# Codex Runicus (AM 28 8vo): A pilot project for encoding a runic manuscript

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## Abstract

The topic of this paper is to show the process of the encoding of fol. 25v of Codex Runicus, AM 28 8vo. More specifically, this manuscript has been chosen as a pilot project since it has been written entirely in runes and it is thus eminently suited for testing the XML encoding of a runic manuscript. This has to the best of my knowledge not been done before. To this aim I used the Oxygen XML Editor to produce the encoding of the text in compliance with the Menota (Medieval Nordic Text Archive) Guidelines of Handbook v. 3.0, a detailed manual of how to encode medieval manuscripts in XML, and the last version P5 of the TEI standard. The paper aims at presenting the Codex Runicus and its runes, and then showing the process of encoding the runes, the punctuation marks and of the linguistic analysis (lexical and grammatical) of the selected text. This pilot project is the basis of my current PhD research project, which aims at encoding the whole manuscript on the basis of the procedure shown in this paper.

Questo articolo si propone di presentare il processo di codifica del fol. 25v del Codex Runicus, AM 28 8vo. Più in particolare, è stato scelto questo specifico manoscritto in quanto interamente scritto in rune, aspetto fondamentale per poter testare la codifica XML di un manoscritto runico fino ad ora non ancora effettuata. A tal fine ho utilizzato l'editor XML Oxygen per creare il file XML conforme alla versione delle linee guida di Menota (Medieval Nordic Text Archive), Menota Guidelines v. 3.0, un manuale dettagliato sulla codifica XML per manoscritti medievali, e all'ultima versione P5 dello standard TEI. L'articolo infatti inizia con una breve presentazione del Codex Runicus e del particolare tipo di rune utilizzate, prosegue con il metodo di codifica delle rune e dei segni di punteggiatura e conclude con un'analisi linguistica (lessicale e morfologica) del testo in esame. Questo progetto pilota costituisce a sua volta il punto di partenza del mio attuale progetto di dottorato: quest'ultimo ha, infatti, l'obiettivo di codificare l'intero manoscritto seguendo il metodo qui descritto e testato.

## 1. Introduction

AM 28 8vo, commonly known as Codex Runicus, is one of the most famous medieval Danish manuscripts and, at the same time, also one of the most unusual: it is preserved in the manuscript collection of the Arnamagnæan Institute of the University of Copenhagen (Denmark) and it is the only manuscript entirely written in runes in the medieval Danish tradition, along with the prose fragment SKB A 120, transmitting the *Mariaklage.*[1] More specifically, the runes used in Codex Runicus are medieval runes, also called dotted runes: they belong to the Danish *futhark*, a later runic alphabet developed during the 11th century soon after the Christian conversion of Scandinavia. The dots added to the runes, either on the staves themselves or between the staves and their branches, function as diacritical marks.[2] Nevertheless, the layout of Codex Runicus consists among others of rubrics and initials in different colours, an evident clue of the Latin book layout taken as a model for this peculiar manuscript. As a matter of fact, the production of Latin manuscripts in Denmark dates back to the 11th century and was extended to vernacular texts from around the 13th century. The manuscript tradition came to Denmark with the Latin script and, after initially having been used to write Latin, it was extended to the vernacular, as was the case also in the other Nordic countries.

The term *rune* is often associated to the ample corpus of inscriptions on wood, stone, jewelry, weapons, i.e. the very first written production of the Germanic people. The original epigraphic nature of the runes has given to them the peculiar design, consisting of only obliques and vertical strokes, in general avoiding round and horizontal lines. However, the oblique strokes used for the so-called branches of the runes were from time to time curved, and this is the case for the runes of Codex Runicus (as the illustrations below will show). Since the Germanic written tradition is primarily epigraphic and the manuscript tradition is strictly related to the Christianization, therefore to the Latin alphabet, the question is whether the two pieces of evidence of the employment of runes in the aforesaid manuscripts are either "an attempt to promote the native script as a rival to the Roman-alphabet writing" or "an antiquarian interest developed in one or more scriptoria, and that some scribes became curious to find out how well suited runes were to extensive pieces of writing."[3] The reason of writing the text in runes is unknown; however, it seems that the purpose of this manuscript differs from a mere antiquarian interest of an ancient writing system. According to Frederiksen (2015), the scribes, who are believed to be more than two, would have probably decided to give a secret character or to emphasize the old age of the content, therefore precedence over other texts.

AM 28 8vo dates back to ca. 1300 and has probably been written in the scriptorium of the Cistercian monastery in Herresvad in Scania: as a matter of fact, the language is Old Danish,

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1  It is a fragment written in runes on six parchment leaves of a duodecimo format with 10 lines per side and preserved in the Kungliga Biblioteket in Stockholm. Both the beginning and the ending are lost; the text, indeed, starts in medias res. Both the AM 28 8vo and SKB A 120 probably derive from the same Cistercian milieu.

2  See ch. 3.1.

3  Both quotations in [1]: 121.

more specifically the Scanian dialect.[4] Generally three scribes are thought to have been involved in the writing process of the manuscript: the main hand wrote fols 1r-82v and fols 84r-91v, actually two thirds of the manuscript, the second hand wrote fols 92r-101r; lastly the third hand wrote fols 83r-v, which is probably a later addition. The manuscript has a total of 101 parchment leaves.

As far as the contents are concerned, the texts handed down in the manuscript deal mainly with juridical topics and with royal legitimacy: specifically, the first four out of eight texts concern legal topics, the remaining historical and geographical topics. The first text is *Skånske lov* (fols 1r-82v) and, indeed, fol. 25v contains a portion of the *Skånske lov* written by the main hand: the contents concern conflicts of inheritance, injury, property, betrayals, based on concrete events. *Skånske lov* refers to the collections of legal records without royal confirmation in force in Scania, one of the provinces of the Kingdom of Denmark. Its supplement is *Bodløst mål* (fols 83r-83v) and summarizes a number of serious crimes, such as rape and murder. *Skånske kirkelov* (fols 84r-91v) is an agreement between the Archbishop's seat in Lund and the diocese: it contains only conflictual events between the two parties. *Om Konejord* (fol 91v) is an appendix to the Scanian law and it deals with the case of the assessment of the land. *Kongetal* (fols 92r-92v) contains a list of Danish king names and lacks both the beginning and the ending; however, no reference is made to the specific years. As it has been described in this paragraph, the main focus of the miscellany are the juridical traditions of the Valdemar family, with a legitimacy purpose, as illustrated, for instance, by the kings' list. *Runekrønike* (fols 93r-97r) is a list of the most famous and glorious Danish monarchs; finally, *Landegrænse mellem Danmark og Sverige* (fols 97r-100r) closes the manuscript with a description of the medieval borders between Denmark and Sweden.

## 2.   The runes of the Codex Runicus

According to Düwel (2001), runes at the latest date back to the first century AD:[5] these are characters put in a distinctive order creating the so-called runic sequence or *futhark*, which is named after the first six runes.[6] Furthermore, each rune has a name and this association follows the acrophonic principle, i.e. the first sound of the name of the rune corresponds to the basic sound value of the rune.

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4   When the fragment SKB A 120 was found in Sweden, it was considered of Swedish birth. Nevertheless, according to Brøndum-Nielsen, the Scanian trait is evident and both runic and language forms show that the fragment originates around 1300-1350 and has been translated from Latin in a northern Scanian monastery, more likely the Herresvad Kloster, a Cistercian monastery in Norra Åsbo, built in 1144.

5   "Die Entstehung der Runenschrift dürfte spätestens im Laufe del 1. Jhs. n.Chr. erfolgt sein. Die ältesten Denkmäler aus der Zeit um 200 n.Chr. findet man bis auf wenige Ausnahmen in dem nach der südschwed." [6]: 3.

6   The six runes are actually fuþark, but the spelling futhark is commonly used.

The runes of the Codex Runicus belong to the Danish or 16-rune *futhark*: according to Moltke (1985), this particular set of runes had developed at the end of the Viking Age and at the beginning of the Middle Ages and lasted until the beginning of the 15th century (1050-1400 AD).[7] These runes differ from the older sequences mainly due to the addition of dots across the staves or within the branches: the dots function, indeed, as diacritical marks, i.e. they alter the sound values of the runes. For instance, the original *k* rune ᚴ was made to represent *g* ᚵ, after having received a dot between the stave and the branch, thus changing the sound value from voiceless to voiced velar. Düwel (2001) also states that the runes used in manuscripts differ from the older runes, especially Viking runes, in terms of their writing technique and the writing material on which they were engraved or written: in the former situation, runes were written on parchment or paper by means of a stylus; whereas in the latter situation they were engraved on objects, such as stones, pieces of wood, weapons, jewelry, bones. Their rendering changed as well: written runes started to be drawn less pointy and more round resembling almost the Latin alphabet letters, i.e. the *r* rune ᚱ in almost all texts of the Codex Runicus.

## 3. The encoding process according to *Menota Handbook* v. 3.0

The Medieval Nordic Text Archive (www.menota.org) aims at preserving and publishing Nordic languages (at the moment Old Norwegian, Old Swedish and Old Icelandic) and Latin medieval texts in digital form according to its guidelines described in the *Menota Handbook*.[8] This is a detailed manual of how to encode medieval manuscripts in XML and it includes all necessary schemas in compliance with the latest version P5 of the TEI Guidelines. Therefore, Menota aims at adapting and developing encoding standards for a more complete analysis and thus representation of the texts, which can be indeed encoded on one or more levels: the facsimile level (a very close transcription), the diplomatic level and the normalized level.

For this pilot project, I transcribed the text on fol. 25v with runic characters on the facsimile level, <me:facs>, and transliterated them into the Latin alphabet at the <me:dipl> level. Subsequently, I provided a linguistic annotation, more specifically a morphological analysis. Since the word is the basic unit in any transcription, its relative <w> element may contain further information about its dictionary entry, by means of the attribute @lemma, and about its grammatical form, by means of the attribute @me:msa. See *2.3 Linguistic annotation* for more details.

The encoding process I followed consists of two steps: individuating the runes and punctuation marks by going through fol. 25v and listing them at the beginning of the XML file. These steps were preceded by a previous check of the character entities listed in the Menota Entity List, a list of entities, each of which assigned to a unique code point, and edited by Odd Einar Haugen of

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7   "Runes also appear after this period, but they were no longer a living tradition: […] the old characters have become mere curiosities" [18]: 24.

8   The latest version is Menota Handbook v. 3.0 published in December 2019.

the University of Bergen.[9] As a matter of fact, if a character is not listed in the Menota list, it can be encoded by means of a suitable character entity and then declared at the beginning of the XML file, within the <!ENTITY> declaration at the end of the list of additional entities. In this case, only few characters of fol. 25v (two runes and few punctuation marks) were already included in the list and were in need of an entity declaration.

### 3.1 Listing and inserting runes

Although the selection of characters in the Latin alphabet for encoding Medieval Nordic texts provided by the Unicode Standard is a large one, the runic characters offered in the Unicode Standard is limited and not comprehensive of all the runic characters used both in the epigraphic context and manuscript tradition. Nevertheless, the aim of this pilot project was to investigate and check whether one or more runes, together with punctuation marks, were in need of a better representation than the one proposed and accepted by the Unicode Standard.

For this reason, the first step consisted of listing the whole set of the specific dotted runes of the folio. To this purpose, I used the Unicode runic chart, which contains the accepted runic characters.[10]

The runes used in this text are the following in order of appearance: ᚢ, Þ, ᚹ, I, ᚼ, R, ᛏ, ᛐ, ᚻ, ᚿ, ᛁ, ᛂ, ᛙ, ᛧ, B, ᚱ, *, Ψ, ᚴ, K, ᛆ, ᚠ. However, the Menota list contains only the following two runic characters:

<!ENTITY fMedrun "&#x16A0;"> <!-- RUNIC LETTER FEHU FEOH FE F -->

<!ENTITY mMedrun "&#x16D8;"> <!-- RUNIC LETTER LONG-BRANCH-MADR M -->

They were included since they are used as abbreviation signs in Old Norse manuscripts in the Latin alphabet, the *f* rune being an abbreviation of *fé* n. 'wealth, property', and the *m* rune an abbreviation of *maðr* m. 'man'. However, for the encoding of a full runic manuscript, many more runes were



Figure 1: The Unicode Standard 12.1, Copyright © 1991-2019 Unicode, Inc. All rights reserved.

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9 The Menota entity list used for this pilot project is available at https://menota.org/menota-entities.txt.

10 The Unicode Standard runic chart is available at https://unicode.org/charts/PDF/U16A0.pdf.

needed. Therefore, the remaining runes needed an entity declaration to be added at the beginning of the Menotic XML file. The final result was the following:

```
4   <!DOCTYPE transcription
5   [
6     <!ENTITY % menotaEntities SYSTEM 'http://www.menota.org/menota-entities.txt'> %menotaEntities;
7
8     <!ENTITY urun "&#x16A2;">
9     <!ENTITY thrun "&#x16A6;">
10    <!ENTITY rrun "&#x16B1;">
11    <!ENTITY erun "&#x16C2;">
12    <!ENTITY irun "&#x16C1;">
13    <!ENTITY ærun "&#x16C5;">
14    <!ENTITY srun "&#x16CB;">
15    <!ENTITY trun "&#x16D0;">
16    <!ENTITY arun "&#x16C6;">
17    <!ENTITY nrun "&#x16BF;">
18    <!ENTITY drun "&#x16D1;">
19    <!ENTITY krun "&#x16B4;">
20    <!ENTITY œrun "&#x16AF;">
21    <!ENTITY dotrun "&#x16D4;">
22    <!ENTITY lrun "&#x16DA;">
23    <!ENTITY hrun "&#x16BC;">
24    <!ENTITY zrun "&#x16CE;">
25    <!ENTITY prun "&#x16D5;">
26    <!ENTITY yrrun "&#x16E6;">
27    <!ENTITY grun "&#x16B5;">
28    <!ENTITY multpunct "&#x16EC;">
29    <!ENTITY singlepunct "&#x16EB;">
30    <!ENTITY semicolon "&#x003B;">
31
32  ]>
```

Figure 2: Portion of the initial part of the Menotic XML file containing the entity declaration.

According to the above list, each entity has a descriptive name and corresponds to its code point retrievable from the Unicode Standard runic chart: for instance, <!ENTITY urun "&#x16A2;"> refers to RUNIC LETTER URUZ UR U, hence the descriptive name *urun* (*u-* since this rune is a symbol for /u/, and *-run* refers to 'rune' and it follows the naming of the runes already included in the Menota list, i.e. fMed<u>run</u>) and the code point is 16A2 in the hexadecimal number system.[11]

As for inserting the runic characters in the XML file, there were two main options: either by inserting the hexadecimal Unicode number, or by clicking on the characters of the Junicode font by means of the PopChar application or Font Book, which is a timesaver for longer projects than this. As one can see from the below image which represents the screen of the Font Book, it is possible to choose the rune to insert and by pointing the pointer on it, one can see the code point and the name of the character.

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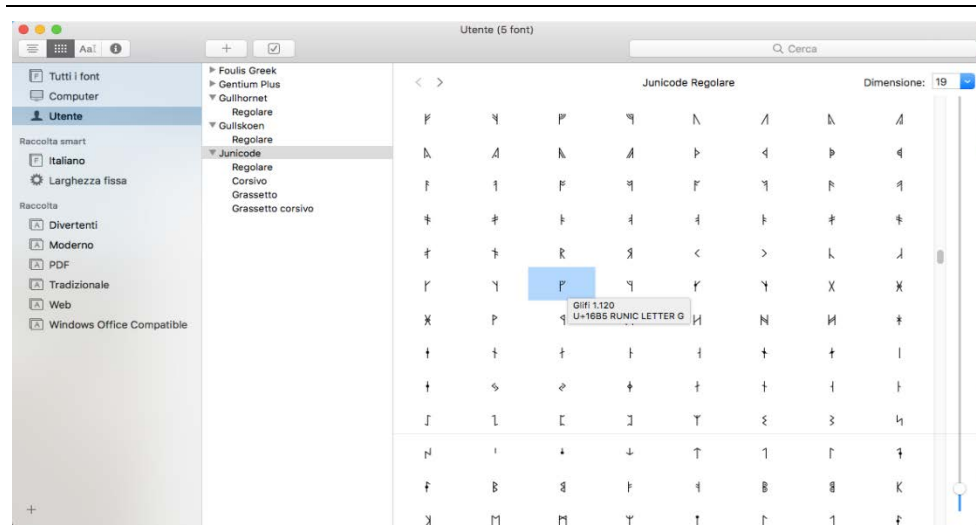11  For both, see the Unicode runic chart.

Figure 3: Junicode font in Font Book for Mac.

However, since the selected text is not long and difficult to transcribe, the runes have been inserted in the XML file by means of hexadecimal Unicode inputs. During the transcription process, I found that, among the runes, the *z* rune in the word *manz* (fol. 25v: 7) does not clearly resemble the one written in the selected folio.



Figure 4: Particular of the z-rune in the manuscript ([fol. 25v: 7](#)), © 2009-2020 National and University Library of Iceland.
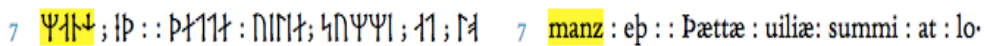


Figure 5: The facsimile level on the left and the diplomatic level on the right
[http://clarino.uib.no/menota-test/catalogue](http://clarino.uib.no/menota-test/catalogue).

According to the handwritten rune on the folio, the *z* rune is a combination of a half long vertical or *stave* running from the top of the line and a right-oriented short oblique stroke or branch. Nonetheless, the only Unicode accepted character for this rune adds also a left-oriented short oblique stroke. For this reason, one should remember that the set of the runes used in the codex is the dotted runic sequence, or better alphabet, where the dots functions as diacritical marks by altering the sound values of the rune, i.e., for instance, by transforming a voiceless consonant into its voiced respective (as exemplified in ch. 2 above).[12]

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12  According to the Gullskoen runic font, made by Odd Einar Haugen in 1996, the z rune, i.e. ᛂ is the dotted version of ᛁ: in fact, the z rune ᛂ may indeed represent the dotted version of the short s rune ᛁ.

The *d* rune taken into consideration in this case is the result of adding a short horizontal stroke across the stave of a *t* rune; it is still usually referred to as a dotted rune.
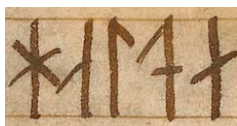


Figure 6: Particular of the d rune in the manuscript (fol. 25v: 2), © 2009-2020 National and University Library of Iceland.



Figure 7: The facsimile level on the left and the diplomatic level on the right
http://clarino.uib.no/menota-test/catalogue.



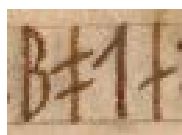Figure 8: Particular of the t rune in the manuscript (fol. 25v: 3), © 2009-2020 National and University Library of Iceland.



Figure 9: The facsimile level on the left and the diplomatic level on the right
http://clarino.uib.no/menota-test/catalogue.

One the basis of these comparisons and from the encoding perspective, one must try and decide whether the above-mentioned handwritten runes are characters or only glyphs. The Unicode Standard describes *characters* as "the abstract representation of the smallest component of written language that have a semantic value", while *glyphs* are defined as "the shapes that characters can have when they are rendered or displayed".[13] As Haugen (2013) pointed out, there is also a tendency among linguists to distinguish between *graphemes* and *graphs* "with roughly the same meaning as the character-glyph distinction of Unicode".[14] However, according to Haugen (2013) two or more glyphs can be considered representations of the same character if they carry

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According to Haugen (1996), ⌁ is transcribed z in the Latin alphabet writing system and it is a variant of the s rune in the short-rune futhark, also called Swedish-Norwegian futhark, and a variant of both the c and s runes in the Medieval futhark, which includes the Gutnish, Icelandic and Greenlandic variants, as well. On the other hand, ⌁ is transcribed s and is the main type for the s rune both in the short-rune and Medieval *futhark*, as well as a variant of the c and z runes in the Medieval *futhark*.

13 Both quotations from http://www.unicode.org/versions/Unicode12.0.0/UnicodeStandard-12.0.pdf.

14 [13]: 99.

the same semantic meaning; similarly, they can be considered as "variants glyphs of the same character."[15]

All Unicode charts collect, indeed, the characters, their respective code points and their descriptive names; more specifically, what the user sees is a glyph of a character. Moreover, in the creation and publication of the Unicode runic chart, runes were very likely included on the basis of whether the curved or straight branches would cause a change in meaning. In the runic chart, each character is represented by a glyph with curved or straight branches; nevertheless, as one reads in the page preceding the chart, the glyphs change accordingly to the font one decides to use, thus it seems that a curved branch differentiate from a straight branch just for non-distinctive variation. The concept of *variant* is not clearly defined in the Unicode Standard, but Haugen (2005) gave a fine explanation of its importance and he defines it as fundamental when encoding specific kind of scripts, especially old scripts, including runes. Therefore, a variant can be defined as a type of a character with non-distinctive features, as in the abovementioned distinction between curved and straight branches. He also stated that the Unicode Standard would consider the straightness and the curvature of a branch as non-distinctive: this means that a character may be rendered by a curved- or a straight-branched glyph, without any distinction between the two. Despite its vagueness, the Unicode Standard underlines that the glyphs are only indicative, still they are the only means to understand what the attributes of a character actually are. Since the descriptive names of the runes in the chart are often non-informative, the shape is an essential part of a character; without the shape there would be no character. Eventually, according to Haugen (2005), users of the Unicode Standard are left to deliberate on the glyphs and to find out themselves which features of a character are actually distinctive or not.

Therefore, with reference to the analysis made in this chapter and in compliance with the main aim of the project, the runes of the folio correspond, in my opinion, to the runic characters collected until now in the runic chart, apart from *z* rune.

### 3.2 Listing and inserting punctuation marks

As for the punctuation marks not yet listed in the Menota entity list, the same procedure has been applied to the punctuation marks, which represent an important aspect of the structure of the text of folio 25v. By examining the text, I have identified two well-types of punctuation, the colon and the semicolon, and a third type, which is a cluster of colons and dots (see Figure 10). As far as possible, one should use existing code points in the Unicode Standard, so one could easily argue that the colon- and semicolon-shaped punctuation marks could be used for the two first of these. That is what I decided to do in my pilot project, but it is also possible to claim that these punctuation marks belong to a specific runic system and thus should be encoded with specific entities.

For the punctuation cluster, I chose to use a combination of a colon, a middle dot and another colon, all of which are in the Unicode Standard. However, I think that there should be a single

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15 [13]: 99.

Unicode character for the punctuation cluster, and that the code point for this character should be added to the entity list.

The following images display the three different types of punctuation marks, and an example of the encoding of the semicolon mark.



Figure 10: From the left, examples of the colon (fol25v: 4), the semicolon (fol. 25v: 1) and the punctuation cluster (fol. 25v: 1) in the manuscript © 2009-2020 National and University Library of Iceland.



Figure 11: Example of the encoding of a semicolon on the facsimile and diplomatic levels.

The punctuation marks *colon* and *semicolon* are used indifferently to mark the space between words; however, the original distinction of both punctuation marks in the transcription on the facsimile level has been kept, whereas their rendering in the diplomatic level has been uniformed to a colon. The punctuation cluster signals the end of a topic and the beginning of a new one: this is the reason why the first rune following the punctuation cluster is a rubric and appears bolder with respect to the following runes. Together with the *z* rune, this particular punctuation cluster also need another sign for the rendering.
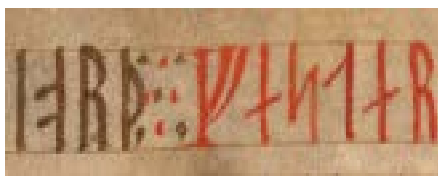


Figure 12: Particular of the punctuation cluster in the manuscript (fol 25v: 1) © 2009-2020 National and University Library of Iceland.



Figure 13: The facsimile level on the left and the diplomatic level on the right
http://clarino.uib.no/menota-test/catalogue.

The following image refers to the XML encoding of the abovementioned cluster and the *f* rune as a capital:

```xml
<pc>
  <choice>
    <me:facs>⸪</me:facs>
    <me:dipl>.</me:dipl>
  </choice>
</pc>
<!--From the following <w> element a new topic of the same chapter (76) begins -->
<w me:msa="xVB" lemma="fæste">
  <choice>
    <me:facs><hi rend="rubric"><c type="inital">ᚠ</c>ᛆᛋᛏᛄᚱ</hi></me:facs>
    <me:dipl>Fæstær</me:dipl>
  </choice>
</w>
```

Figure 14: Particular of the encoding of the punctuation cluster and the following capital *f*-rune in fol. 25v: 1. Note that any comments may be added within <!-- ... -->. They will not be displayed on the web, but they are evidently useful as reminders or explanations.

### 3.3 Linguistic annotation

Menota offers the possibility to analyse the document from a morphological point of view, which can eventually lead to a syntactic analysis, as well. The basic unit of the transcription is the <w> element, each containing a single word of the text. Within this element, information about the dictionary entry and the grammatical analysis of the word in question can be provided by means of two attributes: @lemma, stating the lexical form on the basis of entries in standard dictionaries, and @me:msa, stating the morphosyntactic form.[16]

In order to analyse a word from a lexical point of view, Menota recommends the online *Gammeldansk ordbog* for Old Danish texts;[17] additionally, for a grammatical analysis, it is necessary to follow a model containing all possible forms of each lemma. Menota suggests a set of name tokens included in the attribute @me:msa in order to assign word classes (parts of speech) to words: e.g. *xNC* for *noun, common*, *xAJ* for *adjective*, *xPE* for *pronoun, personal*, and so on. For the transcription of the selected document, I have considered only the following word classes: Noun, common; Adjective; Pronoun, personal; Pronoun, indefinite; Numeral, cardinal; Verb; Adverb; Preposition (apposition); Conjunction, coordinating; Infinitive marker.

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16 For details, see the Menota Handbook, ch. 11.

17 https://gammeldanskordbog.dk/.

```
<w me:msa="xNC" lemma="man">
  <choice>
    <me:facs>ᛘᛁᚾᛣ</me:facs>
    <me:dipl>manz</me:dipl>
  </choice>
</w>
```

Figure 15: Particular of the encoding of the morphological analysis of manz in fol 25v: 7. Note that even if the runes have been inserted by hexadecimal numbers at the first level, <me:facs>, they are displayed with runic glyphs even in an XML editor like Oxygen.

In order to double check the correctness of the lexical entries' findings of the *Gammeldansk ordbog*, I have used the online *Den Dansk ordbog*.[18]

The final result has been published in the Menota Test Catalogue available at http://clarino.uib.no/menota-test/catalogue: both the facsimile and diplomatic encodings are easily searchable and comparable to the high-quality image of the folio at the right of the screen. Moreover, by simply clicking on a word, the morphological information appears together with other data (folio, shelfmark).

## 4. Conclusion

Thanks to the tools and the encoding possibilities provided by the Menota Guidelines described in the latest version of the *Menota Handbook*, it is possible to provide a complete and deep analysis of a document. In this case, fol. 25v of the *Codex Runicus* has functioned as a test for future encoding of the runic script; furthermore, the encoding procedure remained faithful also to the layout of the folio, the initials, and the rubrics. This project has also given depth to the morphological analysis by adding linguistic information to the paleographical and codicological approach. As one can see in the Menota Catalogue Test page, this sort of work can easily be consulted from any type of user who access it from all over the world. Also, the possibility of having access to the high-quality images of the manuscript at https://handrit.is/en/manuscript/view/da/AM08-028 allow encoders, researches and users in general to appreciate, study, analyse and comment the palaeographical and codicological aspects of the text.

In conclusion, this pilot project work is just an example of what a complete work of transcription, transliteration and linguistics analysis on this outstanding and rare Old Danish runic manuscript would be: first of all, it is the first entirely runic written manuscript encoded and published in the Menota Catalogue (or, for that matter, in any other digital archive) and, secondly, it allows for a granular analysis of the graphemic aspects in the use of the runes. Moreover, this kind of analysis is useful both to place the manuscript within the Danish runic tradition as a whole and

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18  https://ordnet.dk/ddo.

possibly to point to peculiarities that can be explained with reference to the particular purpose of the document for a parchment codex.

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Last URLs access: 27th February 2020.