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DAS GROSSE ÄMTERBUCH DES DEUTSCHEN ORDENS – REMARKS ON ITS VALUE FOR ARMS AND ARMOUR RESEARCH

INTRODUCTION

Teutonic Order's inventory books are unparalleled source for the organisation and resources of the Order. They have also been broadly used by military historians and arms and armour students in order to study issues of Teutonic military organisation (see, e.g., Nowakowski 2004; 1994; 1991; 1986a; 1986b; 1980; Świętosławski 1986; Schmidtchen 1977; Ek-dahl 1992). It seems, however, that it is worth making some critical remarks concerning the nature of these sources and their value for arms and armour research (a similar attempt concerning another Teutonic inventory book, *Das Marienburger Ämterbuch*, has recently been made by the author, see Żabiński, forthcoming).

A centralisation of the Teutonic Order's administration in Prussia in the 14th c. necessitated precise registers of incomes, estates and resources of particular offices. It soon became a rule that each official who was leaving his post had to prepare an inventory of resources, with one copy being kept locally and the other one being sent to the capital in Marienburg (Malbork). The oldest inventories are known from 1364. Copies sent to Marienburg were recorded in "a book of offices". As the "Great Book of Offices" was started in 1400, older records were also incorporated into it. The early 20th c. edition of this "Great Book" also encompassed other related sources, such as the new "book of offices" (the so-called *Kleines Ämterbuch* for the period of 1445–1449, numerous loose notes or visitation records (see *Das grosse Ämterbuch des Deutschen Ordens* 1921 [henceforth as GÄDO], pp. VIII–XVI, editorial remarks by W. Ziesemer; cf. *Visitationen im Deutschen Orden im Mittelalter*.

Bd. 1: 1236–1449, Marburg 2002 [henceforth as *Visitationen*], pp. XXXIX, editorial remarks by M. Biskup and I. Janosz-Biskupowa; Sarnowsky 1993, pp. 34–35, 120–121; Biskup, Labuda 1986, p. 277). These will also be discussed in this paper, as they offer valuable comparative data for understanding the inventory records.

This paper aims at discussing the following issues:

- general remarks on the internal structure of inventories and its changes, types of recorded goods, preciseness and trustworthiness of records
- weaponry resources in the light of the aforementioned comments; special attention will be paid to the problem of "absence in inventories – actual absence" and to locations of weaponry resources in particular offices
- a broad question of the nature and destination of weaponry resources as recorded in the inventories
- some examples of comparisons between inventories and records of visitations for given offices at similar dates

Internal structure of inventories

It has already been noticed with right by W. Ziesemer that there was no steady pattern of recording the resources and supplies of given offices. Inventories often commence with financial resources and obligations, followed by supplies of grain, cattle, horses, weaponry etc. Later inventories are generally organised along the principle of a given location (a church or a chapel, a cellar, a kitchen, an armoury, etc.) with its resources being mentioned (GÄDO, p.

XVIII, see also Schmidtchen 1977, p. 24). On the other hand, no steadfast rules can be seen. E.g., the earliest inventories of the office of the Great Marshall (who was also the commander of Königsberg, now Kalinigrad in Russia) commence with financial issues, followed by grain resources at various locations. Then, the inventory mentions the number of mares, as well as some wood, honey and leather resources. This is followed by a repetition of rye resources and a mention of the general sum of financial obligations. After another record of grain resources (concerning barley and oats) there goes another section on financial affairs. It deals with the initial financial resources of the leaving commander and his expenses during his office time. The inventory ends up with a record of silverware (the inventory from 1374, GÄDO, pp. 1–3). The next inventory (1379, GÄDO, pp. 3–4) is to some extent similar in its structure. It begins with financial issues and grain supplies. On the other hand, it then mentions weaponry resources, also stating a location for part of them. This is followed by a register of horses – these, however, are mentioned under particular localities. Then, there is another mention of cash resources and a detailed register of silverware. The inventory ends with a record of expenses made by the Great Marshall. The structure of the inventory from 1382 is initially identical, but the record breaks up after the register of horses (GÄDO, p. 5). A similar structure can also be seen for 1387. After the record of cash, financial obligations and grain resources, however, there follows a register of cellar utensils and food supplies in the kitchen. Horses are also registered, but without a division into particular localities. Weaponry is mentioned next, but with no mention on where it is stored. Then goes a register of cattle, sheep and swine, followed by a record of financial issues. The last position are silverware (GÄDO, pp. 5–6). In 1392, a mention of a bakery (*bachus*), a crossbow maker's workshop (*sniczhus*), with supplies of crossbows, bolts, saltpetre, gunpowder and guns (*buchsen*) is a novelty. It is followed by a register of other weaponry, and then there goes a record of kitchen supplies. Horses are mentioned next, but with no division under particular localities within the commandery area. The next positions are cattle, swine and sheep (all recorded as kept in a byre – *vihouff*), followed by cellar utensils. The inventory terminates with a very interesting mention concerning the silverware. It says that all the silverware which should be recorded there, were reported by the Great Marshall who was leaving his office in the next inventory for 1404 (GÄDO, pp. 7–8). This inventory, although basically similar in its structure

to its predecessors, also displays some new features. Significantly, between defensive arms and crossbows with guns in the crossbow maker's workshop there is a mention of the cellar with its resources. Another novelty is a cloth depot (*trappanie*) with cloth, clothes and leather resources. Significantly, convent's geldings (*coventshengeste*) are mentioned as the last position there (GÄDO, pp. 8–10).

Since 1414 it almost became a rule that Königsberg inventories were arranged along the principle of a given location (a cellar, a kitchen, an armoury, etc.), or a given locality (usually another castle, a farm, an enterprise, etc. within the commandery) with their resources being mentioned. On the other hand, neither the order in which they were mentioned nor allocations of given resources were steadfast. Furthermore, none of these later inventories mention financial issues (GÄDO, pp. 14–45). E.g., in 1414 the structure of the inventory was the following: weaponry with firearms in the armoury, grain in the granary, flour in the bakery, crossbows in the crossbow chamber (*armbrostkamer*), textiles, gunpowder and crossbow bolts in the cloth depot, leather and shoes in the shoemaker's workshop (*schuhus*) and the tannery (*gerwhof*), iron and tools in the smithy, resources at the castle of Tapiaw (now Gvardyeysk in Russia), number of horses and food resources in the cellar. The inventory from 1415 was quite similar (GÄDO, pp. 14–17). On the other hand, the first inventory from 1422 differed considerably. It started with the register of silverware and mentioned several new locations and kinds of resources, such as the marshall's cellar, the honey chamber or church utensils. Furthermore, this inventory contains a register of convent members with their horses – it is significant, however, that this was recorded in Version B of the inventory. Version B is also much more detailed concerning food supplies, vessels, kitchen utensils and some other resources (GÄDO, pp. 17–21). There are some other differences in the third inventory from 1422 – it did not mention the location of weaponry, but it recorded the byre with cattle, swine and sheep, as well as the *karwan* (cart depot) with cattle and swine. Furthermore, at the end of this inventory there are summaries of certain resources, such as crossbows with bolts, guns with gunpowder, livestock, flour and grain (GÄDO, pp. 24–25). Concerning possible differences between both copies of a given inventory, a good example is offered by the inventory from 1424 – it is only Version B that mentions the resources of crossbows, guns and bolts. The same can be noted, e.g., in the inventories of the Tuchola (Tuchel) commandery from 1438 – Version A generally mentions

kitchen utensils (*und alle kochengerethe*), while Version B contains a detailed register (GÄDO, p. 645). In some cases, even important resources, such as church utensils, may have been merely mentioned, because they were described in detail in other registers. In 1432, the inventory of the commandery of Elbing (Elbląg) stated: “numerous church utensils, as shown by separate charters of the commander and the bell master” (*eyne redliche nottrufft kirchengerethe, als des kompthurs und des glagmeisters usgesneten czedeln usweysen*) (GÄDO, p. 89). Therefore, it was not deemed necessary to mention them in detail again. Analogously, the inventory of the Brandenburg (now Ušakovo in Russia) commandery from 1507 merely mentioned the armoury and household utensils “as recorded in his old inventory” (*ist nach lawt seins alten inventariums*). Precise registers were made in 1508 (GÄDO, p. 247).

WEAPONRY RESOURCES IN THE INVENTORIES

It has been noted with right that Teutonic inventories recorded only selected categories of weaponry. These usually were parts of armour (mail hauberks, aventails, coifs, coats of plates, helmets, parts of plate armour, etc.); crossbows with bolts, guns with ammunition, gunpowder, sulphur, saltpetre, sometimes other equipment, and equestrian equipment (chiefly saddles) (GÄDO, *passim*; see also Nowakowski 1991, pp. 75–76; 1986a, p. 54).

Other kinds of weaponry, such as offensive arms were mentioned less frequently. Selected examples include:

- swords: 1 in Althausen (Starogród) in 1434 (GÄDO, p. 506); 2 swords and 1 Tartar sabre in Labiau (now Polesk in Russia) in 1513 (GÄDO, p. 297); 5 in Holland (Pasłęk) in 1518 (GÄDO, p. 111); 2 in Mohrunen (Morąg) in the same year (GÄDO, p. 113); 2 in Ortelsburg (Szczytno) in 1519 and 4 in 1521 (GÄDO, pp. 121–123)
- pole-arms: 30 spears or lances (*glefenyien*) in Świecie in 1377 (GÄDO, p. 613); 30 spears or lances (*gleffney*) in Christburg (Dzierżoń) in 1434 (GÄDO, p. 140); 2 pole-axes (*streitaxe*) in Christburg in 1437 (GÄDO, p. 143); 8 pole-axes in Elbing in 1440 (GÄDO, p. 92); 5 pikes in Ortelsburg in 1485 (GÄDO, p. 116); 1 ronca (*wulfsense* or, as A. Nowakowski reads, *wolfseisen*¹,

These remarks enable the researcher to draw some important conclusions concerning the nature of the inventories:

- the fact that a given resource or location was not mentioned, does not need to mean that it was actually absent. Mentions, lack of mentions or mentions of the same resources in various facilities could both reflect actual rearrangements as well as personal preferences and attitudes of persons who wrote down the inventories
- the afore-mentioned remark is additionally supported by the fact that certain categories of resources which were not mentioned in one version of an inventory were recorded in the other copy
- although there were patterns of allocating particular resources to particular locations, they did not need to be steadfast

Nowakowski 1986b, p. 55) in Sehesten (Sześćno) in 1507 and 1 roncas, 40 long pikes, 4 swine-spears, 1 gate-spear (*thorsphis*) and 5 lances (*reispissze*) in 1516 (GÄDO, pp. 189–191); 5 langue-de-boeufs (*schefflin*) in Labiau (now Polesk in Russia) in 1513 (GÄDO, p. 297); 16 halberds and 200 infantry pikes in Holland in 1518 (GÄDO, p. 111); 12 swine-spears (*schweinspis*) and 150 infantry pikes in Insterburg (now Černyahovsk in Russia) in the early 16th c. (GÄDO, p. 66); 6 infantry pikes (*feltspis*), 1 halberd (*hellepart*), 2, langue-de-boeufs (*schefflyn*), 350 long pikes (*lange spisich*) and 16 swine-spears (*schweynspisch*) in Memel (now Klaipėda in Lithuania) in the early 16th c., (GÄDO, p. 314);

- butt weapons: 14 iron flails in Nessau (Nieszawa) in 1432 (GÄDO, p. 484); 11 maces (*eisern kelben*) in Labiau in 1513 (GÄDO, p. 297); 30 maces (*kolben*) and 13 flails (*beschlagene flegel*) in Memel between 1511 and 1526 (GÄDO, p. 314);

With regard to pole-arms, the example of the forest office (*waldamt*) in Rastenburg (Kętrzyn) from 1507 is instructive. The inventory from 1507 mentions 200 infantry pikes (*knechtspis*), while in 1508 only 22 were recorded. Significantly, there were no dramatic changes in the numbers of other types of

¹ The dictionary of J. and W. Grimm explains *Wolfseisen* as a sort of wolf-trap (in the shape of an iron rod bent into a hook at each end - GZ). This device, also known as *Wolfsangel*, was a popular motif in heraldry. Another meaning of this word was

a spear used for hunting wolves. The term *Wolfseisen* was also used for lumps of raw iron which gathered at the bottom of the furnace. See: *Deutsches Wörterbuch von Jacob und Wilhelm Grimm*. 16 Bde. in 32 Teilbänden. Leipzig 1854–1961, available on-line at <http://woerterbuchnetz.de/DWB/>.

weapons (GÄDO, pp. 184–185). Provided that no mistake was made by the author of the inventories, it could suggest an occasional storage of large quantities of pikes in 1507. On the other hand, the inventories of the Rhein (Ryn) commandery recorded 200 pikes in 1507, 1508 and 1516. None were mentioned in 1524 (GÄDO, pp. 199–200, 204).

Furthermore, attention is drawn to a mention of 7 battle-forks (*yseren stormgabeln*) in the commandery of Nessau in 1432. The inventory from 1434 does not mention them, but it records 6 hayforks (*yseryn hewgabeln*) at the same place (GÄDO, pp. 484–485). This could perhaps imply a change in the function of the same items, which could be used both as weapons and agricultural tools, depending on a need.

A. Nowakowski has noted with right that records of pole-arms (usually infantry weapons) generally concern period from the 1430s to the early 16th c. He has related it to a change in the nature of the Order's warfare, which started to be more and more dominated by infantry (Nowakowski 1986b, pp. 54–55; see also 1986a, p. 80).

As mentioned above, the fact that some types of goods were not mentioned does not need to mean that they were actually absent. This could be additionally illustrated with some selected examples (see also Nowakowski 1986b, pp. 45–46, 78–79):

- the Königsberg inventory from 1392 mentions guns with gunpowder and saltpetre, but no bullets or cannon balls are registered (GÄDO, p. 7). This is also the case with later inventories until 1431, when lead bullets were recorded. In contrast, they were not mentioned in 1434, 1436, 1438 and 1440 (GÄDO, pp. 30, 33, 35, 41, 43). In other commanderies, ammunition was often recorded in a general way only. E.g., the inventory of the Graudenz (Grudziądz) commandery from 1398 mentions guns and 97 stone cannon balls. Lead bullets were only recorded with a general mention: “lead bullet guns with enough bullets” (*lotebuchsen und gnug gelote doczu*) (GÄDO, p. 597; see also the inventory of the Tuchola commandery from 1411, GÄDO, p. 636)
- ammunition was sometimes referred to in a general way only: “as many bolts as I have previously found” (*item pfeyle zo vele als ich ur alde gefunden habe*) – the castle in Insterburg in 1446 (GÄDO, p. 61); “numerous bolts, they were not counted” (*eyn gutt teyl pfeyl, sie seyn nicht gezalt*) – the castle in Holland in 1440 (GÄDO, p. 100). This sometimes also occurred for other categories of weaponry. E.g., the Holland inventory from 1518 recorded “1 wall full of black-painted

armours” (*I want vol swarzs harnischs*), (GÄDO, p. 111).

- sometimes the absence of a given category of resources was stated directly. The inventory of the Barten (Barciany) castle recorded guns and explicitly said that there was no gunpowder (*kein pulfer*) (GÄDO, p. 251)

Furthermore, in some cases it can be supposed that the inventories recorded a postulated *status quo*, and not the actual one:

- the inventory of the commandery of Memel from 1434 recorded 9 lead bullet guns, but it also stated that 2 of them were lost during a Samogitian raid (*vorloren, das die Samayten da waren*) and 1 was destroyed (*czubursten*). In 1437, 9 lead bullet guns were recorded (GÄDO, pp. 309–310). It is therefore unclear whether the resources of firearms were completed or the inventory recorded a desired number of guns. It is of interest that the 1437 inventory says that the weaponry supplies were written down on a loose charter (*in eynir us-gesnitten czedel*) – perhaps this could suggest that the inventory was not based on the eyewitness' inspection but on written records. A somehow analogous situation can be seen in the 1433 inventory of the Schlochau (Człuchów) commandery. Version A mentions 6 mail hauberks and says that other hauberks were sent to an expedition, while Version B mentions 6 hauberks and states that these other hauberks were lost during the expedition (GÄDO, p. 659)
- as Walter von Kerskorff, the Danzig (Gdańsk) commander left his office in 1435, the inventory stated that 1200 bolts were recorded as he took the office. Furthermore, it said that the commander also ordered 30000 bolts, but many of them were not made because of the war. Therefore, the actual number of bolts was in fact much lower than the recorded figure (*Item so wurden herren Walter Kirszkorp als im das ampt wart bevolen czugeschreiben 20 schock pfeile und do boben hat her dorczu lassen machen 500 schock; nu ist in dissen krigen alzo vil pfeile dovon doch nicht gekomen als her dorczu hot loszen machen, so misseduncket in das der pfeile so vil nicht ist gewesen als im wart czugeschreiben*) (GÄDO, p. 706). In 1428, as Kerskorff took the office, the inventory recorded 120000 old bolts (2000 three score or *schog*), which is in all probability a mistake and the correct figure was 20 *schog* or 1200 bolts. Furthermore, 505 *schog* or 30300 new bolts were recorded (GÄDO, p. 705). In the light of the record from 1435 it can be said that

the latter figure referred to ordered bolts, and not to those actually stored. Most interestingly, 120000 bolts (2000 *schock*) were also recorded in the visitations of 1437 and 1446 (GÄDO, pp. 708, 710; Visitationen, p. 279, No. 125; see also Ekdahl 1992, p. 29). This could suggest that either the new bolts were finally manufactured and delivered, or that the visitation record was made based on the inventories or information provided by the Danzig commander. It was a common practice that visitation records were written down based on data provided by relevant local officials (Visitationen, p. XXX, editorial remarks by M. Biskup and I. Janosz-Biskupowa).

The next issue is the location of weaponry resources. A. Nowakowski proposed with right that no standardised system of storing of arms and armour existed (Nowakowski 2004, pp. 225–226; 1986a, pp. 54, 88–91; see also Schmidtchen 1977, pp. 24, 32–33, 40). An analysis of series of inventory records for particular offices confirms the afore-mentioned suggestion that data about the same resources in various facilities could both result from actual rearrangements from personal preferences of the authors of the inventories. This can be demonstrated by selected examples (for the impreciseness of inventories based on the Thorn (Toruń) commandery example see also Nowakowski 2004, p. 228):

the Elbing commandery:

- 1384, inventory – Elbing: crossbows and bolts in the crossbow maker's workshop; Holland: armours, helmets and shields (no precise location) (GÄDO, pp. 77–78)
- 1396, inventory – Elbing: crossbows in the convent's refectory (*off der herren rebenter*), the dormitory (*off den herren slofhuse*) and (unfinished crossbows) in the crossbow maker's workshop, bolts and crossbow winders at the castle; gunpowder, sulphur and saltpetre at the residence of the house commander; stone ball small guns, stone balls (no precise location); armours, shields, helmets, Russian bows – mentioned together for Elbing and Holland (GÄDO, pp. 79–80)
- 1402, inventory – as in 1384 (GÄDO, pp. 81–82)
- 1404, the first inventory – Elbing: crossbows, bolts and saltpetre in the crossbow maker's workshop; armours and helmets; stone ball and lead bullet guns (no precise location) (GÄDO, pp. 83–84)
- 1404, the second inventory – as in the first inventory (GÄDO, pp. 84–85)
- 1412, inventory – Elbing: saltpetre, gunpowder and sulphur in the crossbow maker's workshop;

armours and helmets, guns, crossbows and bolts (no precise location) (GÄDO, pp. 85–86)

- 1416, inventory – Elbing: armours and helmets, shooting weapons (*geschos*) – guns, lead bullets, sulphur and saltpetre, bolts, crossbows at the castle (no precise location); Holland: armours, shields, crossbows, mail armour (*ringharnasch*) – hauberks, coifs, aventails, mail cuisse (no precise location), shooting weapons (*geschos*) – guns, bolts, gunpowder at the castle (no precise location); Ortelsburg: armours, helmets (no precise location), shooting weapons (*geschos*) – guns, crossbows, bolts, mail hauberks and gunpowder at the castle (no precise location) (GÄDO, pp. 86–87)
- 1428, inventory – Elbing: armours and helmets (no precise location), shooting weapons (*geschos*) – guns, bullets and utensils, gunpowder, saltpetre, sulphur, bolt shafts, bolts, chests for bows and stocks in the treasury, crossbows at the house commander's and at the crossbow master's (*sniczmeister*); Holland: shooting weapons (*geschos*) – guns, stone balls, lead bullets, bolts and crossbows, shields (no precise location), armours and helmets (*harnasch*) at the castle (no precise location); Ortelsburg: *harnasch* – armours, helmets, shields, bolts, crossbows, guns, ammunition at the castle (no precise location) (GÄDO, pp. 87–89)
- 1432, inventory – Elbing: *harnisch* – armours and helmets (no precise location); crossbows, bolts, guns, gunpowder, saltpetre, sulphur in the crossbow maker's workshop; Holland: *harnsch* – helmets, armours, crossbows, bolts, shields (no precise location), *geschos* – guns, gunpowder, saltpetre, utensils at the castle (no precise location); Ortelsburg: *harnsch* – armours, helmets, guns, crossbows, gunpowder and bolts at the castle (no precise location) (GÄDO, pp. 89–91)
- 1440, inventory – Elbing: shields and pole-axes at the house commander's residence (*gemach*), bolts, arrows and bows in a chamber next to the armoury (*in der kamer bey der harnschkamer*); guns, saltpetre, sulphur and gunpowder in the gunpowder chamber, guns and stone balls in the terrace (*im parcham*), helmets and armours in the armoury (*harnischkamer*), crossbows left to the crossbow master (*dem snytzcmeister geantwert und lassen*); Holland: armours and crossbows in the commander's chamber (*ins komphthurs kamer*), armours, helmets, shields in the tower above the commander's chamber (*im torme ubirs komphthurs kamer*), guns, gunpowder, stone balls, sulphur, lead bullets, utensils in the gunpowder chamber,

- pack saddles left to the commander's companion (*des kompthurs compan gelassen*); Mohrunge: shooting weapons above the commander's chamber (*geschos ubirs kompthurs kamer*) – gun, gunpowder, crossbows, bolts and shields; Ortelsburg: gunpowder, guns, crossbows, helmets, armours, shields and bolts in the gunpowder chamber (GÄDO, pp. 91–92, 95, 97–98, 100)
- 1446, inventory – Elbing: *geschos und harnasch* – crossbows, bolts, armours, helmets (no precise location), guns, guns in the terrace, guns in the gun chamber (*bochssenkamer*), a gun on the walls (*uffer were*), a gun on the tower of the horse marshall (*uffs pferdemarschalks thorm*), lead bullets, gunpowder, sulphur and saltpetre (no precise location); Holland: *geschos* – bolts, guns, stone balls, crossbows, gunpowder and lead bullets (no precise location) (GÄDO, pp. 104–105)
 - 1451, inventory: *geschos und harnisch* – helmets and armours (no precise location), *geschos* – bolts, crossbows, guns and stone balls (no precise location), *polverkamer* – saltpetre, sulphur and gunpowder; Holland: *geschos* – guns, stone balls, lead bullets, gunpowder, saltpetre, sulphur, crossbows and bolts (no precise location), *harnisch* – armours, helmets and shields at the castle (no precise location); horses and weapons of brethren-knights: 32 sets of weaponry (GÄDO, pp. 105–107)
the Brathean (Bratian) reeveship:
 - 1379, 1386, 1387, inventories: armours, helmets and crossbows (no location mentioned) (GÄDO, pp. 361–362)
 - 1392, 1395, inventories: no weaponry at all (GÄDO, pp. 362–363)
 - 1401, 1402, inventories: the reeve's chamber (*in des foytes kamer*) – armours, pack saddles, tents, horse capes, towels, vessels, linen (GÄDO, pp. 363–364)
 - 1405, inventory: as above, but no mention of the reeve's chamber; a register of crossbows and guns (GÄDO, p. 365)
 - 1411, the first inventory: guns, gunpowder, bullets, crossbows, bolts (no location mentioned), no armours and helmets at all (GÄDO, p. 366)
 - 1411, the second inventory: as above (GÄDO, p. 366)
 - 1412, inventory: guns, gunpowder, bolts, crossbows, lead bullets, gun utensils, armours, helmets, shields (no location mentioned) (GÄDO, p. 367)
 - 1420, inventory: *geschoss* – guns, crossbows, lead bullets, gunpowder, bolts (no location mentioned), no helmets or armours (GÄDO, p. 367)
 - 1421, inventory: *geschoss* – guns, gunpowder, bolts, crossbows, armours and helmets, lead bullets (no location mentioned) (GÄDO, p. 367–368)
 - 1431, inventory: as above (GÄDO, p. 368)
 - 1434, inventory: the chamber (*kamer*) – crossbows, armours and helmets, pikes, guns, pole-axes, tents, tools, shields, vessels, gunpowder (GÄDO, p. 369)
 - 1435, visitation: *harnasch* – helmets, armours, pole-axes, shields (no location mentioned); *geschos*: guns, gunpowder, crossbows, bolts (no location mentioned) (GÄDO, p. 370; Visitationen, p. 119, No. 92)
 - 1437, visitation: as above (GÄDO, p. 370)
 - 1438, inventory: *harnasch* – helmets, armours (no location mentioned); *geschos* – crossbows, guns, gunpowder, bolts, pole-axes, shields (no location mentioned) (GÄDO, p. 371)
 - 1439, inventory: *harnaschkamer* – helmets, armours (no location mentioned); *geschos*: crossbows, guns, gunpowder, pole-axes, shields, scythes, saws, axes (no location mentioned) (GÄDO, p. 372)
 - 1442, inventory: *harnaschkamer* – helmets, armours (no location mentioned); *geschos* – guns, gunpowder, bolts, pole-axes, shields, 1 bed, axes, saws, no crossbows at all (no location mentioned) (GÄDO, p. 373)
 - 1446, visitation: *geschos* – guns, gunpowder, crossbows, bolts (no location mentioned) (GÄDO, p. 374; Visitationen, p. 214, No. 117)
 - 1447, inventory: *harnasch* – helmets, armours, crossbows, guns, gunpowder, bolts, shields (GÄDO, p. 374)

As it can be seen, certain facilities where weaponry resources were stored are frequently mentioned, such as the armoury, the gunpowder chamber or the gun chamber, towers and the crossbow maker's workshop. On the other hand, there seemed to be no steady rule in recording particular resources under particular locations. Moreover, in some cases certain kinds of weapons were registered under various categories (such as *harnasch* and *geschos*) in various inventories or visitation registers. As in many cases no precise locations were mentioned, it could perhaps be proposed that a default location was meant by the authors of the registers.

One of the most intriguing issues is the role of weaponry supplies. A. Nowakowski has proposed

that the main role of arms and armour resources was to serve mobilisation purposes. The main recipients of the Order's weaponry resources were brethren-servants (lower-rank convent members), retainers or to some extent local mercenaries. Other groups were lower-class townsfolk and peasantry from the Order's own estates, mobilised as infantry detachments of so-called *knechte*. Furthermore, occasional use by any other combatants could be taken into consideration (Nowakowski 2004, p. 225; 1986a, pp. 54, 56, 59–62; 1986b, pp. 43, 58; 1991, p. 86; on military duties of peasants see also Biskup, Labuda 1986, pp. 279–280; Państwo 2008, pp. 464, 474; Józwiak, Kwiatkowski, Szweda, Szybowski 2010, pp. 375, 377, 378, 488, 584).

It is obvious that they were not the primary reservoir of weapons for brethren-knights, who had their own supplies (Nowakowski 1986a, p. 57). These were usually mentioned in visitation records, although in most cases in a very general way only. Normally, they simply stated that a given convent member had a certain number of horses and his weaponry (*harnasch*) (see, e.g., Visitationen, pp. 210–211, No. 116; pp. 220–221, No. 118; pp. 249–252, No. 120; pp. 258–264, Nos. 122–123; pp. 276–279, Nos. 124–125; pp. 303–305, No. 133; pp. 322–323; see also GÄDO, passim, for older editions). Inventories hardly record categories of weapons which could be used by brethren-knights (Nowakowski 1986a, p. 73):

- 1385, the Danzig commandery: 2 *herrenschilde* (GÄDO, p. 686)
- 1404, the Christburg commandery: 9 brethren-knights' shields (*herrenschilde*) (GÄDO, p. 130)

Significantly, for both offices these shields are not mentioned in the next inventories (in 1410 and 1389 respectively, GÄDO, pp. 132, 686). This may imply occasional storage, or perhaps it was not considered necessary to mention them when the next inventories were written down. It could also be asked whether brethren-knights could occasionally make use of the arms and armour resources as recorded in inventories. The answer would probably be negative, although it may be related to disciplinary problems within the Order after 1410. E.g., the visitation record of the Ragnit (now Neman in Russia) from 1437 mentions several brethren-knights who in all probability had no weaponry at all. At the same time, the visitation records 29 coats of plates in the armoury (GÄDO, pp. 287–288). Significant resources of defensive arms are also recorded in the visitation of the Strasburg (Brodnica) commandery from 1446 (14 kettle-hats,

7 breastplates, 10 pairs of gauntlets, 5 sets of legharness, 3 pairs of rerebraces, 2 pairs of knee-caps, 4 coats of plates, 5 mail hauberks, 2 faultds, 1 collar). At the same time, one brother-knight was recorded as having *keynen harnisch* (GÄDO, p. 393 and Visitationen, p. 276, No. 124; see also GÄDO, p. 394 for the 1447 record). An analogous case can be seen for the Thorn commandery in 1437, where 4 brethren-knights with no weaponry were recorded (GÄDO, pp. 448–449).

Concerning servants and retainers, the very first problem is that the source terminology is not always precise – as shown below, the records speak about *dyner*, *knechte* and *gesellen*. These terms could perhaps be used interchangeably, although not without reservations (see e.g., Józwiak, Trupinda 2007, pp. 80–81, 218–221, on *diener* as referring to young nobles in the court service of the grand masters; Państwo 2008, p. 408, on *diener* or *ministrantes* as referring to servants who made temporary or perpetual vows and fulfilled various auxiliary functions; Biskup, Labuda 1986, p. 203). On the one hand, there are mentions suggesting that their weaponry was considered as separate from the arms and armour storages, analogously to the weaponry of brethren-knights:

- 1404, inventory, the Königsberg commandery: 22 mail hauberks and “every servant also has his armour” (*und iczlich dyner hat seinen harnasch*)
- 1412, inventory, the Ragnit commandery: 18 crossbows *im snyczhuse*; it is then mentioned that every servant (*dyner*) has his crossbow (GÄDO, p. 269)
- 1415, inventory, the Königsberg commandery: there is a register of armours in a chamber near the small chamber at the marshall's residence (*in der camer bey dem cleyne stobichen off das marschalks gemache*); then, 3 sets of armour (a hauberk, a breastplate, a kettle-hat) are registered. Furthermore, two servants in Ragnit are mentioned with their armour (*sint czwene dyner czu Ragnith dy haben eren harnisch*) (GÄDO, p. 17)
- 1422, inventories, the Königsberg commandery: there is a register of armours and a mention of 2 servants in Nessau with their armour (GÄDO, pp. 18, 21)

On the other hand, there are instances which explicitly state that weaponry used by that category of combatants were also included in the resources (see also Nowakowski 1986a, p. 60):

- 1392, inventory, the Brandenburg commandery: there is a mention of 17 sets of servant armour

- (*dynerharnasch*), 3 *panczir oberig* and a register of crossbows (GÄDO, p. 212)
- 1396, inventory, the Brandenburg commandery: there is a register of 23 *dynerharnasch*, with no other weaponry being mentioned (GÄDO, p. 215).
 - 1414, inventory, the Königsberg commandery: there is a register of armours kept near a small chamber (*bie dem cleynten sthobecken*); then, 3 servants (*dynern*) in Tilsit (now Sovetsk in Russia) are mentioned – each of them has a hauberk, a mail coif, a kettle-hat, faulds and a crossbow; then, there goes a record of the armoury, with armours, helmets and guns. It also states that 3 crossbows are held by servants (GÄDO, p. 14)
 - 1391, inventory, the Osterode (Ostróda) commandery: crossbows, armours, guns, etc.; then, 13 mail collars for servants (*summa den colnir obirall den gesellen*) and 17 pairs of legharness for servants (*par gesellenbeynwopen*) are registered (GÄDO, p. 317)
 - 1392, inventory, the Osterode commandery: as in 1391, but 11 cuisses for servants (*gesellen-grusener*) are also mentioned (GÄDO, p. 318). In contrast, the 1391 inventory simply recorded 11 *grusener*
 - 1378 and 1380, inventories, the Morin (Murzynno) procurator's office: armours and helmets, and 3 kettle-hats of servants (*ysenhute der gesellen*) (GÄDO, pp. 472–473)
 - 1386, the first inventory, the Morin procurator's office: 21 crossbows, 7 stirrup crossbows held by servants (*stegereiffarmbrost die die dyner furen*), 4 kettle hats held by servants (*isenhute die die dyner furen*), 6 mail hauberks (GÄDO, p. 474). Most interestingly, the second inventory records the same resources, but it relates the mail hauberks to servants – 6 *panczir dy die dyner furen* (GÄDO, p. 474)
 - 1393, inventory, the Morin procurator's office: armours, helmets, shields, crossbows; then, 7 stirrup crossbows held by servants (*stegereiffarmbrost die die dyner furen*) are mentioned (GÄDO, p. 475). In the following year, 9 stirrup crossbows held by servants were recorded (GÄDO, p. 475)
 - 1382, inventory, the Nessau commandery: armours, 32 crossbows with goat's foot, 3 crossbows of servants (*gesellen armbrost*), helmets, 13 kettle-hats and 4 kettle-hats of servants (*gesellen ysenhute*) (GÄDO, pp. 476–477). Significant resources are also mentioned in 1388, including 53 crossbows and 19 kettle-hats, but none of these are related to servants (GÄDO, p. 477)
 - 1419 and 1421, inventories, the Papau (Papowo Biskupie) commandery: guns and crossbows with ammunition, armours and helmets; then, there is a mention that a servant holds 1 hauberk, 1 *harnoschkappe* (maybe a mail coif, as in the case of the Schönsee (Kowalewo Pomorskie) commandery in 1421, see below), 1 breastplate, 1 kettle-hat, 1 pair of gauntlets and 1 crossbow (GÄDO, p. 519–520)
 - 1404, inventory, the Rogóžno (Roggenhausen) reeveship: 7 horses of servants (*knechtepferd*), out of which 5 were sent to Gotland, 15 crossbows with goat's foot and 5 crossbows taken by the *diener* to Gotland. In 1407, 15 crossbows and 4 *gesellenarmbroste* were mentioned (GÄDO, pp. 539–540), while in 1419 the record mentioned 19 crossbows altogether, out of which 2 were held by servants (GÄDO, p. 545). Apart from that, the record also mentioned defensive arms held by one servant. This record seems to clearly demonstrate that the weaponry resources were used in a quite flexible way: out of a steady resource of 19–20 crossbows, a given number was assigned to servants, depending on a need
 - 1385, inventory, the Danzig commandery: 16 servant shields (*knechteschilde*) are recorded (GÄDO, p. 684). As mentioned above, this inventory also recorded 2 *herrenschilde*
 - 1420, inventory, the Danzig commandery: 24 old crossbows are mentioned in the commander's chamber, out of which servants (*dyner*) have 13 (GÄDO, p. 699). In 1421, 13 old crossbows were recorded as held by servants and 12 were located together with the expedition equipment (*alde armbroste bey dem reysegerete*) (GÄDO, p. 701)
- Data from the Schönsee commandery are especially confusing. The 1419 inventory recorded 3 mail hauberks, 1 set of faulds, 1 mail coif, 4 kettle-hats, 1 pair of rerebraces, 1 pair of gauntlets, some firearms with ammunition, and 15 crossbows (GÄDO, p. 417). In 1421 the same numbers of defensive arms but only 14 crossbows were mentioned. It was additionally said that 1 *diener* in Nessau had 1 mail hauberk, 1 kettle-hat, 1 mail coif, 1 breastplate, 1 pair of gauntlets and 1 crossbow (GÄDO, p. 418). A rather bizarre conclusion would be that this armour was not included in the register, but his crossbow was. On the other hand, based on the afore-mentioned remark concerning frequent impreciseness of records, it could be simply assumed that all dubious cases in fact referred to servant's weaponry as included in the registers.

Another category of recipients were native Sambian warriors in the permanent service of the Order, the so-called *witinge* (Biskup, Labuda 1986, p. 208; Nowakowski 1986a, p. 54). Significant resources of weapons related to this group of combatants are mentioned for the Ragnit commandery (see also Nowakowski 1986a, p. 60):

- 1396 and 1402, inventories: armours (in 1402 also helmets) at the residence of the *witing* master (*in des wittingisherren gemache*) (GÄDO, pp. 262, 264);
- 1407, inventory: the *witingesherr* is mentioned, but with no separate resources of weaponry. All the arms and armour are registered together (GÄDO, pp. 266–268)
- 1412 and 1414, inventories: resources of armours and helmets held by the *witingeshere* (GÄDO, pp. 269, 271)

The last issue dealt with in this paper are mutual relations between inventories and visitation records. Based on two examples of comparisons between these two types of sources, numerous interesting features may be pointed out, such as omissions, terminology incoherencies and obscurities, or possible mistakes of scribes.

The first case concerns arms and armour resources at Brandenburg in 1447 and 1450 (see Appendix, Plate 1, 2). The data are generally quite coherent, but some reservations should be made. The 1447 visitation records 135 crossbows, with a note that 28 were taken to an expedition to Livonia. The figure of 135 was repeated in the same year in the inventory, but the 1450 visitation reported 107 (i.e., 135 - 28) crossbows. As it can be seen, it was only the 1447 visitation that provided the most accurate data. The 1447 inventory recorded the general number, while the 1450 visitation stated the actual figure. On the other hand, both visitations recorded a general figure of 3 small stone ball guns (*cleyne steynbuchsen*), with a note that one of them was taken to the expedition. This note is missing in the 1447 inventory (GÄDO, pp. 235–240; Visitationen, pp. 303–305, No. 133).

The second case deals with relevant data for Königsberg for 1436, 1437 and 1438 (see Appendix, fig. 2). Here, the discrepancies are more prominent. First of all, the 1437 visitation does not record defensive arms at all, while relevant figures are stated in the inventories from 1436 and 1438. Again, there is a considerable degree of coherence between the two.

On the other hand, it is of interest that the 1436 inventory mentions 118 Prussian bascinets (*preusche helm*) and 22 Prussian bascinets with aventails (*preusche hawben mit gehengen*), while the 1438 inventory records 118 bascinets and Prussian bascinets, out of which 22 had aventails (*118 helm und prewsche hawben der ist 22 mit gehenge*). The 1438 version is perhaps more precise. The 1436 inventory mentions a surprisingly high figure of 966 new stirrup crossbows (*16 schog und 6*) while both the 1437 visitation and the 1438 inventory record 326 only (*5 schog 26*). In all probability, it is a scribe's mistake. Furthermore, a certain inconsistency concerning the terminology can be seen. All three records mention 18 stone ball guns, but only the 1436 inventory and the 1437 visitation mention 17 lead bullet guns. The 1438 inventory simply records 17 guns (GÄDO, pp. 34–35, 36–38, 39, 41; see also Ekdahl 1992, p. 26–27, for a similar case of terminological incoherence).

Conclusions

Inventories are indispensable for any research on arms and armour in the Teutonic Order. On the other hand, great care is required when making use of them. The fact that certain categories of supplies are not mentioned in a given year does not need to mean that they were not stored at all. This can be well-visible when examining longer series of data or comparatively checking inventories of other castles. In general, it is highly recommended to apply a long series analysis and cross-check the results with other sources, with special references to visitation records. The latter, on their part, are not perfect, either, as they were usually based on written records as well (especially on inventories themselves). The problem of inventory sources often being based on other records and not on the eyewitness' inspection is a general difficulty when analysis this type of data.

Furthermore, a personal attitude of men who wrote down the records should not be overlooked. There are some notable patterns concerning the locations of arms and armour, but it must be remembered that the way in which weaponry supplies were recorded in a given year could always depend a personal factor. Therefore, changes in relations between particular categories of weapons and their locations may both reflect actual changes and different approaches of Teutonic officials. This is again well-notable when analysis the inventories within a long series of data.

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Tab. 1. Weaponry resources at Brandenburg in 1447 and 1450

Resources	1447, visitation Facilities at the castle / <i>zum hawse</i>	1447, inventory Facilities crossbow maker's workshop / <i>snyczuhs</i>	1450, visitation at the castle / <i>zum hawsze</i>
sets of weaponry of brethren-knights / <i>herren im covent ... harnasch</i>	28		25
crossbows in the great chest / <i>armbroste im grosen kasten</i>	135 (107)		107
out of which taken by brethren to Livonia / <i>dorn haben dy herren metegenomen in Eyflandt</i>	28		
crossbows / <i>armbroste</i>		135	
damaged crossbows, to be repaired, partially repaired / <i>armbrost dy zcubrochen seynt, die man sal beszern und eyn teyl gebessert seynt</i>	50		50
crossbows to be repaired / <i>armbroste die men mus bessern</i>		50	
old-fashioned crossbows / <i>armbrost dy nach den alden zethen seynt gemachet</i> (1447, visitation) / <i>[armbroste] nach den alde zeten gemachet</i> (1447, inventory)	37	37	37
crossbow stocks (pairs) / <i>sewllen par</i>	19		
crossbow stocks / <i>zawlen</i>		19	
gunpowder / <i>pulver</i>	2,5 barrels (2)	2,5 barrels	2,5 barrels (2)
saltpetre / <i>salpeter</i>	2,5 barrels	2,5 barrels	2,5 barrels
sulphur / <i>swebil</i>	0,5 barrels	0,5 barrels	0,5 barrels
gunpowder taken by brethren to Livonia / <i>von dem pulver hat man den herren metegegeben ken Eyfland</i> (1447) / <i>haben die heren die yn Yffland czogen ... metegenomen</i> (1450)	0,5 barrel		0,5 barrel
great stone ball guns / <i>grose steymbuchsen</i>	3 (2)		
small guns / <i>kleyne buchsen</i>		3	
great guns / <i>grose buchsen</i>			3 (2)
out of which damaged / <i>der ist eyne zubrochen</i>	1		1
small stone ball guns / <i>kleyne steymbuchsen</i>	3 (2)	3	3 (2)
out of which in Livonia / <i>dovon ist eyne in Eyfland</i> (1447) / <i>davon ist eyne mit den heren yn Yffland gekomen</i> (1450)	1		1
lead bullet guns / <i>lothbuchsyn</i>	9	9	9

Source: GÄDO, pp. 235–240; see also Visitationen, pp. 303–305, No. 133

Tab. 2. Weaponry resources at Königsberg 1436–1438

resources	1436, inventory			1437, visitation			1438, inventory		
	armoury / <i>harnaschkamer</i>	crossbow maker's workshop / <i>sniczhanw</i>	gunpowder chamber / <i>pulverkamer</i>	saddle maker's workshop / <i>satelhus</i>	crossbow maker's workshop / <i>sniczhanw</i>	gunpowder chamber / <i>pulverkamer</i>	armoury / <i>harnaschkamer</i>	crossbow maker's workshop / <i>sniczhus</i>	gunpowder chamber / <i>pulverkammer</i>
Prussian bascinets / <i>preusche helm</i>	118								
bascinet and Prussian bascinets / <i>helm und prewsche hawben</i>							118 – 22 with aventails (<i>der ist 22 mit gehenge</i>)		
Prussian bascinets with aventails / <i>preusche hawben mit gehengen</i>	22								
kettle-hats / <i>isen- hutte</i>	13						13		
coats of plates / <i>platten</i>	22						22		
poor breastplates / <i>slechte brust</i>	1								
breastplates / <i>brust</i>							1		
breastplates with backplates / <i>umb- gehende bruste</i>	3						3		
greaves (pairs) / <i>benroren</i>	13						19		
cuisse (pairs) / <i>dlinge</i>	7						7		
gauntlets (pairs) / <i>blechhanczen</i>	2						2		
mail hauberts / <i>panczir</i>	25						25		
faulds / <i>schorce</i>	18						18		
armoured capes (mail coifs?) / <i>harnaschkappen</i>	13						13		
mail collars / <i>kolner</i>	9						9		

resources	1436, inventory			1437, visitation			1438, inventory		
	armoury / <i>harnaschkamer</i>	crossbow maker's workshop / <i>sniczhawis</i>	gunpowder chamber / <i>puhverkamer</i>	saddle maker's workshop / <i>satehus</i>	crossbow maker's workshop / <i>sniczhawis</i>	gunpowder chamber / <i>puhverkamer</i>	armoury / <i>harnaschkamer</i>	crossbow maker's workshop / <i>sniczhus</i>	gunpowder chamber / <i>puhverkamer</i>
aventails / <i>gehenge</i>	5						5		
mail cuisses / grusener	1						1		
shields / <i>schilde</i>	50						50		
battle saddles / <i>streitsatel</i>	1						1		
convent saddles / <i>covensatel</i>	2			10			2		
Russian saddles / <i>rewsch satell</i>	1						1		
new stirrup crossbows with no appareil / <i>newge armbroste anne stegreff, reymen und senwen</i>		966 (16 schog und 6)			326 (5 schog 26)			326 (5 schog 26)	
unfinished cross- bows / <i>armbrost die noch nicht be- reit sien</i>					40				
ready stirrup crossbows / <i>berete armbroste</i>		132			132			157	
goat's foot cross- bows / <i>rugarm- broste</i>		68			68			68	
bows for goat's foot crossbows / <i>bogen czu rugarm- brost</i>		68			68			68	
old bows / <i>alte bogen</i>		64			64			64	
winder crossbows / <i>windarmbroste</i>		10			10			10	

resources	1436, inventory			1437, visitation			1438, inventory		
	armoury / <i>harnaschkamer</i>	crossbow maker's workshop / <i>sniczhaus</i>	gunpowder chamber / <i>pulverkamer</i>	saddle maker's workshop / <i>satellus</i>	crossbow maker's workshop / <i>sniczhaus</i>	gunpowder chamber / <i>pulverkamer</i>	armoury / <i>harnaschkamer</i>	crossbow maker's workshop / <i>sniczhaus</i>	gunpowder chamber / <i>pulverkamer</i>
bows for winder crossbows / <i>bogen</i> <i>czu windarmbrost</i>		4			4			4	
bolts / <i>pfeile</i>		60000			60000			60000	
stone ball guns / <i>steynbuchsen</i>			18			18			18
lead bullet guns / <i>loibuchsen</i>			17			17			
guns / <i>buchsen</i>									17
gunpowder / <i>polver</i>			7,5 barrels			7,5 barrels			7,5 barrels
whipped and sieved saltpetre / <i>salpetre gestossen</i> <i>und gereden</i>			200 pounds			200 pounds			200 pounds
unwhipped salt- petre / <i>saltpeter</i> <i>ungestossen</i>			2 barrels			2 barrels			2 barrels
sulphur / <i>swebel</i>			200 pounds			200 pounds			200 pounds
sieved and whipped charcoal / <i>kole gestossen und</i> <i>gereden</i>			6 barrels			6 barrels			8 barrels
sets of weaponry of brethren-knights / <i>herren, harnisch ...</i> <i>im covent...</i>							45		

Source: GÄDO, pp. 34–35, 36–38, 39, 41