blackened.

*The Battle of Orsza*, a painting from the first half of the 16th century, is a valuable piece of work for reconstructing the character of armies from the time of the late Jagiellonian dynasty. In the lower right corner we can see some marching pavisemen. A second group is visible in the central part, where they stand in a formation protecting artillery and handgunners. The sheer numbers and the size of their shields make it difficult to discern the protective armour. What is usually visible, is only the head and sometimes shoulders of the combatants. Thus, it can only be said that probably all of them are wearing helmets. These are for the most part sallets with moveable visors.
The other pieces seem to be of skullcap-type. Their necks are protected with either mail standards or gorgets. Every time a weapon-wielding hand is visible, it is covered with a plate gauntlet. Unfortunately, other body parts and protective armour possibly covering them remain invisible.

The arms and armour in Central European painting does not diverge far from the above examples. Depictions of pavisemen from Czech artwork collected by V. Denkstein, apart from maybe two cases, also show soldiers relatively completely clad in steel (Denkstein 1965, figs. 25–41).

It is difficult to judge, where this dissonance between the written and pictorial sources stems from. The known Rotte muster rolls should be considered here as the valid reference to the real-life battlefield. According to these, an average paviseman, apart from his offensive weapon and his shield, had a helmet, more rarely a neck and one arm protection. Possibly, our interpretations of terms applied by the 15th century writers should be revised. When we take into consideration The Siege of Malbork as probably the most accurate source, a high rate of soldiers with their legs armoured is visible. Thus a suggestion that szynka refers to cuisses or full leg armour might be worth considering.

According to iconographic sources, a paviseman was a soldier clad in a steel cap-a-pie in a manner not different from typical knights. We may only guess that the artists did not take part in combat and did not know the realities of battlefield. A painting likely was not similar to modern multi-media battle report. Picture of a paviseman did not have to be a fully trustworthy depiction of a real person, but an idea. Ideas can be changed, transformed to match a viewer’s expectations. A viewer was aware of the fact that pavisemen were supposed to be a kind of elite. Such an elite was presented to him by the painter.

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Żygulski Z. jun.
Zbroja pawężników. Ikonografia a źródła pisane

W przeciągu XV w. i w początkach wieku XVI pawężnicy stanowili mur chroniący oddziały strzelcze, będąc tym samym grupą najbardziej narażoną i w domyśle elitarną. Przerwanie ich linii w wielu wypadkach było zapewne początkiem końca oddziału. Stąd też można przypuszczać, iż na pawężnikach wywierano szczególną presję związaną z jakością noszonego przez nich uzbroszenia. W badaniach nad zbrojami pawężników pomocne są szczególnie źródła pisane. Korzystając z materiału zebranego przez T. Grabarczyka oraz A. Bołdyrewa, można podsumować statystycznie używane przez nich uzbrojenie. Pośród 1776 pawężników o określonym uzbroszeniu, 576 (32,4%) miało hełmy. W następnej kolejności należy wymienić 487 osób z myszką lub parą myszek, 250 walczących miało zaś szynkę/szynki, czyli osłonę nogi. Jedynie 35 zaciężnych chroniły rękawice płytkowe, ośmiu napierśniki, pięciu obojczyk, trzech kirys i dwóch kolczugi. Liczba żołnierzy niechronionych oscyluje w granicach 30%.