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# How to make swords talk: an interdisciplinary approach to understanding medieval swords and their inscriptions

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## Introduction

In 2009 we published an article that presented four inscribed medieval swords<sup>1</sup>. Of the swords that are the focus of the article, three were found in Central Uppsala and one in Karlstad in Sweden. We offered a detailed description of the swords, a possible interpretation of the inscriptions as well as a comprehensive comparison with several other European specimens. The sword inscriptions were treated just like any other medieval inscription. We found that very little academic work has been done on the subject. Medieval epigraphic theories and methodologies were applied to the inscriptions and possible interpretations were offered. We proposed that these inscriptions were invocations to divinities and saints in order that the wielder may gain favor in battle. We proposed two new inscription groups as well as call for the beginning of a new academic discipline we refer to as *Sword epigraphy*. In the present article we want to explain in detail the methods we used for the documentation and interpretation of medieval swords and their inscriptions. Our hope is that this article will serve as a guide for others in the field or perhaps help us to evolve our methodologies so as to better understand the medieval sword phenomenon.

## The theory behind the method

It is our premise that if one is to understand the meaning of a historical or archaeological artifact it is important to understand its context as well. That is to say, we try to understand the object, the time period from which it came and how the whole picture fits together. In accordance with the theoretical framework of Lorraine Daston, our medieval swords can be considered “talking things”<sup>2</sup>. Their “loquaciousness” derives from their mythical<sup>3</sup> and material properties as well as from the cultural purpose for which they were produced. Interpreting historical items in this manner is a task not without its fair share of complexity. We would suggest that the most fruitful way to approach such a spider web of interdependency is by way of an interdisciplinary study. A study that utilizes a hermeneutic methodology and checks the feasibility of the proposed hypotheses by way of a dialectic relationship with the objects of study. Given the importance of clearly defining such complex terms, we shall explain exactly what we mean.

By *hermeneutically* we mean the Heideggerian understanding that all human knowledge is based upon interpretations.<sup>4</sup> Or as Hodder has written: “Hermeneutics involves understanding the world not as a physical system, but as an object of human thought and action”.<sup>5</sup> The primary rule of hermeneutics “is that we must understand any detail such as an object or word in terms of the whole, and the whole in terms of the detail”.<sup>6</sup> Such an *interpretative holistic* point of view means that an object is an inseparable part of the society that created it. Whatever the object is, be it a coffee cup, a sword, or St. Paul’s Cathedral, it is a reflection of the complex psychology of the society that produced it.<sup>7</sup> It is completely and inseparably a “child of its time” and can only be understood as such.

With this in mind and as regards the study of weapons, it is not enough simply to state that an artifact is a particular kind of sword and list all of its metallurgical or stylistic characteristics. Every aspect of the sword’s “existence” must be analyzed. For example, when was it made and within what social context? What materials is it composed of and where did they come from? What did the armor of the time look like? What were the traditions in regards to warfare during the period in question and how did the sword most likely fit into those traditions? Is the construction of the sword conducive to the function that is to be applied to it? And finally, what holistic context best fits the weapon, given the social and technological limitations? The weapon is not a creation in and of itself. It was created for a particular purpose. It was created with a particular intent. The question is; what was that purpose? What role or roles did it have in the society that created it?

As a system of checks and balances, one can also analyze the object *dialectically*. As Lekberg has argued, it is a question of having a dialectic dialogue with the objects that are being studied. To work with the material in a manner that allows it to partake in the investigation, instead of being a passive recipient of definitions, intentions and meaning. More importantly, one must allow the material to amend the theories and conclusions that are made.<sup>8</sup>

In this way the swords become *historical testimonies*. They become a part of our epistemological process and therefore “epistemological things”<sup>9</sup> whose technical details provide information about the culture that produced them as well as their social significance.<sup>10</sup> In his reflections on the material culture of scientific experimental work in the 19<sup>th</sup> century H. Otto Sibum alludes to the significance of historical objects as “representatives of the past”.<sup>11</sup> It is as epistemological representatives that we have tried to treat each sword that we have studied. It is for this reason that we have developed such a detail oriented documentation system. Our aim is that once the data is gathered comparisons can be made and conclusions drawn using a multi-disciplinary methodology, that maximizes the amount of information drawn from the gathered data allowing for far more accurate hypotheses to be constructed. The intention being to increase our knowledge regarding the reality from which the weapons originated. Naturally this includes detailed studies of what is potentially the most valuable and as yet unexplored source of contextual information regarding the world of the medieval warrior i.e. blade inscriptions.

## Creating sword epigraphy: the methodological basis to Medieval Sword Epigraphy

An inscribed sword is a message from another world. It has the potential to provide an insight into essential cognitive aspects of the medieval warrior’s life: his self-perception, his mysticism and his beliefs. Those facets are only rarely handed down in other written sources. Howe-

ver, the interpretation of this kind of verbal information is a very demanding task that is fraught with intellectual traps and pitfalls. Quite often the letters are corroded and hardly visible. In other cases, particularly in those on blades from the 11<sup>th</sup>, 12<sup>th</sup> and 13<sup>th</sup> centuries, the inscriptions seem like random letter combinations, whose content is by no means self-evident. On the contrary, the intricate high medieval inscriptions remain a hitherto unsolved enigma.<sup>12</sup>

In a recently published article we attempt to tackle this exact problem, in spite of the fact that we knew of no existing methodological orthodoxy for the analysis of such material.<sup>13</sup> Some studies from the beginning of the 20<sup>th</sup> century have compared, classified and (later on) discussed medieval sword inscriptions, but failed to establish a methodology for their interpretation.<sup>14</sup> Within the traditional field of medieval epigraphy, sword inscriptions only play a minor role. There, the discussion exclusively revolves around the ULFBERTH-inscriptions of the 9<sup>th</sup> and 10<sup>th</sup> centuries' as items of mass production.<sup>15</sup> Other works focus on the morphology or typology of swords, whereas sword inscriptions were simply documented rather than interpreted. These early works do however provide the essential basic material for preliminary comparative studies.<sup>16</sup>

Our article focused on the presentation and interpretation of four swords with gold<sup>17</sup>, silver and iron inlay inscriptions, all of which were found in Sweden. For that purpose, we applied a composite method based upon the rules of medieval epigraphy and the classifications of sword inscriptions introduced by Wegeli in 1904 and Post in 1918-20. It soon became clear that these basic "tools" would not suffice in gaining a better understanding of this phenomenon. Therefore, we decided to put the Swedish material in a broader European context.

Thanks to this comparative method we were able to produce what we feel to be promising results, though we are far from understanding the phenomenon of medieval sword inscriptions in all its convoluted detail. It is our opinion that the key for a future breakthrough lies in an interdisciplinary approach, one that combines history, epigraphy and archaeology with other related disciplines such as metallurgy, numismatics, diplomatic sigillography, heraldry and perhaps even statistical mathematics.

## Medieval epigraphy

Due to the nature of our material, it was a natural choice to follow the ground rules of medieval epigraphy. In our opinion parts of the long letter sequences could be solved by means of the traditional Latin abbreviation system based on initials, contractions etc. In this context, the so called *nomina sacra*<sup>18</sup> are most important because we assume that the inscriptions might be some kind of invocation or religious motto. All of the inscriptions discussed in our article were introduced (and in most cases ended) with a cross. The Rådhus-sword (SHM 34525) even spelled out the most common invocation of the Christian credo: INNOMINEDO(mini). On the Karlstad-sword (Nr. 17001-34945) and the Uppsala-sword (UMF/B 74) we detected the recurrent letter-combination SDX (or SCSDX), which is most likely read as *Sanctus Dominus Christus* (Holy Lord Christ). The NIA-sequence on the second Uppsala-sword (UMF/B 78) might be solved (In) N(omine) I(esu) A(men), which is a rather common *dictum latinum* as well.

As to the dating of the inscriptions we relied on the experience of traditional epigraphy. Applying its comparative methods, we were able to re-date some of the specimens published by

the sword-inscription pioneer Wegeli in 1904, who had a tendency to date his material far too late. However, the epigraphic method of dating has its limits in terms of accuracy. Even though we included aspects of sword typology in our consideration, we were only able to provide likely results with a margin of plus/minus 50 or even 100 years. In order to improve our dating system, we developed paleographical type alphabets, which juxtapose the letter styles of the hitherto documented material. The more swords we are able to include into that, the more accuracy we can achieve.

## Classification

In our article, we chose Wegeli's traditional classification of sword inscriptions as a typological basis, which we intended to develop further. His doctoral thesis defined for the first time different groups: runic inscriptions, symbols, religious invocations and periodic sequences (i.e. the DIC- and the NED-subgroups). The latter category was of particular interest to our work, because it included intricate and enigmatic sequences quite similar to our material, namely in terms of style, arrangement and number of letters.

Post added a third subgroup in 1918-20, which he called the SD(I)X-group, due to the recurrent element SDX. He interpreted the *formula* as S(alvator) D(ominus) I(esus) X(rist) (Liberator Lord Jesus Christ). Two of our swords (UMF/B 74 and the Karlstad-sword) could be allotted to the aforementioned group, although we disagree with Post's interpretation. The S has to be read as *Sanctus*, for the UMF/B 74 showed the more extended abbreviation SCSDX even with an abbreviation stroke.

The traditional classification and terminology contributed in integrating the Swedish material into a Pan-European context. However, our analysis revealed that there is no universally valid boundary between the different periodic groups. For instance, the SDX-group included elements of the NED- or DIC-group and *vice versa*. An additional example is a sword found



Picture 1: The Alphen-Sword (Nr. 8888 Provincial Depot Bodemvondsten Zuid-Holland) clearly shows the characteristics of at least four different inscription-groups, namely SCS (occurring in the SDX-type), DIC, BENE(*dictus*) and NED, all of which are used for classification purposes. The fact that they are all found on the same blade proves that this type of classification method is unsound. Photo by Worley, J.; altered by Wagner, T.

in Alphen aan den Rijn (Netherlands), which includes characteristics of several groups, such as the BENE(DICTUS)-group, the NED and DIC-group as well as the SCS-abbreviation of the SDX-type. For that reason alone, new approaches are necessary.

In 1918-20 Erben opposed Wegeli's tentative interpretations. With convincing epigraphical evidence he was able to show that the assistant of the "Schweizer Landesmuseum" in Zürich had misread some letters and ligatures. Therefore, he had missed obvious personal names or titles as well as topographical denotations. We considered Erben's "name approach" and discussed at least the possibility of such an interpretation for our material. We suspect UMF/B 74 to be a name containing inscription, showing the sequence MATR(I)CIUS, which could be a variant of MAVRITIUS, the popular warrior saint.

## Comparative method

Despite his attempts to classify sword inscriptions, Wegeli tended to interpret them as isolated phenomena; and so did Erben and Post, as they discussed limited material in an almost exclusively German context. By adding Scandinavian specimens (including a Finnish sword) as well as a blade from St. Omer in France, we broadened the scope, in order to gain a more complete picture.

By contextualizing our material we were able to develop a tentative chronology, which divided the SDX-type inscriptions into three different age classes: firstly, the longer, broader and probably name-containing inscriptions (around 1150), secondly, a more elaborated centre stage with about 13 different letters (around 1200) and thirdly, a group with cramped and elongated characters, whose overall appearance seems even more generalized.

By means of our palaeographical type alphabets we were able to develop a certain, almost generalized, letter style, which was used to inscribe sword blades. Despite slight differences in terms of length, breadth and the size of the serifs, we showed, how closely related the material from Northern, Western and Central Europe actually were. For the first time sword inscriptions could be demonstrated to have been a Pan-European phenomenon as regards the style of the lettering and methods used.

## Reconsidering language and grammar

Our efforts to interpret the dicra as abbreviated Latin words were successful to some extent. However, we have not been able to determine a satisfying solution yet. The recurrent letter sequence ERT or NERT on UMF/B 74 and the Karlstad-sword forced us to rethink the language used in the blade inscriptions. Both ER(E)T and NER(E)T are medieval German words, more precisely imperatives plural, meaning *venerate* and *protect*. A religious as well as martial motto like this would make perfect sense on a sword blade.<sup>18a</sup> While it may not be common<sup>19</sup> it is possible to find vernacular words within longer, abbreviated and presumably Latin inscriptions. For example the French word DIEU is to be noticed on a sword blade found in Geertruidenberg (Netherlands).<sup>20</sup>

On some blades of the German comparative material, kept in the *Zeughausammlung* (Deutsches Historisches Museum, Berlin) were found similar letter sequences, which included a probably silent H, reading EHR or NEHR. The insertion of the H can be grammatically explained as a length mark. A silent variant of H would be possible in the 12<sup>th</sup> and 13<sup>th</sup> centuries, albeit rare.<sup>21</sup>

We tended to interpret the SDX-inscriptions of our Swedish material as hybrid *formulae*, consisting of Latin invocations (SCSDX) and vernacular imperatives (ERT, NERT). This led to a tentative reading: “Venerate Jesus, the Holy Lord Christ, protect Jesus, the Holy Lord Christ” for the Karlstad-sword. For the Uppsala-sword (UMF/B 74) we could offer a similar interpretation, although the *dictum* of the latter possibly includes names (MATR(D)CIUS). Of course, that is highly speculative, not least because there is another solution, if we apply Erben’s name approach.<sup>22</sup>

## Runic weapon inscriptions

For the contextualization of sword inscriptions it is essential to understand the origins of the tradition of inscribing weapons. There is evidence that Roman *gladii* were decorated with inlaid figures just below the handguard, depicting for example military standards, eagles or the gods Mars or Victory.<sup>23</sup> As to the inscriptions on Roman military equipment, it is our understanding that their purpose was to either demonstrate ownership or indicate the manufacturer. These are completely different motives for inscribing a weapon as compared to medieval sword inscriptions.<sup>24</sup> Roman sword inscriptions are thus no essential source for the inscriptions on medieval swords, unlike for instance Roman coins, which were of the utmost importance for the development of the iconography on coins in medieval Europe. The archaeological material from Northern and Central Europe demonstrates clearly, that the habit of decorating the parts of a warrior’s equipment, such as weapons, shields and helmets with inscriptions has its origins in Germanic traditions.<sup>25</sup> The runic inscriptions from the 2<sup>nd</sup> to the 12<sup>th</sup> centuries could give us more insight into both the purpose and the manufacturing of the weapon inscriptions, be they made of metal inlay or carved.

Runes usually form names, which are mostly interpreted as owners’, makers’, donators’ or carvers’ names. The weapon inscribed often has its own name, for example “Destroyer”, “Prober” or “Barker”. Some examples were interpreted as imperatives, which were supposed to remind the bearer to show bravery in combat; others as an expression of religious thinking. One theory in this context is that some elements of the inscription might indicate a sound, which had to be vocalized in a certain way.<sup>26</sup>

In some rare cases the name of the sorcerer that carved the runes is mentioned so as to provide the item with magical powers. Occasionally, this was done by means of an invocation to the Germanic Gods, which is basically a prayer for strength, assistance and protection in battle. Hence, this tradition could be a possible root of the Christian medieval invocations or incantations on sword blades.

## Ornaments and symbols

When it comes to the interpretation of ornaments and symbols on sword blades, we have to enter uncharted territory. Aside from some studies on late medieval maker’s marks,<sup>27</sup> hardly any research has been done on that topic.<sup>28</sup> On the reverse of some specimens, ornaments intermingle with letters, forming a mixed inscription, in which the characters might also have a symbolic meaning.

In our previous work, we felt right from the beginning that the symbols on sword blades had to be of the same importance as the lettering. Sometimes the cramped and elongated cha-

racters on later swords of the SDX-group are hardly noticeable as letters, exhibiting an almost symbol-like appearance. Therefore we assumed, that a generalized inscription of this kind was not necessarily meant to be read. In our opinion it is quite possible that it was a religious symbol – a visual reminder of God's protection in battle.

Furthermore, the style of the cross potent could indicate a close relationship between two specimens. In some cases the similarities were so overwhelming that we could even speculate a provenance from the same workshop. A sword found in Oldenburg (Germany), showed almost the same invocation cross as UMF/B 74 and to a lesser extent the Karlstad-sword.<sup>29</sup> Analyzing sword inscriptions in this manner might help us to gain new insight into trade relations, migration or even the transfer of technologies in Europe during the Middle Ages. Again, sword inscriptions appear to be an indicative phenomenon.

## Broadening the base of interpretation

Thus far the interpretation of sword inscriptions has been done exclusively on the basis of an initial-based Latin abbreviation system. With the +*INNOMINEDOMINI*+ article we expanded our base of interpretation by adding vernacular languages. With this article we would like to broaden our base of interpretation even more by the addition of another medieval phenomenon i.e. written magic. As Kieckhefer states: "magic is a crossing-point where religion converges with science, popular beliefs intersect with those of the educated classes, and the conventions of fiction meet with the realities of daily life".<sup>30</sup> The point here is that in the Middle Ages there were few who would differentiate between religion, science and magic.<sup>31</sup> What's more, in regards to words of power Kieckhefer writes:

"In a culture where writing is uncommon, it may well appear magical. Even ordinary script may seem to bear extraordinary power, and it is not surprising when people in search of magical weapons or magical protection seize upon the written word." <sup>32</sup>

Written magic seemingly was intermingled with everyday life during this period, for instance, in order to prevent harm to the household. The so called "Wolfsthurn manuscript" (dating from the 15<sup>th</sup> century), written in the vernacular and not Latin, recommends not only Christian prayers, but also the use of the letter sequence P.N.B.C.P.X.A.O.P.I.L. followed by the Christian benediction formula: In nomine Domini et Filii et Spiritus Sancti, amen.<sup>33</sup> Textual amulets were commonly used, even as late as the 19<sup>th</sup> century, as the so called Zachary-Benediction shows, which was applied as a magical shield against illness, maledictions as well as the plague. The inscribed Benedictus-cross – a benediction, which is basically an exorcism to expel the devil, illness and poison – is to be found on catholic aluminum-amulets dating from the 20<sup>th</sup> century, even though it is to be doubted that the bearers of these medallions would have been able to explain the inscription in detail. Their importance seems to be cumulative in nature. Consequently, the meaning of each individual letter appears insignificant. They are simply symbols within a symbol.

The point as regards sword inscriptions is that while some of the letter combinations on sword blades are clearly abbreviated forms of Latin words, such as the "SCSDX" combination, other combinations cannot be understood so easily. Neither can they be equated with vernacular

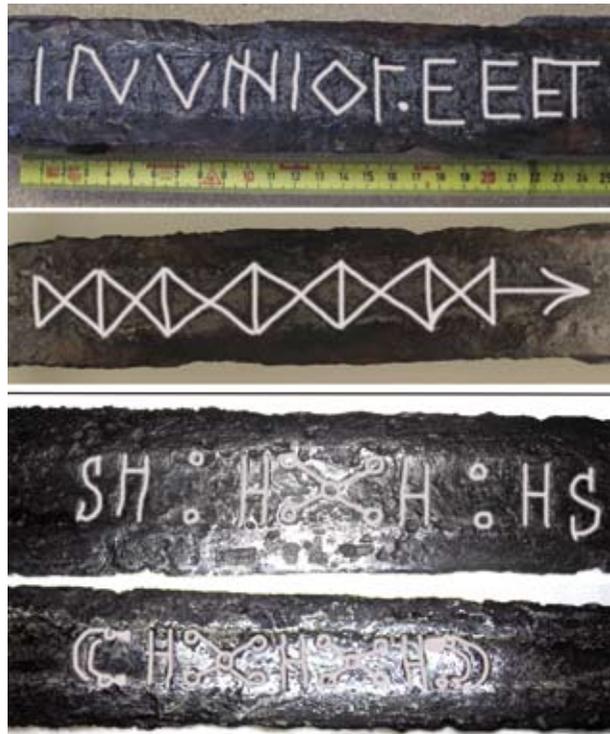


Picture 2: *The Zachary-Benediction: The inscription on the obverse side of this brass amulet (Inv.-Nr. 500, of the medal and coin collection of the Diözesanarchiv Würzburg (DAW)) shows St. Benedict and reads: + Z + DIA + BIZ + SAB + Z + HGF + BFRS. The capital letters stand for psalms all referring to the plague, whereupon not every letter represents a word, but rather one letter can represent several words or at times even whole psalms. Such a randomized abbreviation “system” makes decoding the inscriptions difficult if not impossible. The Benedict-cross on a metal-enamel amulet (Inv.-Nr. 290, DAW) reads C.S.S.M.L. and N.D.S.M.D. The circum-scription reads V.R.S.N.S.M.V.S.M.Q.L.I.V.B., photos by Wagner, T.*

languages that would be appropriate. So, seeing as how magical practices would seem to have permeated medieval life it would appear appropriate to attempt to understand sword inscriptions along those lines. However, while this is almost certainly a valuable addition to the sword inscription interpreters’ toolbox it comes at a heavy price. In short, it means that it is possible that parts of the inscriptions will never be fully understood. Some letters for example may be offhand one letter abbreviations of whole words from any number of different sources from psalms to long forgotten names. These are intermingled with other letters that are purposely meant to be nonsense and thus un-interpretable.

A further example that will illustrate the difficulties involved in attempting to interpret such magical inscriptions comes from Skemer. To dispel a severe fever a Roman physician advised wearing a papyrus textual amulet around the neck with the magical word of power “ABRA-CADABRA” written as an inverted triangle with the word diminishing one letter per line until only “A” remains at the bottom of the triangle. Skemer explains the words etymology as being “most likely of Near Eastern origin, possibly derived from the Hebrew *Ha-Brachab-dabarab* (‘Name of the Blessed’).<sup>36</sup> The point here in regards to sword inscriptions is that if such power words are written on sword blades they are almost certainly highly abbreviated. If the etymology for such words is debated when the whole word is known then surely it would be nearly impossible if the word is abbreviated so that the researcher could not even be certain as to what the original word may have been. In this case even the best linguists would

*Picture 3: The inscriptions on these sword blades are illustrative in that while on the one side of the upper most sword (Nr. W2981 from the Germanisches Nationalmuseum, Nürnberg) the text is rather illegible but its meaning is still quite clear as being of the “ME FECIT” (made me) type. The question becomes whether the repetitive “X’s” with the arrow on the other side are solely meant for esthetic purposes or if they were meant to be something far more powerful. The question becomes even more significant when one considers the inscription on the lower sword (Nr. W58-99 from the Deutsches Historisches Museum, Berlin) which consists not only of what would later be well known alchemical symbols, but is also palindromic. Photo by Worley, J.*



have difficulties in interpreting their true meaning and origin. However frustrating this may be to the interpreter of sword inscriptions it does seem to fit a vast majority of specimens.

While this hypothesis does have its obvious downside, the cloud has a silver lining. These sorts of practices are not limited to texts. A letter is a symbol that in most western languages stands for a particular sound. Other types of symbols stand for something more complex. The point being, to an illiterate society such symbols could be as magical as texts or even words of power. Sword inscriptions often include a vast array of different symbols aside from those obviously intended to be letters. These symbols have always been seen as possibly magical but largely uninterpretable as we have no point of reference. Perhaps we now have at least a starting point.

### Letters and symbols on coins, diploma, emblems and seals

Other historical disciplines (for instance numismatics, heraldry and the research on medieval seals) have both a longer tradition of research and a large collection of material, which is very accessible. The data gained from comparing these materials with the sword inscriptions might be useful in regards to dating the inscriptions – and thus the swords - more precisely. We thus consider it reasonable to use coins as comparative material for our study on medieval sword inscriptions. In a future article, we plan to write a detailed comparative study of medieval coin

inscriptions and symbols and sword inscriptions. We have noticed some similarities, but as yet do not know their extent. Are the letter-forms used comparable and could we use coins to fine-tune the typology of the inscriptions and get more specific dates for some swords?

This comparative approach also includes other forms of writing. The cross potent and *formulae*, such as INNOMINEDOMINI, also appears in the invocation lines of almost all *diplomata* (legal acts). In our recent article, we already emphasized the similarity between these invocation lines and 13<sup>th</sup> century sword inscriptions. With adding both the analysis of emblems and seals, our basis for comparisons will become even broader. In our future work, we plan to include all these forms of abbreviated writing in our analysis of sword inscriptions.

## Documenting a medieval sword: introduction and purpose

Each individual medieval sword is unique. This is the inevitable result of the method of their manufacture. There are numerous different factors inherent in each sword. All of these factors are relative to one another and come together to define each sword's special set of characteristics. For example, each sword has its own weight distribution and its own metallurgical structure.<sup>37</sup> The handling characteristics of the sword depend upon a relative relationship between the length, thickness and weight of the blade and the counterbalancing weight of the pommel and crossguard. It is by manipulating each of these relative factors that the wielder was able to achieve the characteristics that best suited their own individual strengths, weaknesses and fighting styles. Thus, to some small extent, each medieval sword is as different as the people who once wielded them. The challenge for our group then was to develop a documentation system that takes into account all of these different factors and attempts to record the individuality of each sword.

The study of swords via one typology or another is common. This being the case, it is important to remember what exactly a typology is and to be aware of their inherent limitations. A typology is a methodological tool used to organize a mass of artifacts into manageable groups in order to facilitate an analysis. An average artifact "type" is chosen from each group to serve as a representative. Typologies can be made for several different purposes only one of which is the formation of a relative chronology.<sup>38</sup> They are good and useful analytical tools so long as their inherent limitations are understood and so long as they are used within a holistic framework, i.e. a weapon evolves within a historical and technological context and not in and of itself. The individuality of a sword, which we believe to be its very essence, can easily be forgotten or hidden by the generalizing necessary for the creation of a typology. The point is if you are to understand the medieval sword it is essential to understand the individual as well as the larger evolutionary picture. Metaphorically to study swords solely through typologies is like attempting to understand humanity without ever getting to know the dreams, fears and ambitions of a single individual.

Sword typologies are not rare. Several different ones have come about since the 19<sup>th</sup> century either intended to complement one another or to supersede their predecessors all together.<sup>39</sup>

Oakeshott recognized the limitations of typologies, especially when it comes to medieval swords. His original intention was to follow Petersen's Viking Age sword typology<sup>40</sup> with his own for swords from the Middle Ages.<sup>41</sup> While Petersen concentrated solely on hilt design, Oakeshott quickly found that he had to look at the entire sword. He observed that the differences between the swords were to be found in the fullering of the blades, the overall appea-

*Picture 4: This is a sword from the Museum Het Valkhof in Nijmegen. During the investigation the blade was found to have a very distinct bulge at the end of the fuller. This is the result of how the sword smith made this particular sword's fuller. It is possible that this little detail would not have been noticed in a standardized investigation. It is details such as these that can lead to the identification of particular workshops. Museum number XXX1.b.22. Photo by Worley, J.*



rance and so forth as any of these types might have any pommel or crossguard which made the earlier Petersen method inapplicable.<sup>42</sup> Thus Oakeshott describes his different types by giving general dimensions and weight for each group then compliments these descriptions by selecting examples to personify each group and analyzes them as individuals belonging to a specific group.<sup>43</sup> In our opinion Oakeshott had the correct idea when it comes to medieval sword typologies. The problem that we see with too much reliance on a typology is that the individuality of each sword, which we believe to be their very essence, is hidden or easily forgotten in the generalizing necessary for the creation of a typology.

Medieval sword typologies can only provide a possible date to within a century and in the Middle Ages a century is a long time with a lot of contextual change. Moreover, given the unique nature of each weapon, swords usually have to be “pigeonholed” into a particular typological category. By taking the time to record the individuality of each weapon it may be possible for patterns to be discerned that otherwise would have gone unnoticed. This may allow us to update and improve the current typologies. What’s more, if these updates are developed with an eye towards the concurrent historical and technological developments then perhaps new methods of classifying and understanding medieval swords can be brought forth.

As was stated above this type of research is all about finding patterns in a mass of data. The more data the researcher has access to the greater the likelihood that meaningful patterns will emerge. For example, all of our research thus far seems to indicate that swords and the phenomena surrounding them are pan European and not bound to local or national boundaries. Even local or indeed personal tastes in pommels and crossguards are governed by fluctuating fashions and trends that by this time are European-wide and are spread with a vast array of other such phenomena all around Europe. It is possible, however, that slight differences between swords, while not being indicative of any particular cultural boundary, may well be evidence of a specific workshop or a particular sword smith’s “signature”. These slight differences may well go by unnoticed using a standardized documentation system. If the uniqueness of each sword is recorded however comparisons can be made which may lead to a better understanding of the weapons and the world from which they came.

## Documentation equipment

There are two basic categories of tools. The first consists of various devices to assist in making ocular observations and the second are the devices with which the actual measurements are made. The ocular devices consist of a magnifying glass and a thread counter (magnification 10x). We currently use a Wild-Heerbrugg M5 (magnification up to 200x with oculars of 20x magnification). We have also found that serviceable pictures can be taken simply by putting the camera up to the ocular of the microscope.

As regards the measuring devices, we use non-metallic digital calipers as well as an array of different rulers and measuring tapes. We have found, for example, that a non-metallic carpenters' rule is very handy as it can be laid along the length of the sword and kept there so that all the subsequent measurements can be relative to one another. Other important tools consist of a small digital scale for weighing each sword, a rechargeable LED flashlight and of course a digital camera (Canon Digital IXUS 85IS, 10 mega pixels). The documentation system is designed with flexibility in mind as it is the sword that dictates the types of tools that are used and measurements that are taken.

## The measurements taken

A sword, by the nature of its intended use, is meant to be in motion and relative only to the user and his/her opponent. Thus all of the terms relating to swords are terms that are used when the sword is being held, i.e. width, length, right side, left side and so forth. Documenting such an item in the detailed manner that we do means that we have to take the *item-in-motion* and make it static for purposes of documentation. It means that we must create and apply terms that are necessary for the documentation process. As a case in point we can look at the fact that throughout this article we refer to the obverse and reverse of different swords as if this was an accepted and obvious phenomenon as is the case with coins. As regards swords however it is not so obvious. Indeed it is an ad-hoc decision made for documentation purposes only so that people looking at the documentation sheet can make sense of the measurements taken and can see from where exactly on the sword they came.

The documentation system was initially developed in cooperation with the Swedish sword smith Peter Johnson. To his original system we added dozens of measuring points and changed our basic philosophy towards documentation. When we first started we wanted to work as "scientifically" as possible and thus we wanted to document all swords in the same manner. We later found that this was not an optimal method as each sword has a slightly differing set of characteristics unique to each specimen. So we added dozens of new measuring points, photos and drawings, all in an effort to document the uniqueness of each sword.

To begin with a "Sword Documentation Sheet" (see picture 5) was made. This sheet divides the sword into its constituent parts and lists some places that are to be measured for each part. It also leaves ample space for notes, drawings and other information that is deemed necessary to record. While the sheet lists several places to measure there are no standard measurements. The amount and types of measurements taken are dictated by the style and condition of the sword. The sheet begins with the museum number and the collection to which it belongs. Then there is a space for catalogue notations. After this there is a space where we indicate which side of the sword is the obverse and which is the reverse. We try to choose a mark that is not likely

to change over the coming decades, for example, if there is damage to one side of the sword and not the other. The best type of mark is an inscription of some type that clearly differentiates one side from the other.

After this initial information is gathered there is some space for the most basic measurements, which go under the title "General dimensions". These consist of the overall length and weight. The hilt dimensions that are taken are as follows: the tangs' length, width and thickness at various points, the crossguards' length, width, height and thickness at various places, and finally the height, width and thickness of the pommel. We take measurements every few centimeters or less depending upon the form of the piece. For example, if there are other pieces to the pommel, such as an inner disc, chamfered edges or a visible peen block, these must be recorded as well. The remaining measurements are all done on the blade. Here the overall length, width and thickness are measured as is the fuller, its overall length, its width and depth.

## The documentation process

We begin the documentation process by determining which side of the sword is to be the obverse and which the reverse. Then the sword is weighed. The weapon is placed on polyester foam stands; obverse side up, with the pommel on the documenter's left. We do this because the documentation sheet refers to the "top" and "bottom" of for example the crossguard, with the top being the side of the sword that is farthest from the documenter. Then the overall length of the sword is measured, from the top of the peen block to the tip of the blade.

In regards to the hilt measurements, the length of the tang is measured from the tang-side of the pommel to the crossguard or shoulders of the sword. The crossguard is measured from end to end to ascertain its overall width as is the height (parallel to the blade flat) and thickness (at a right angle to the blade flat). If the crossguard has any unique features these need to be recorded in detail. We make it a practice to draw the pommel. We use standardized drawing that includes all of the pommels' features. The obverse and reverse sides are noted and the chamfered edges and inner disc are measured on both sides as are any other of the pommels' features.

Moving to the blade, the first 10 centimeters of the tip is drawn and measured every centimeter. The tip is often one of the many factors that are indicative regarding typological determination, providing of course the tip is not broken. A tape measure is placed from crossguard to tip, along the fuller. This provides a measurement for the blade length. Leaving the tape measure in place, the width and thickness of the blade are measured every 5 cm. If at any certain point along the blade the sword is damaged then a note is made at that point on the sheet. Another deciding factor as regards typological determinations is the fuller. The overall length both above and below the crossguard is measured as is the width and depth of the fuller on both sides, every 5cm.

After the measurements are taken we take a series of photographs. This series includes a picture of the complete sword, a close up of the hilt assembly (from peen block to crossguard), the pommel and tang as well as detailed pictures of any inscription, damage and any other mark that could prove interesting in future comparisons. To finish off the series we usually take what we refer to as perspective photographs. These are picture taken from different angles the intention of which is to ensure that the shape and relative size of the pommel and

crossguard are clear. After the measurements and photos are taken we use the microscope to study any portion of the sword that may seem interesting especially if the sword has an inscription. We also take photos of any interesting pieces through the microscope. Once the sword is completely documented it can be compared with other swords in the database. The information could also be made available to other specialists from other fields that could analyze the data with new perspectives and thus add to the overall understanding of the weapons' contextual reality.

Closing comments

The swords that we are primarily interested in come from between the late 8<sup>th</sup> to the early 14<sup>th</sup> centuries. This is a period that witnessed fundamental changes to all aspects of life. As regards military issues alone, Europe goes from being almost totally on the defensive during the 9<sup>th</sup> and 10<sup>th</sup> centuries to the unprecedented aggressiveness of the Crusades, starting in the late 11<sup>th</sup> century.<sup>45</sup> The tactics of warfare change radically during this time, going from the dismounted warrior in the shield wall to the mounted knight charging with his couched lance. Surely such comprehensive changes are reflected in weapons that they used. Only by using a detail oriented, multi-disciplinary, interpretative holistic approach, which allows the items to dialectically partake in the hypothesizing process, can we allow these weapons to communicate to us the realities under which they were created. Only by utilizing the expertise of various different specialists can we gather an understanding of medieval swords and the warriors who wielded them.

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 <p>Hand-drawn drawing and details</p>	<p>Notes</p>	<p><b>Sword Documentation Sheet</b></p> <p>Inventory Number: _____</p> <p>Category: _____</p> <p>Object in this collection by: _____</p> <p>Accession Number: _____</p> <p>Country of Origin: _____</p> <p>Material: _____</p> <p>Length: _____</p> <p>Blade Length: _____</p> <p>Hilt Length: _____</p> <p>Pommel Length: _____</p> <p>Guard Length: _____</p> <p>Guard Width: _____</p> <p>Guard Height: _____</p> <p>Blade Width: _____</p> <p>Blade Thickness: _____</p> <p>Blade Curvature: _____</p> <p>Blade Edge: _____</p> <p>Blade Point: _____</p> <p>Blade Base: _____</p> <p>Blade Markings: _____</p> <p>Blade Engravings: _____</p> <p>Blade Inscriptions: _____</p> <p>Blade Text: _____</p> <p>Blade Symbols: _____</p> <p>Blade Images: _____</p> <p>Blade Photos: _____</p> <p>Blade Videos: _____</p> <p>Blade Audio: _____</p> <p>Blade Other: _____</p>
 <p>Hand-drawn drawing and details of the blade</p>	<p>Notes</p>	<p><b>Blade Measurements</b></p> <p>Blade Length: _____</p> <p>Blade Width: _____</p> <p>Blade Thickness: _____</p> <p>Blade Curvature: _____</p> <p>Blade Edge: _____</p> <p>Blade Point: _____</p> <p>Blade Base: _____</p> <p>Blade Markings: _____</p> <p>Blade Engravings: _____</p> <p>Blade Inscriptions: _____</p> <p>Blade Text: _____</p> <p>Blade Symbols: _____</p> <p>Blade Images: _____</p> <p>Blade Photos: _____</p> <p>Blade Videos: _____</p> <p>Blade Audio: _____</p> <p>Blade Other: _____</p>
 <p>Hand-drawn drawing and details of the blade</p>	<p>Notes</p>	<p><b>Blade Measurements</b></p> <p>Blade Length: _____</p> <p>Blade Width: _____</p> <p>Blade Thickness: _____</p> <p>Blade Curvature: _____</p> <p>Blade Edge: _____</p> <p>Blade Point: _____</p> <p>Blade Base: _____</p> <p>Blade Markings: _____</p> <p>Blade Engravings: _____</p> <p>Blade Inscriptions: _____</p> <p>Blade Text: _____</p> <p>Blade Symbols: _____</p> <p>Blade Images: _____</p> <p>Blade Photos: _____</p> <p>Blade Videos: _____</p> <p>Blade Audio: _____</p> <p>Blade Other: _____</p>
<p>Hand-drawn drawing and details of the blade</p>	<p>Notes</p>	<p><b>Blade Measurements</b></p> <p>Blade Length: _____</p> <p>Blade Width: _____</p> <p>Blade Thickness: _____</p> <p>Blade Curvature: _____</p> <p>Blade Edge: _____</p> <p>Blade Point: _____</p> <p>Blade Base: _____</p> <p>Blade Markings: _____</p> <p>Blade Engravings: _____</p> <p>Blade Inscriptions: _____</p> <p>Blade Text: _____</p> <p>Blade Symbols: _____</p> <p>Blade Images: _____</p> <p>Blade Photos: _____</p> <p>Blade Videos: _____</p> <p>Blade Audio: _____</p> <p>Blade Other: _____</p>

Picture 5: an example of the Sword Documentation Sheet developed by the Fyris Swords Group. Pages 1-4 are used for basic information, measurements and notes. Page 5 is used for drawings of unique features and a detailed description of the physical condition of the weapon. Page 6 and 7 are for detailed drawings of any and all marks and inscriptions on both sides of the swords and the final pages are for photographs.

Footnotes and remarks

- 1 Wagner, Worley, Holst-Blennow & Beckholmen 2009, 11-52.
- 2 Daston 2004; Daston's approach is referring to scientific instruments, paintings, sculptures and other models, but also to technical artifacts – a category the medieval swords have to be assigned to.
- 3 Barthes 1964.
- 4 Karlsson 1998.
- 5 Hodder and Hutson 2003, 195.
- 6 Hodder and Hutson 2003, 195.
- 7 Malpas 1992, xvi.
- 8 Lekberg 2002, 15ff.
- 9 Rheinberger 1992, 67-88.
- 10 König 2005.
- 11 Sibum 2000, 61-73; Sibum 2000, 77-86; Sibum 1995, 73-106.
- 12 Exempt from obvious invocation inscriptions, for example the INNOMINEDOMINI on the other side of maker's names inscriptions such as CICELINMEFECIT etc. or references to bible quotes like psalm 143: "Benedictus deus meus qui docet manus meas ad praelium et digitos meos ad bellum", see Glosek, Marian and Kajzer, Leszek 1977, 117-129.
- 13 Wagner, Worley, Holst-Blennow & Beckholmen 2009, 11-52.
- 14 Post 1918-1920, 246-250; Erben 1918-1920, 105-168; Wegeli 1904.
- 15 Kloos 1980, 85.
- 16 Oakeshott 1996; Geibig 1991, 112-133; Läppäaho 1964.
- 17 A metallurgical investigation conducted after the publication of the INNOMINEDOMINI article has shown that the inscription on this sword (UMF/B 78) is not gold but rather some kind of brass alloy containing three parts Cu and one part Zn. The metallurgical analysis was conducted Jean Pettersson and Roland Pettersson at Department of Physical and Analytical Chemistry at Uppsala University.
- 18 Traube 1907.
- 18a Franz 1909, 289ff.
- 19 See the disagreement on that between Wegeli 1904, fig. 24/25, 21 and Erben 1918-20, 129-32.
- 20 Dütting et al. 2009, 93 f; According to W.P. Gerritsen and J.P. Gumbart (Leiden University).
- 21 Ebert, Reichmann & Wegera 1993, 34; Weinold 1883, 245-46.
- 22 If we read the sickle-shaped T as IC ligature and the IS as U, than we would deal with name and a title, namely "Eric, Duke of Närke" (ERICVSD(V)XNERICVSD(V)X), who is hardly traceable in Swedish medieval history.
- 23 Bishop & Coulston 2009, 156.
- 24 Bishop & Coulston 2009, 45-46.
- 25 Grünzweig 2004; Düwel 1981, 128-167.
- 26 Düwel 1997, 23-42.
- 27 Schmid 1918-1920, 244-246; Schwietering 1918-1920, 250ff.
- 28 The study on Scandinavian and Baltic cult symbols by Kulakow 1985, 53-64, is rather a documentation.
- 29 Post 1926-1928, 220-221.

- 30 Kieckhefer 2000, 1f.
- 31 Kieckhefer 2000, 8ff.
- 32 Kieckhefer 2000, 47.
- 33 Kieckhefer 2000, 4.
- 34 For a solution of the abbreviations see: Sannig 1789, 181-183; Buchberger 1931, 1024.
- 35 For a solution of the abbreviations see: Brauneck, 1979, 295–296; Buchberger 1931, 162-163; as to amulets in general see: Münsterer 1963, 170-201.
- 36 Skemer 2006, 25.
- 37 It should be noted here that the metallurgy not only affects the weight of the weapon, but also many of the swords other handling characteristics.
- 38 Renfrew & Bahn 1996, 114ff.
- 39 For a relatively complete run down of the most popular typologies see: Marek 2005, 11ff.
- 40 Petersen 1919.
- 41 Oakeshott 1997.
- 42 Oakeshott 1991, 2.
- 43 Oakeshott 1997.
- 44 Here we are directly confronted with the problem of an item-in-motion being made static. In other words, that which should be the right and left side of the sword becomes the top and bottom. I refer to the top and bottom of the crossguard simply because it was easier than referring to the right and left as they are interchangeable and are completely dependent upon how the sword is being held, whereas the top of the crossguard is always the side that is away from the documenter if the sword is obverse up.
- 45 Erdmann 1977.

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## Sources of the pictures

Picture 1: J. Worley, altered by T. Wagner

Picture 2: T. Wagner

Picture 3: J. Worley

Picture 4: J. Worley

Picture 5: J. Worley

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## Zusammenfassung

In einem Aufsatz mit dem Titel “+INNOMINEDOMINI+ Medieval Christian invocation inscriptions on sword blades” (WKK Heft 1/2009, 11-52) besprachen wir, die Fyris Swords Group des Museums Gustavianum in Uppsala, vier in Schweden gefundene, hochmittelalterliche Schwerter und setzten sie durch Vergleich mit deutschen und französischen Exemplaren in einem europäischen Zusammenhang. Bei der Abfassung des Artikels wurde deutlich, dass es bislang keine allgemeingültige Methode zur Untersuchung und Dokumentation von mittelalterlichen Schwertern gibt – ganz zu schweigen von Interpretationsrichtlinien ihrer oftmals enigmatischen Inschriften. Wir sind der Meinung, dass zusätzlich zur Erforschung von weiteren Vergleichsstücken eine einheitliche Methode etabliert werden muss, die unseren vielversprechenden Ergebnissen mehr Genauigkeit und Beweiskraft verleiht. Aus diesem Grunde haben wir eine umfassende Dokumentationsmethode entwickelt, welche auch eine linguistische Analyse der Inschriften einschließt. Darüber hinaus sind wir der Auffassung, dass eine interdisziplinäre und holistische Methode angewandt werden muss, um das Phänomen der Schwertinschriften en detail zu verstehen. Der nun vorgelegte Aufsatz eröffnet die Theorie und die Methode, welche dem “+INNOMINEDOMINI+” – Artikel zu Grunde lag. Hiermit hoffen wir, einen neuen Zweig der Mittelalterstudien zu etablieren, den wir als Schwertepigraphik bezeichnen.