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Reviewer's evaluation report on the PhD thesis by Jiří Košta MA

submitted under the title „Early Medieval Swords from the Czech Republic (9th-10th Centuries).“

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## I. Brief characteristics of the work

There are a few published substantial monographs on medieval swords from the territory of the Czech Republic, which deserve special attention. The most influential works were written by Jiří Košta in cooperation with other researchers. His contributions are devoted mainly to early medieval swords, while his co-authors present results of metallographic examinations or investigations of objects dated to later periods. After years of painstaking research, the PhD candidate has become a worldwide recognized expert in the field of early medieval arms and armor. Naturally, his dissertation is an expansion of his earlier works on swords found in the Great Moravian center of power in Mikulčice (2014, in cooperation with J. Hošek – a specialist in archaeometallurgy) and the catalog of medieval swords from the territory of the Czech Republic (2019, co-authors: P. Žakovský – expert on late medieval arms and armor and J. Hošek). The text covers 415 pages, with 152 figures, 105 pages of catalog entries, an appendix with 10 tables on 22 pages, and a 53 pages long list of references cited in his work. As honestly mentioned in the introduction, the dissertation is supplemented by texts written either by Jiří Košta in co-authorship with J. Hošek (the chapter on pattern-welded blades) or exclusively by J. Hošek (chapter 7 on the metallurgy and construction of sword blades), to make the argument more clear to the reader. Moreover, there are catalog entries with contributions by other authors, which is always acknowledged by Jiří Košta in his text. Nearly 90 grave finds from Bohemia and Moravia dated to the 9th and early 10th century listed there are minutely and exhaustively described, including their measurement and weight, when possible to ascertain. In some cases, it was possible to perform metallurgical analyses of the artifacts, and among them of 14 pattern-welded blades. Valuable for the presented discussion are X-ray images and CT scans (two cases) of selected swords.

Noteworthy are also maps included in the text showing the distribution of finds, which provide us with useful information on different traditions present in the region, its far ranged trade relations, and the so-called political geography. The pre-eminent value of this work lies in the fact that it records an enormous collection of evidence on the sample of early medieval swords analyzed in the context of other European finds (a comparative database includes ca. 4500 specimens dated to the 8th-12th centuries). It is worth stressing that many of the investigated specimens were found during archeological excavations in graves dated to the mentioned period. Therefore, as concrete evidence, they contribute to the presented discussion on the chronology, typology, and the evolution of the studied weapons.

## II. Brief overall evaluation of the work

The general impression is that the presented dissertation is well written and well structured. The exhausting typological and chronological analysis in the most extensive part of the dissertation eventually brings the reader to a reward in the 6th chapter in the form of a summarizing discussion

and conclusions drawn from the presented evidence. In the entire work, we find, however, a few redundancies that, in my opinion, could be avoided in the printed version. Moreover, I would suggest deleting several announcements made by the author, what he is about to discuss or analyze later in the text (f. e. p. 243, p. 291, p. 341). As to the publication of the dissertation itself, the author declares, that relevant parts of his work are based on his previous monographs and a joint publication (J. Košta – J. Hošek - P. Žakovský) which is currently in print. Publishing texts which are afterward included in the dissertation is a common practice that allows the author to discuss his research results and present them to the academic community before the public defense of his PhD thesis. I'm very much convinced that the author follows all ethical standards, as proven by his honest acknowledgment of other authors who contributed to his work. On the other hand, as a reviewer, I feel slightly uncomfortable being unable to evaluate to what extent the presented dissertation is based on the manuscript which has not yet been published. Hopefully, the Board and especially the PhD advisor are well acquainted with this text. In case the dissertation and the planned monograph have too much in common in parts created by the author, I would strongly recommend not to publish the thesis as a separate work to avoid the so-called paper-recycling. Moreover, I would be happy to prove useful as a reviewer and to assist the author with my suggestions before the publication. The painstaking analysis conducted by the author was essential to put all of the collected evidence in order. Nevertheless, it seems that in his approach, the morphology, typology, dating, and matters concerning the suggested evolution of swords, although important, have slightly overshadowed the discussion on other aspects of medieval sword production, their role in contemporary society, especially the relation to their owners and their significance within the analyzed grave contexts. The main deficiency of the work in my opinion seems to be the lack of an anthropological dimension. The reader gains an impression that swords are treated here nearly as entities living a life of their own and developing in a relatively short period towards an ideal, most universal, and perfect form. This becomes obvious especially when the author attempts to create an evolution scheme of Moravian and Bohemian early medieval sword blades (see p. 327: the author's opinion on what blade characteristics may be regarded as progressive and regressive). The presented methodology is traditional of which the PhD candidate is aware especially in the summary, where he explains why he avoids conclusions which in his opinion could be far-fetched. I understand that it is an attempt to "stay on the safe side". On the other hand, one may wonder whether our modern pragmatic way of perception isn't here a burden when dealing with an object of such strong symbolic meaning.

As mentioned by the author, the analyzed swords were found in contexts that may rather reflect medieval, spiritual culture, than the actual use of swords (see p. 62). This statement in my opinion could be elaborated more in detail using available references. The PhD candidate when delivering his opinion on aquatic sword-finds invites the reader to a similar discussion. It must be stressed however that the thesis is an outstanding piece of scholarship providing the reader with detailed knowledge on early medieval swords found in the territory of the Czech Republic. As pointed out by the PhD candidate, the catalog of well-recorded finds – an effect of hard, time-consuming work exceeding the usual PhD studies program time-frame – will probably remain up to date for decades, unlike even the most brilliant theory.

### III. Detailed evaluation of the work and its aspects

#### Language

First of all, it is worth mentioning that the text must have been reviewed and proofread by a professional English speaking editor, although minor linguistic inconsistencies resulting mainly from typos couldn't be avoided in such an extensive work (f.e. though instead of thought – p. 58, Behmet instead of Behmer -p. 62, “another sword from the same burial ground have”, instead of has – p.68, double „the” article in Fig. 14, „wit” instead of „with” and at the end of the same sentence „blade” instead of „blades” – p. 78; „...influence cannot also not...” - „not” should be deleted – p. 94) „I limited myself” instead of „myself” - p. 121) „Sweded” instead of „Sweden” - p. 126, „hier see” instead of „here see” - p. 136 „I nor my colleagues Hošek and Žákovský could not examine” - p.176 – I would delete „not”, „Ris.” Instead of „Fig.” - p. 210 „this burial grounds” instead of „these...” - p. 230, there is information in Czech on a missing source - footnote No. 92) „crosguard's” instead of „crossguard's” - p. 295, „an decoration” instead of „a decoration” - p. 333) There are very few flaws which may also be regarded as typos rather than intentional word misuse (f.e. “amount” instead of “number” - p. 30, “ccording” instead of “according” – p. 165, “use in a combat” instead of “use in combat” – p. 175, I would suggest the word “pitting” instead of “openings” about corrosion on p. 176, “grip” instead of “hilt” in the first sentence of the paragraph - p. 196; as far as I can recall there are now pommels from the period that could be “screwed” on tangs and the threading of tangs and pommels is not a medieval practice – p. 235, “several” instead of “few” and “damask” instead of “pattern welding” - p. 318). I suspect what “aerial wire” (f. e. pp. 214, 216, 245, 276) is supposed to mean, but I'm not quite convinced that the term used herein refers to a specific hilt decoration technique is correct. In case I'm wrong, still, I believe that it could win a prize for the obscure term of the month, except perhaps among hardcore early medievalists. There are a few sentences that seem to be unfinished or should be rearranged (“...production into a large number of local workshops could also contribute. “ - p. 84, “...we have no analogy in the period Nordic environment...” - p. 260). Generally, the thesis is written in correct idiomatic English.

## Contexts

The author presents a high level of culture in academic debate. He avoids confrontational opinions, that could be regarded as offensive. Despite presenting very interesting results he seems, however, to feel safer when traveling a “beaten path”, rather than going a step further in his interpretations. A good example is his very refreshing and in many points fascinating discussion on grave contexts (especially in chapter No. 6). The point of departure is the presumption of the author that: Until the development of firearms, swords were the most effective and the most technologically advanced personal weapons. Their importance in combat, complex manufacturing technology, and great expense contributed to the sword becoming one of the most prominent attributes of the social elite. Since prehistoric times, it was a key artifact which defined males of the higher social classes. (p. 14). This has implications for the argument that the sword should be treated here mainly as a symbol of social status. When deposited in a grave it was supposed to reflect the position of the deceased as a member of the local elite warrior retinue of his overlord (see. p. 338). Of course, the lending of swords was a sign of the chieftain's favor, not necessarily a gift in a modern sense, but a clear sign of the obligation to defend one's lord. This custom is well reflected in runic inscriptions on early medieval swords (please consult monograph: Fischer S. 2008 „Les Seigneurs des Anneaux” (In:) Bulletin de liaison de l'Association française d'archéologie mérovingienne, Vol. 1, Saint-Germain-en-Laye, pp. 56-59), in the early medieval literature, f. e. in the Anglo Saxon Beowulf (see: Davidson H. E. 1958 The Ring on the Sword, Journal of the Arms and Armour Society Vol. 2/10, pp. 211-226.), and in the original meaning of the word vassal - an armed man (see: Keen M. 2014 Rycerstwo, Warszawa, p. 99 (there must be a copy printed in Czech)). According to old customary laws, in the latter case the weapons were lent by the chieftain and after the death of the warrior should be returned to the owner, save exceptional cases. Therefore, as suggested by the author, sword-finds from graves

concentrating in certain places could mark the emerging power and economic centers. However, I would be more cautious in the opinion that precious swords may always be treated as evidence for high status and should be immediately connected with elite warrior graves concentrating around centers of power. Besides, the author himself hesitates to do so, when he points out with right, that the position of these valuable weapons within the material culture of the past tells us nothing about the extent of their use in society but does tell us about the changes in burial customs (p.62). Another striking feature of the analyzed early medieval grave contexts is that they contain spears very seldom (p. 361). Regarding the symbolic meaning of a spear - well entrenched in old Germanic customary laws and still recognized in the high and late medieval period (please consult joint monograph: F. Kirchweyer (ed.), *Die heilige Lanze in Wien. Insignie – Reliquie – »Schicksalsspeer«*, Wien.) we may presume that grave goods couldn't be merely reflecting an early medieval dress code. Spurs as indicators of status are also problematic. Apart from their presence in graves with swords belonging exclusively to adult males they also accompany children (p.363). This seems to confirm the opinion of many specialists dealing with equestrian equipment, that spurs may be regarded as status symbols only in exceptional cases depending on their context, the material from which they are made, and their decoration (compare: Ellis B. 1991 *Spurs*, (In:) E. Saunders (ed.), *Salisbury Museum Medieval Catalogue, Part I*, Salisbury, pp. 54-78; García Álvarez-Busto A., Fernández Calderón N. 2014 *El caballero de las espuelas doradas. Análisis arqueológico de un enterramiento nobiliario medieval del monasterio de Corias*, *Gladius* Vol. 34, pp. 135-152. The absence of spurs in graves localized in church interiors could be explained by strict bans on wearing spurs in the sacred place (Buttin Ch. 1923, *Les éperons a l'église, Annecy*). According to the state of the art, the mere fact of traveling on horseback was not a sign of wealth in the middle ages, as prizes of horses differed greatly depending on their purpose.

Skepticism to the traditional identification of elite male graves depending on the presence of sword finds may be also raised by an exceptional case of sword belt fittings deposited without the sword itself in grave No. 54 at Rajhradice. The author interprets it as a symbolic replacement of the weapon (p. 357), but I believe there could be other explanations of such a phenomenon. A good example, that the selection of grave goods not necessarily reflected the actual possessions of the deceased may be found in the description of the Baltic emporium Truso by Wulfstan in the 9th century. Although it doesn't refer to the territory of the Czech Republic, I think it would be worth mentioning for the sake of the discussion. Especially that Wulfstan describes very interesting burial rites characteristic generally for the Baltic tribes and the way weapons were treated by them (see Jagodziński, M. (ed.) 2010: *Truso. Between Weonodland and Witland, Elbląg*). In this region, there was a custom of organizing a horse race in which the winner took a prize of the most precious weapons and other valuable possessions of the deceased while a selection of objects was made to be burnt with the corpse on the pier. An interesting discussion on swords in graves was presented by Norwegian scholars, who observed that the most precious and numerous sword-finds in Norway (even up to 4 swords in one grave) may be often found in countrified regions remote from administrative or trade centers. This situation was caused by the fact that in the local early medieval society all free men were allowed to possess weapons. According to I. Martens, free peasants were more interested in accentuating their right to wear a sword than elite warriors and the same applied to the burial ritual (see: Martens, I. 2002 *Viking Age Weapons in Norway. Their Role in Society* (in:) C. Olsson (ed.) *Proceedings of the XVI IAMAM Congress*, s. 114-121).

A very important point in my opinion was also made by the author when he suggests that from Late Romanesque Period, the already abandoned practice of burying swords in graves might have been symbolically re-established by their depiction on tombstones connected with the aristocratic environment (p.363). The strong relation between grave goods and their representations in funerary

art seems to be even more obvious in the late medieval and early modern periods. Moreover, we have at our disposal documents, that list rules according to which a knight should be represented in his grave effigy (Please consult: Carderera y Solano V. 1855-1864 *Iconografía española : colección de retratos, estatuas, mausoleos... de reyes, reinas, grandes capitanes... desde el s. XI hasta el XVII / copiados de los originales por D. Valentín Carderera y Solano... con texto biográfico y descriptivo*, Madrid). As we learn from them, the presence or the absence of a sword and its position in funerary art or the fact that the deceased was represented only with his empty sword scabbard depended on the circumstances of his death or the feats of arms he accomplished (Ibidem, page F, footnote 1). All this points to a complicated symbolic language of funerary customs which probably date back as far as to the beginning of the middle ages. It is worth accentuating here, that we may observe a strong conservatism of early medieval customs and customary laws which survived well into the Late Middle Ages. Too much of our frustration as archaeologists who love to always find a solution, we still are unable to fully understand the mentioned symbolic language. Therefore, the most common perception of grave goods in archeological literature may not be the only justified interpretation in every case.

As to the aquatic find contexts the PhD candidate expresses skepticism to their ritual character (pp. 48, 349). He points out that very few deposits of swords in riverbeds and lakes may be dated to the Merovingian period, thus the link between similar deposits from antiquity and the medieval world must have been severed. As far as I can recall, there are cases in which swords dated to the 6th and 7th centuries were intentionally deposited in riverbeds. A good example is a Lombardic weapon-find from the Ljubljanica River in Slovenia consisting of two swords, two spearheads seven arrowheads, and a combat knife (Turk et. Al. (ed.) 2009, *The Ljubljanica a River and its Past*, Ljubljana pp 324-325). What is striking is the fact that such weapon deposits are mainly isolated – not accompanied by other finds. This seems to be a general which makes us inclined to suspect that weapons were deposited intentionally in riverbeds, lakes, and bogs. An identical conclusion was more recently drawn from archeological evidence by J. Anders in her monograph, especially in reference to the water deposits of early and late medieval swords (Anders J. 2013 *Früh- und hochmittelalterliche Flussfunde in Nordostdeutschland: das Material aus Peene, Recknitz, Tollense und Trebel und seine siedlungsgeschichtliche Einbindung*, Bonn). Another important work, where one can find the entire cultural context of such weapon deposits is the paper by A. Michalak (2015 *Broń w wodnej toni. Uwagi o akwaticznych znaleziskach broni późnośredniowiecznej na marginesie odkryć z Lutola Mokrego / Weapon in the deep water. Some remarks of aquatic finds*, In: A. Jaszewska, A. Michalak (eds.), *Woda - żywioł ujarzmiony i nieujarzmiony*, Zielona Góra, pp. 289-314). Moreover, the reader will find there a lot of reference to sites with medieval aquatic weapon deposits from the territory of Poland. Eventually, one can find a discussion on the cultural phenomenon of medieval water deposits in: L. Marek 2017 *Średniowieczne uzbrojenie Europy łacińskiej jako Ars Emblematika. „Wratislavia Antiqua” 22*, Wrocław. I'm quite convinced that the custom of sacrificial weapon deposits was practiced through the entire middle ages and far beyond. This may be testified by medieval literature but also archeological objects such as swords from lake Dreetz in Germany or weapons found in Radymno, Poland (the latter quoted in the mentioned paper by A. Michalak). Of course, we need to be aware that not every sword found in an aquatic context should be interpreted this way. On the other hand, I don't see a reason why in the Middle Ages navigable Rivers as convenient trade and transport routes couldn't be regarded as sacred at the same time.

Details:

I'm not entirely convinced that the statistic clustering method (p. 108) in the investigation of blade lengths was eventually successful and helpful in creating an evolution scheme of sword-blades dated to such a short period (9th-early 10th centuries). Was the development of swords linear? Did it lead to the creation of an ultimate perfect sword? Aren't there too many variables that could bias our conclusions based on math, as f. e. extensive, impossible to record wear to the blade? Another factor could be the specialization of weapons meant for different purposes in this context (this phenomenon was briefly mentioned by the author). Moreover, the sample of swords possible to be measured to the full extent seems to be too small to be statistically relevant. Last but not least one can suspect there was a need for customized weapons even at such an early stage of their development. It would be interesting to cross-check data from analysis of the skeletal remains (physical anthropology) and the dimensions of swords accompanying human remains. F. e. the need to customize weapons to conform to the physical characteristics of individuals was addressed even in rigid regulation patterns of military swords issued in the 19th century. According to a Russian document on saber Model 1881, 4 blade lengths were allowed to be used - 71,74,76 and 81 cm respectively (see: Gorokhoff G. 1982, *Les armes blanches russes sous le regne d'Alexandre III, les armes de combat*, Gazette des armes, Vol. 107, pp. 21-27).

Of relevance for the discussion both on inscription VLFERH+T and the construction of sword-hilts is the quoted sword from Elvran, Norway (pp. 167, 169, 231). In the mentioned cases the peculiar features of this sword seem to be later than the form of its hilt, classified as a hybrid Mannheim/Mannheim Speyer type. I believe that the key to understanding the chronology of this weapon is the content of the Latin inscription adorning its hilt. It is a quote from the so-called David's psalm No 143 (144) (please consult: L. Marek 2014, *The Blessing of Swords. A new look into inscriptions of the Benedictus— Type*, *Acta Militaria Mediaevalia* X: 9-20: also for more references on this find). The text, as part of a liturgical procedure, was recited during medieval sword girding ceremonies such as the coronation and the dubbing of new knights. Concrete archeological evidence for the popularity of this quote on sword hilts dates back to the Carolingian period (Marek 2014, p. 10, Fig.1). Its earliest occurrence was recorded so far on the Mannheim and Mannheim Speyer-type swords. The importance of the quote, evoking perhaps a sword girding ceremony in which an ancestor participated or the inscription's apotropaic value could be a reason why a possibly later blade was re-hilted in a modern manner, but using old hilt components. Not going further in too much detail it is worth emphasizing that even swords dated to the very beginning of the middle ages sometimes are provided with hilts or scabbard mounts bearing complicated inscriptions which have their templates in early medieval literature (Fischer 2008, op. cit., pp.73-77). I'm therefore not entirely convinced that in every case early medieval sword-smiths were certainly illiterate and they composed the characters by heart or according to a pre-drawn model (p. 165) although it seems to be a common view.

I'm not sure whether crosses accompanying the well-known VLFBERHT inscription may point to a workshop functioning within the ecclesiastical environment, as suggested in the quoted literature (p. 170). Such crosses are popular medieval closing symbols that mark the beginning and the end of the text. They were used not only on swords, but also in medieval manuscripts, as pointed out with right by M. Glosek (1973, *Znaki i napisy na mieczach sredniowiecznych w Polsce*, Łódź).

I dare to disagree with the author on p. 286, where he states that a particular type of decorating magnificent symbolic Type X sword pommels is plating with precious metals, the surface of which is richly decorated. It is preserved on a sword held in the temple treasury in Essen in North Rhine-Westphalia (Pothmann 1995). The mentioned sword was not originally decorated at all but

manufactured as a plain, undecorated fighting weapon. The rich decoration encasing the hilt was added later when the sword for some reason gained the status of a relic after being deposited in the monastery. It is detachable, as shown and described in the cited publication (see Pothmann (ed.) 1995, pp. 113-114).

When referring to crucible steel from Sassanian Persia (p. 84 p. 411): perhaps it would be useful for the author to quote: Lang, Janet, Paul Craddock & St John Simpson: "New Evidence for Early Crucible Steel", 'The Journal of the Historical Metallurgy Society' 32/1 (1998), pp. 7-14 - research paper on the metallurgy of a late Sassanian (6th-7th century) sword from North Iran (British Museum No. 135747 ) with a blade made of crucible steel.

The reader may feel slightly disappointed not to learn more about scabbard mounts and sword-belt elements accompanying swords. In my opinion, they should be treated as a whole.

#### 1. Structure of argumentation.

As mentioned above, the work is very well structured and the argument is clear at every point. The division into chapters is well thought through. In chapter 6 logical conclusions drawn from the previous analysis are presented.

#### 2. Formal level of work

The author works coherently with abbreviations, the syntax of bibliographic references, transcriptions of foreign words, etc. He uses footnotes correctly. The work is visually clear and well graphically formatted.

#### 3. Work with sources or material

The author works with secondary sources in a transparent way. His selection of primary and secondary sources is sufficient for the presented argument. He works with sources methodically and correctly. The presented work represents a coherent research methodology and transparency. Most of the steps in the analysis are justified and well done. The chosen method of material evidence processing corresponds to the research questions. The interpretation of the results presented by the author results from empirical research and from the sources on which the work is based.

In the contexts of the hilt length/ blade length ratio analysis presented by the author, perhaps the following reference, where such investigations were conducted would prove useful: Grotkamp-Schepers, B., Immel I., Johnsson P., Wetzler S. 2015 Das Schwert - Gestalt und Gedanke = The sword - form, and thought, Solingen.

#### 4. Own benefit

The author transforms his primary and secondary sources into a new, organic whole and brings his perspective to the topic.

#### IV. Advocacy questions

I would be pleased to hear from the PhD candidate more on his interpretation of the character of the grave- and aquatic- contexts, their potential, and limitations for arms and armor studies. He refers many times to the sword finds from Lednickie Lake in Poland. Are all of them communication losses or evidence for hand to hand combat on bridges leading to Ostrów Lednicki? Does he regard the swords from this lake chronologically and typologically consistent with the events of Duke Břetislav I's invasion of Poland?

## V. Conclusion

Despite a few mentioned instances in which the candidate invites the reader to debate, Mr. Košta's work is an outstanding piece of scholarship providing the reader with a refreshing discussion and interesting conclusions. In my opinion, the work meets or to be more honest exceeds by far the standards of a PhD thesis. Archaeological evidence on these remarkable weapons from the Czech Republic has been analyzed in a manner worthy of their merit. The Catalogue and illustrations are a very useful reference for scholars to investigate the distinctive features of the sword forms, their construction, and technology. I'm strongly convinced that the dissertation will be a valuable publication for all serious students of the development of European medieval swords, specialists, and amateur enthusiasts.

I classify the submitted dissertation as passed.

04.01.2022

Dr hab. Lech Marek