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Some remarks on the issue of the tactical organization of knight forces : (an addition to the recent history of Poland)

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**SOME REMARKS ON THE ISSUE
OF THE TACTICAL ORGANIZATION OF KNIGHT FORCES
(AN ADDITION TO THE RECENT HISTORY OF POLAND)**

I decided to present this paper after reading Jan Ptak's most interesting essay on the military system of medieval Warmia (Ermland)¹. It seems that in many respects the researcher's findings are very similar to those made in connection with the situation observed in fourteenth and fifteenth century Silesia². Of course if one takes into consideration the whole geographical, historical and cultural context, the above conclusions turn out to be obvious. The important thing, however, is that those findings differ from the dominant way the organizational and tactical system of the knight cavalry is perceived in historiography. The differences observed between the two regions are also quite significant. They are evidence of the variety of methods and means employed in the Middle Ages. Medieval people did not need the universal remedy offered by the present day literature. What is more the material collected interestingly corresponds to the novelty findings of Andrzej Nadolski, whose conclusions were a result of a study of the tactical organization of the sides involved in the Battle of Grunwald (Tannenberg)³.

In the light of information found in the law of Chełmno (Kulm) it is possible to identify a very clear rule stating the number of mounted warriors that had to be provided in the Teutonic state. The regulation said that large estates (above 40 fiefs) had to contribute heavily armoured warriors with at least three horses and smaller estates one lightly armoured man on horseback, while, according to Ptak, in the bishopric of Warmia obligations of the first type were hardly ever imposed and only one instance of the introduction of such regulations is mentioned in written sources.

¹ J. Ptak, *Wojkowość średniowiecznej Warmii (The Military Organization of Medieval Warmia)*, Olsztyn 1997.

² W. Schulte, *Die Landesverteidigung des Neisser Fürstentums*, „Zeitschrift des Vereins für Geschichte und Alterthum Schlesiens”, Bd. 45 (1911), pp. 281-286; M. Goliński, *Służba rycerska a potencjał militarny księstw śląskich w późnym średniowieczu. I. Księstwo nysko-otmuchowskie, II. Księstwo wrocławskie na tle innych ziem dziedzicznych korony czeskiej, III. Uwagi ogólne (Knight Forces and the Military Potential of Silesian Duchies in the Late Middle Ages. I. The Duchy of Nysa and Otmuchów, II. The Duchy of Wrocław Against a Background of the Other Inheritance Districts of the Bohemian Crown, III. General Comments)*, „Sobótka”, Yearbook LIII (1998), nos. 1-2, pp. 33-67; nos. 3-4, pp. 519-545; Yearbook LIV (1999), nos. 1-2, pp. 1-17.

³ A. Nadolski, *Grunwald. Problemy wybrane (Grunwald. Selected Issues)*, Olsztyn 1990.

In this region the armed services consisted mainly of lightly armoured cavalymen and larger estates contributed a larger number of warriors. In other words, in estates founded according to the law of Chełmno and the Prussian Law the rule saying that a heavily armoured knight should be accompanied by two lightly armoured men on horseback was never obeyed. Almost all local forces were composed of lightly armoured single mounted warriors, whose arms and armour were referred to as local, national, homeland or Prussian. Thus the Warmia feudal military system was not based on the „lance” unit, which was apparently the universal, fundamental, organizational and tactical knight unit (of course the term „lance” was used as the basic unit needed to calculate a warrior's pay)⁴.

The bishopric of Warmia did not rely on knights as its only armed forces. An important part of the region's armed forces were the Prussian yeomen, a social group between the knights and the peasantry, who were obligated to provide up to 17 men per village. Another category was the so-called „Prussian cavalymen” (a village had to provide up to 10 peasants). Because of economic factors, one can easily guess at what the character of this cavalry was. In addition, all sorts of non-noble free fief owners and, from the fifteenth century onwards, village judges (*sculteti*) also had to be on active service (it seems strange that this category of people were obligated to do so only in the 1400s). No wonder the number of units composed of heavily armoured warriors and many horses was small in the Teutonic state (such units constituted about 7.5 percent of all forces even in the district of Chełmno, where they were the most numerous). The other cavalymen, the lightly armoured knights included, would fight singly. Jan Ptak rightly emphasizes that it was impossible to form a 'lance' unit composed of three identically armed men. The Teutonic Order wanted to introduce this tactical unit in 1432, but the attempt had to be abandoned for economic reasons⁵.

The above researcher is of the opinion that 90 percent of the lightly armoured warriors fighting in the Teutonic army did not form „lance' units”, which, according to him, were present only among the enlisted soldiers, and fought singly. Consequently, he had to deal with the issue of the tactical use of the cavalry characterized by this „non-standard” structure and offered only a very general explanation,

⁴ J. Ptak, *op. cit.*, pp. 17, 19, 45, 76, 84, 99.

⁵ *Ibidem*, pp. 25-28, 31-35, 98, 99.

saying that the better-armed soldiers were positioned at the front and those with worse weapons at the rear. Lack of a detailed discussion of this issue became the main critical remark made by Jerzy Maroń in his generally laudatory review⁶. Although Maroń only rhetorically mentions the probable variants of the battle array, such as the „fence”, the „wedge” or „knee by knee” and quotes from the very fundamental relevant world literature, his comments inspired the author of this article to start his own investigation. However, it has turned out that the answer to this question can easily be found in the well-known treatise about the Battle of Grunwald written by A. Nadolski. The above-mentioned researcher proves that both the sides involved in the armed conflict of 1410 employed the same sort of battle formation, namely the column and wedge array, which was the most perfect battle array known in fifteenth century Europe. The array consisted in grouping several hundreds of cavalymen into rows, which formed a compact and deep column, where the front wedge and side rows were composed of the best-armoured lancers. According to A. Nadolski, this arrangement resulted in a limitation of the role of the „lance” unit, which could no longer be created as the smallest and basic tactical unit. The researcher believes that this fact led to the separation of the lancers from the party warriors carrying projectile weapons and to splitting the unit up⁷. Therefore one can assume that even a researcher who seems to consider the „lance” organization of an army a dogma⁸ is of the opinion that the mobilization organization of knights did not have to correspond to their tactical organization. The authors of the Teutonic military policy in the bishopric of Warmia must have arrived at the same conclusion. Jan Ptak proves that they simply gave up the idea of forming military units which did not meet the country’s tactical requirements and stretched its mobilization potential.

We should also discuss the time of the relative emergence of the two phenomena: the predominantly single-horse organization of the cavalry and the alteration of the battle formation. The above-described Warmia system of forces was created during the second half of the thirteenth and the first half of the fourteenth centuries, while the pure form of the „column and wedge” battle formation described by chroniclers and treatises by military theoreticians is mentioned in written sources, especially German ones, from the fifteenth century forward (of course one shall not discuss here the issue of the „wedge” battle formation used by, for example, the Slavs as early as the Early Middle Ages). Therefore in the light of information found in the relevant literature, it is impossible to prove that there existed a fully justified mutual dependence of the organization on the tactic and the tactic on the organization of forces. A. Nadolski, who most broadly discussed the issues of the use of the „column-wedge” battle array in Polish historiography,

was very well aware of its advantages. A banner formed in this way acquired the desired force of attack, could be more easily manoeuvred (in fact the warriors closely followed the pennon positioned right behind the front wedge), which, in turn, allowed, for example, a retreat and replacement and multiplied the chances to command the unit effectively, as well as made it possible to prolong fighting. Taking into consideration the arguments set out by the above-quoted researcher, one finds it difficult to image a many hour and continuously commanded battle of the late Middle Ages, where the offensive side did not employ this type of battle array or a very similar formation⁹. The latter reservation seems particularly important as only a slightly worse tactical result could be achieved by using a compact column array without forming the frontal wedge and making so precise specifications concerning the width and number of lines. In other words, the „column-wedge” battle array could be a perfected form of well-known and long-used solutions. This might have been the case with forces formed in the regions being under the influence of the art of war known in Eastern Europe, which made use of the deep battle array. As proved earlier, among other things, an analysis of the arms and armour used suggests that the Teutonic state in Prussia was such a region¹⁰. Consequently, the organizational model of the feudal cavalry which developed in Warmia was not only a result of the region’s socio-economic characteristics and its Prussian history but was connected with the way the cavalry was used in battle.

The above-mentioned factors influencing the development of the Teutonic military science did not operate in Silesia. However it has turned out that the Silesian knight mobilization system was not based on the unit called the „lance” either. In the first quarter of the fifteenth century in the Duchy of Nysa (Neisse) and Otmuchów (Ottmachau), which belonged to the bishops of Wrocław (Breslau) and therefore may have been similar to Warmia, there was only one kind of military obligation where the master had to be accompanied by a man bearing a missile weapon. The rest were probably single-horse forces. The process of strengthening the duchy’s military forces by doubling the number of warriors started only in the second quarter of the fifteenth century and never developed. In 1503 there were only five forces composed of several, that is to say, two, horses (there was only one case where the unit consisted of three horses). Such units constituted 13 percent of all forces in the duchy. The bishop’s feudal cavalry had some unique characteristics that distinguished it from other forces. It was composed mainly of village judges (*sculteti*)

⁹ *Ibidem*, pp. 89-91.

¹⁰ See *ibidem*, pp. 53-55; A. Nowakowski, *Uzbrojenie wojsk krzyżackich w Prusach w XIV w. i na początku XV w. (Arms and Armour of Teutonic Forces in Prussia in the Fourteenth and at the Beginning of the Fifteenth Centuries)*, Łódź 1980; idem, *O wojskach Zakonu Szpitala Najświętszej Marii Panny Domu Niemieckiego w Jerozolimie zwanego Krzyżackim (On the Forces of the Hospital of St. Mary of the German House in Jerusalem Called the Teutonic Order)*, Olsztyn 1988.

⁶ *Ibidem*, p. 100; J. Maroń’s review of the above work, „Komunikaty Warmińsko-Mazurskie” 1998, nos. 4 (222), pp. 685-690.

⁷ A. Nadolski, *op. cit.*, pp. 83-88.

⁸ Cf.: *ibidem*, pp. 49, 50.

and so-called squires, that is to say, knights of lower rank, who usually owned small estates founded according to the Polish Law¹¹. The forces were reinforced by owners of villages founded according to the German Law, grange owners, town judges (*advocati*) and yeomen of all ranks. Thus the type of military organization adopted was a result of the region's limited economic capacities, met the expectations of the majority of warriors and fulfilled their social aspirations. One cannot expect squires to form groups of three men and agree to be commanded by their peers armed in the same way in order to form „lance” units. And undoubtedly, wealthy village judges would have found it hard to become the latter's party warriors. But it should be remembered that the social and economic structure of the system's base was not the only cause of the situation.

Around the middle of the 1300s in the Duchy of Wrocław, belonging to the Bohemian rules, there were only (!) single-horse forces, measured in „stallions” and „half stallions”. However, the composition of the cavalry was different. The great majority of the cavalymen were vassals, owners of allodia, and there were very few village administrators in the troops. Moreover, unfortunately according to a tradition of doubtful reliability, in the Duchy of Świdnica (Schweidnitz) and Jawor (Jauer) the number of yeomen, so-called *lehen leute*, owners of smaller non-knight fiefs, determined the military potential. Anyway, forces composed of more than two horses were very scarce in Silesia and they were usually contributed by the owner of a few estates, that is to say, they consisted of several single-horse forces. In the Bohemian district of Kłodzko (Glatz), bordering Silesia, only a few owners of castles and vast estates provided genuine „lance” units. It was there that in the second quarter of the fourteenth century the region's military potential was measured in „stallions”, the majority of which were contributed by local knights. In Silesia the military contingents of particular duchies were measured in horses from the Hussite wars, that is to say, from the 1420s, onward. It may only be noted that in the 1460s the men having two or sometimes three horses constituted only one third of the soldiers contributed even among the Wrocław warriors¹².

This must have been reflected on the battlefield. However, the situation in Silesia seems to differ slightly from the trend discussed at the beginning of this paper. In Warmia there were only four cases where the landowner was obligated to have a projectile weapon! As J. Ptak puts it, the above situation resulted in an alarmingly small number of crossbowmen in the forces based on the individual service obligation. The causes of this situation remain unclear. The above-quoted researcher believes that local warriors did not know the crossbow before the turn of the thirteenth century and that the first men bearing missile weapons were connected with foreign military specialists (he himself, however, mentions the widespread use of arbalests by townspeople, peasants and enlisted warriors)¹³.

¹¹ M. G o l i ń s k i, *I. Księstwo...*, pp. 43, 49-51, 61-63.

¹² Idem, *II. Ziemie...*, pp. 529, 536-544; *III. Uwagi...*, pp. 1-7.

¹³ J. P t a k, *op. cit.*, pp. 115, 116.

A. Nadolski also argues that single knights of lower rank and Prussian yeomen setting off on a war expedition bore „sulice” (lances) and not crossbows. He was, however, of the opinion that enlisted warriors armed with projectile weapons considerably outnumbered enlisted lancers and this is why he hesitated to state the number of crossbowmen and lancers, the two basic types of weapon, in Teutonic banners¹⁴. His conclusions differ from data found in legal documents dating back to the years 1350-1450, according to which in the armed services of Poland crossbowmen outnumbered lancers three to one (it should, of course, be remembered that there were „lance” units composed only of lancers or only of crossbowmen). What is more the proportion of lancers was a lot higher amongst knights (29.8 percent) than amongst village judges (18.9 percent)¹⁵.

The situation that developed in Silesia, particularly in the bishop's Duchy of Nysa and Otmuchów, was the polar opposite of that in Warmia, where only nine „lance” forces survived to the first quarter of the fifteenth century. They constituted 7.6 percent of all the military obligations of landowners and village judges. What is more the proportion of warriors armed with projectile weapons and other men was growing. It seems that in 1503 the Duchy's armed services were composed only of crossbowmen (some lancers might have led the five multi-horse parties mentioned above). At the same time, in the first half of the sixteenth century in Silesia there were two kinds of cavalry, namely the heavy cavalry composed of lancers and the light cavalry consisting of crossbowmen. It may also be noted that the tradition of forming church forces by enlisting crossbowmen, owners of small fiefs, dates back to the 1260s (at that time the bishops of Wrocław did not have any territorial power, which they received after 1290). A village had to contribute up to five crossbowmen. They disappeared as a social group in the first half of the fourteenth century and their military function was taken over by knights of lower rank, who did not use lances but arbalests¹⁶.

The above discussion suggests that the proportion of crossbowmen in the cavalry mobilized according to the feudal military service obligation varied essentially from region to region. Around 1400 on the above-discussed territories bordering the Kingdom of Poland the number of crossbowmen constituted from 1 (in Warmia) to 92 (in the district of Nysa and Otmuchów) percent, while they constituted 73 percent of the total number of warriors in Poland. It seems obvious that the situation must have been reflected in the tactics used on the battlefield and the resulting organization of the armed forces. Unfortunately, contemporary researchers perception of the issue does not take into

¹⁴ A. N a d o l s k i, *op. cit.*, p. 50.

¹⁵ *Ibidem*, pp. 61, 88; A. N a d o l s k i, J. D a n k o w a, *Uwagi o składzie i uzbrojeniu polskiej jazdy rycerskiej w latach 1350-1450 (Some Remarks on the Composition, Arms and Armour of the Polish Knight Cavalry in the Years 1350-1450)*, „Studia i Materiały do Historii Wojskowości”, vol. XXVI (1983), pp. 98-101.

¹⁶ M. G o l i ń s k i, *I. Księstwo...*, pp. 50, 54-57, 61, 62.

consideration such details or purposefully overlooks the essence of the problem. A. Nadolski presented this in the Polish literature. The researcher rejected the idea of the presence of crossbowmen on the battlefield as infantry troops in advance, which might seem to be too bold an approach. Theoretically, in favourable circumstances there were no obstacles to using the weapons borne by mounted crossbowmen in the most rational way and to choosing the most convenient shooting position, that is to say, to making the crossbowmen stop and dismount. At the same time, when the striking impetus of the cavalry was needed in close fighting, the crossbowmen could mount their horses again and make use of their side arms and shock weapons. If one had at their disposal a numerous army, the two solutions could be used simultaneously. A. Nadolski is of the opinion that the inside of the „column-wedge” array he discussed was filled with a mass of crossbowmen. If one assumes that they constituted 75 percent of the total number of mounted warriors, this is the only plausible conclusion (there were only enough lancers to form the „wedge” and flanks of the formation). Finally, the crossbowmen could be separated from their banner in order to create an independent, homogeneous unit which was to carry out some subsidiary tasks¹⁷.

Of course there were some extreme cases of units composed almost entirely of lancers or, of units, by contrast, consisting almost entirely of crossbowmen, which do not fit the above-described model. The Battle of Pellenreuth (1450), for example, is the most frequently mentioned in the historical German literature instance of the use of the „column-wedge” system. Little is known about the arms and armour of the warriors positioned inside the main Nuremberg cavalry troops formation, but the second largest unit was composed entirely of crossbowmen. It seems that the opposing side (Brandenburg forces) used the same system¹⁸. Also, it is not clear how the crossbowmen grouped together inside the deep and moving columns used their weapons. A. Nadolski assumes that they used a technique called „nawija”: the crossbowmen in the rear ranks shot upwards, above the heads of the men placed before them, and their bolts hit down at the area in front of the attacking banner¹⁹.

One has no reason to doubt A. Nadolski's word. Iconographic sources used as evidence here show, among others, the Battle of San Romano, where the crossbowmen are shooting at the enemy above the heads of the lancers engaged in close fighting. However, there are also miniatures representing, for example, the Battle of Legnica (Liegnitz), where the lancers are shown against a background of warriors

armed only with swords, battle-axes, clubs and spears. Besides, why should the technique presented by A. Nadolski be considered as optimal? An arbalest was not easy to use and it was more expensive than an ordinary bow. Why should one invest in such weapons and then shoot at random along a trajectory that reduced the „anti-armour” power of the missiles? The „fence” formation, which is out of favour with contemporary researchers, seems to be more convenient. The gaps between the combatants facilitated accurate shots. Finally, were smooth changes of battle array feasible? Were the warriors able to first shoot, then get ready and eventually engage in close fighting? An arbalest was too expensive a weapon to throw away. Besides, it was not very handy when you had to fasten it to the saddle and grip the sword or the battle-axe while trotting and taking care not to break rank when you start galloping. No matter what reservations one voices, the warriors did shoot a lot on a medieval battlefield. That was also the case with battles where the troops were composed entirely or almost entirely of cavalymen, for instance, with the Battle of Grunwald, as evidenced by bolts found in large numbers on the sites of such battles.

Translated by Zuzanna Poklewska-Parra

¹⁷ A. Nadolski, *op. cit.*, p. 88.

¹⁸ H. Delbrück, *Geschichte der Kriegskunst im Rahmen der politischen Geschichte*, Th. 3: *Das Mittelalter*, 2. Aufl., Berlin 1923, p. 296; E. v. Frauenholz, *Das Heerwesen der Germanischen Frühzeit, des Frankenreiches und des Ritterlichen Zeitalters*, (*Entwicklungsgeschichte des Deutschen Heerwesens*, Bd. 1), München 1935, pp. 88, 111; cf.: A. Nadolski, *op. cit.*, pp. 120-121.

¹⁹ A. Nadolski, *op. cit.*, p. 88.