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# A Dictionary of Old Norse Prose and its Users – Paper vs. Web-based Edition

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## Abstract

*Ordbog over det norrøne prosasprog/A Dictionary of Old Norse Prose (ONP)* is a historical dictionary project at the Department of Scandinavian Research at the University of Copenhagen and covers medieval Old Norse material found in prose texts from the oldest written documents to early modern times (Old Icelandic 1150-1540 and Old Norwegian 1150-1370). After the publication of the first four volumes of an intended thirteen volume printed edition, a decision was made to change the format of the dictionary to a digital edition available online. This new medium has had to accommodate the already published printed material as well as unprinted and not fully edited material. In this article, we discuss how the change in ONP's format has provided the user with some benefits in working with the dictionary material, but also some new challenges. We compare the features of the printed volumes to the features of the online version and in doing so address some key questions that relate to the perspective of the user and how the digital version can be further improved.

**Keywords:** historical dictionary; electronic publication; digitalization

## 1 Introduction

*Ordbog over det norrøne prosasprog/A Dictionary of Old Norse Prose (ONP)* was established in 1939 with the original intention of publishing a supplement to the already renowned Old Norse dictionaries of the 19<sup>th</sup> century, the works of Cleasby & Vigfusson (1874) and Johan Fritzner (1886, 1891, 1896). Furthermore ONP was limited to prose language, as a leading work on poetic language had then recently been published (Jónsson 1931) and therefore the poetic vocabulary was deemed sufficiently accounted for.

As the dictionary work progressed, the editorial staff soon realized that the project would fare better as an independent new dictionary based on its own principles and procedures. Plans were laid out for a new historical scholarly dictionary of Old Norse that would strive to represent the actual original medieval material by adhering to rigorous philological standard. This included retaining the spelling of scholarly text editions and using a system of references or sigla not only referring to a particular edition but also to each specific manuscript that edition is based upon.

For the first decades, the work consisted mostly of excerpting Old Norse texts and building an impressive collection of dictionary citations consisting of around 750.000 handwritten slips. When the col-

lection of citations was considered extensive enough to cover thoroughly the vocabulary from all known Old Norse Prose texts, plans were conceived to begin publication of series of printed volumes. In a publication celebrating the 25-year anniversary of the dictionary, the current chief editor stated the intentions of the dictionary staff for the publication to be complete within 25 years (Widding 1964: 21). In spite of this ambitious plan, the printed edition of the actual dictionary did not commence until 1989 with a volume of indices. This volume was the first in a series of estimated thirteen printed volumes scheduled for publication over the next decades. The printed publication continued with three more printed volumes (ONP1-3, covering the alphabet from *a-* to *em-*) at roughly five year intervals, the latest of which appeared in 2004. The remaining nine volumes would have thus likely taken around 45 years in production. Therefore, in 2005 a radical decision was made about the future of the dictionary. Instead of printed volumes, it should become a digital publication freely available on the web.

After the printed publication of the dictionary had been suspended, the work began on preparing the material for digitalization and electronic publication. This preparation work entailed various types of tasks including converting old reference sigla to the latest scholarly editions, scanning all citation slips under relevant headwords, as well as scanning scholarly editions and obtaining the necessary copyrights. This work finished in 2009 and in 2010 the first version of the digital ONP appeared online. Unlike the printed volumes, the digital edition is not a refined finished product. The decision to change the format of the dictionary also entailed making the dictionary material available online in a relatively raw form rather quickly. The first version of the digital edition consisted of two somewhat different components: on the one hand, the already published volumes in digital form and on the other hand the basic dictionary material, i.e. the collection of citations as handwritten slips, scanned under the appropriate lemma. The basic idea was that after making all the basic material accessible online the work of the editors would continue, gradually organizing the collection of citations, writing definitions and structuring the raw material into a more dictionary like format. In the long term, the online version aims to resemble the printed edition in terms of scope and attention to detail, although the nature of this new medium as well as the nature of the material has required a new approach and different editorial procedures from the ones applied to the printed publication.

This paper illustrates the difference between the printed edition and the digital edition of ONP with special focus on the user's perspective. Some of the questions that we address in our discussion are: What is required or expected of the user to be able to take advantage of the features of the dictionary? What are the pros and cons from the user's perspective of both paper and digital publication? How does the digital format offer the user different ways of accessing and working with the lexicographic material? What are the benefits and disadvantages of the current form of the dictionary? What improvements would be of further benefit to the user?

## 2 The basic characteristics of ONP

ONP has many features in common with similar dictionaries, but adds many layers to the information given. Figure 1 demonstrates what kind of information is displayed in the printed form of the dictionary and how it is structured.

dritr	261	262	drjúgmæltr
dritr <i>sb. m. (poet.)</i> <b>Gloss.:</b> <i>EJ</i> -i-; <i>CIV</i> (drit); <i>Bin</i> -dritr; <i>LP</i> -i-; <i>Fr4</i> -dritr; <i>NO</i> -i-; <i>ÁBIM</i> (drita); ( <i>Bl</i> )			
dritroði <i>sb. m. (poet.)</i> <b>Gloss.:</b> <i>CIVAdd</i> -ó-; <i>LP</i> ; <i>AJ</i> -ttr-; <i>NO</i>			
<b>drit-skegg</b> <i>sb. n. [÷; -] □</i> ( <i>derog.</i> ) “møgskæg” // ( <i>derog.</i> ) “muck-beard”: þa mælti Merlin til spamanna konungs. Segid nv <u>dritskeggin</u> huat er unndir vattiniv • <i>Bret AM 573 4<sup>o1</sup> 44v<sup>25</sup></i> (~ <i>lat. mendaces adulatores HRB 383<sup>2</sup></i> )			
*dritskeggingr <i>sb. m. (Fr “Bret. 27 (12 v. l. 6)” ⇒ dritskeggingar Jón Sigurðsson 1849 [ANOH 1849] 12<sup>o</sup>, var. app.; cf. dritskeggin Bret AM 573 4<sup>o1</sup> 44v<sup>25</sup>)</i> <b>Gloss.:</b> <i>Fr</i> ; <i>NO</i>			
<b>drit-skítr</b> <i>sb. m. (el. drit-skítr adj.) □</i> ( <i>cogn.</i> ) en hann sendi apttur Andres <u>dritskit</u> [ <i>var. dritliod BøglEirsp 454<sup>26</sup></i> ] • <i>Bøgl81 276<sup>6</sup></i> (cf. Andres drith 278 <sup>17</sup> )			
dritskítr <i>adj.</i> → dritskítr <i>sb. m.</i>			
			<i>self-confident/self-important air, disdainfully, with a superior manner: allra síðarst drattar einn blámaðr mjök <u>drjúgliga</u> svá sem stjórnari ferðarinnar KlmB<sup>x</sup> 553<sup>27</sup>; Þeir ríða <u>drjúgliga</u> fram um hinar þrjár fyrstu fylkingar, kveðja engan KlmB<sup>x</sup> 226<sup>19</sup> láta <u>drjúgliga</u> optræde selvsikkert/overlegent // behave self-confidently/self-importantly: <u>Drjúgliga</u> [<i>var. digrliga AM 62 fol “D<sup>1</sup>”</i>] lætr landi en ÞorvTÓT 94<sup>11</sup>; Gunnarr reið við enn tólpta mann í Kirkjubæ ok kallaði út Otkel ... Skamkell ... mælti: Ek skal út ganga með þér ... Þykki mér þat ráð, at þú látir drjúgliga (<i>ms. drygliga</i>) • <i>NjR1908 111<sup>24</sup></i> → <i>ms. 26v<sup>16</sup></i> (cf. Þeim þótti undir því mest ... at þú hefðir látit sem drjúgligast, en ek gerða þik sem mestan mann af öllu 114<sup>20-22</sup>)</i>
			<b>Gloss.:</b> <i>EJ</i> (drjúgligr); <i>CIV</i> ; <i>Fr</i> drjúgliga, drygliga; <i>NO</i> drjúgliga, drygliga
			<b>drjúg·ligr, dryg·ligr</b> <i>adj. [compar. -ri, superl. -ast/-st-] □</i> 1) [til e-s] <i>tílstrækkelig, betydelig, effektiv // sufficient, substantial, effective: Syn þec i orrosto diarvan oc ufælinn</i>

Figure 1: From ONP3.

The main features are:

- two categories of lemma, normal vs. bold type; the actual entries are in bold, while words which are outside the corpus are shown in normal type. These can be poetical words (e.g. *dritr* and *dritroði* in Figure 1), foreign words which are not morphologically integrated into Old Norse, or the so-called “ghosts” (e.g. *dritskeggingr* in Figure 1). A “ghost” is a word found in other dictionaries, which is based on obsolete editions or misreading of a manuscript, and therefore has now “disappeared”;
- non-normalized orthography, i.e. the orthography of the relevant manuscript or scholarly edition is kept in the dictionary citations;
- two target languages: Danish and English;
- references to foreign parallel texts (esp. Latin);
- detailed system of sigla indicating not only reference to an edition but also the actual manuscript for each section of the text (in some cases different manuscripts are used within the same edition);
- morphological information (inflectional pattern and verb conjugation) based on texts (mainly the actual examples found in the dictionary database);
- syntactic information (especially verb complements and prepositional use);
- phrases and collocations;
- the citations are taken from actual Old Norse texts (editions or manuscripts) and are not modified in any way;

- the definitions are based on detailed analysis of the excerpted dictionary citations as well as secondary literature;
- references to glossaries and occasional references to secondary literature at the bottom of each dictionary entry.

### 3 The typical user and the prerequisites for using ONP

The user of ONP is typically a scholar of Old Norse language or literature, or medieval history and culture. This can be deduced from two “active” sources: the feedback forms on ONP’s website and specific requests addressed to the dictionary staff. Students of these fields also use ONP, especially those who are advanced enough in their studies to use original text material.

Using ONP has always required some degree of expertise. The dictionary is intended to be primarily used as an academic or scholarly research tool. The fundamental assumption is therefore that the user can read and understand the language and is familiar with non-normalized text editions, i.e. scholarly editions of Old Norse texts that seek to render the original spelling of the medieval source. Orthography in medieval texts can be highly irregular and often inconsistent, even within the same manuscript or document. This is a fact the user needs to be aware of.

Related to this is the assumption that the user possesses knowledge to be able to “translate” or “convert” non-normalized forms into standard dictionary entry forms. This is a twofold task. First the user has to identify the normalized spelling of the word in question. Secondly the user has to know the basic form of the entry in order to look it up. For example when the user comes across forms like *diarvan* or *djorf* in a text edition he has to know that they are graphical and inflectional variations of the adjective *djarfr* ‘daring’, which is the normalized standard form of the headword (in the nominative singular masculine) to be able to look it up in the dictionary.

The user is also required to have some knowledge of grammar, or at least familiarity with the grammatical terminology and the presentation of grammatical information. The presentation of grammatical information in the dictionary entries is explained in some detail in the volume of indices (ONP:Registre 1989), which also includes a detailed list of all abbreviations ONP uses.

## 4 Comparing and contrasting the printed vs. the digital edition

The basic division of ONP into printed volumes and digital publication is fairly clear cut. As the publication of printed volumes has been suspended the digital version online consists of all the available material, including the previously printed material. This has already been mentioned above in section 1. However the online version is further divided into material that has been edited in the framework of the online version and material that has not been edited yet. Yet another level exists as the online edited material can be further divided into semantically edited material (primarily nouns) and structurally edited material (primarily verbs). Figure 2 gives an overview of this multi-level structure:

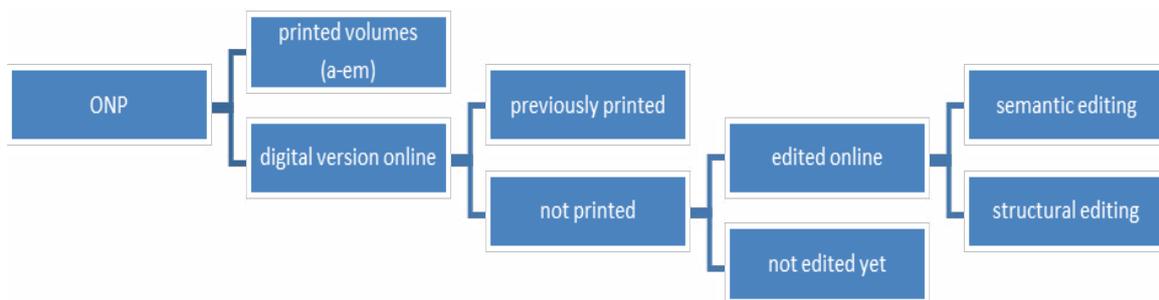


Figure 2: The structure of ONP's published material.

It is therefore not a straight forward task to compare the printed edition of the dictionary and the digital edition from the user's perspective. The multi-level structure of the material means that contrasting the printed edition vs. the digital edition gives a different picture depending on what exactly is being compared.

- If we compare a dictionary entry from one of the printed volumes with the same entry in the online version, we would find them almost identical, although the online version shows all available examples and not only the representative ones selected to appear in print. These “previously unpublished citations” appear outside of the structure of the dictionary article so the user needs to figure out where they belong in the article structure.
- If we compare a noun from the printed edition to a semantically similar noun found in the online version we would see some clear differences. There would be a difference between nouns that have been edited online and those, which have been not: the edited nouns have the structure of a dictionary entry with numbered definitions similar to the printed volumes. The citations are more accessible as they are typed up and correctly placed under the appropriate definition; the nouns that have not yet been edited are only available as a collection of all the citation slips under a normalized headword.
- When comparing verbs, the difference between the printed volumes and the online version is even more apparent since verbs have only been edited online for their structure, but not yet for semantic content. The user would find useful information about the verb constructions and verbal modifiers, but no definitions.

Looking at what these different types of comparisons have in common we can see that the main feature of the online version is the amount of actual examples made available. This is especially helpful when the user has good knowledge of the language and is able to himself find his way to a useful example by going through the list of citations. However there are still some structural features missing in many cases. Even though the large number of examples is beneficial to some it might be overwhelming to others, especially in those headwords where there are hundreds of examples. This can make searching for something specific very time consuming and in the absence of dictionary article structure, quite difficult.

## 5 Interacting with the dictionary material using the online version of ONP

There are several features of the online version that make accessing and working with the material easier than in the printed edition. Search in the printed edition is limited to alphabetical ordering of the lemmas. The online version offers a variety of tools to facilitate the search procedure. The main advantage is the possibility to tailor the search to the user’s needs, e.g. search for all words that contain a particular derivational suffix, or compounds which have a common element, e.g. words where *bátr* ‘boat’ is the second part. There are other ways to make the search more precise, e.g. by limiting the results to certain parts of speech, or in case of nouns, grammatical gender.

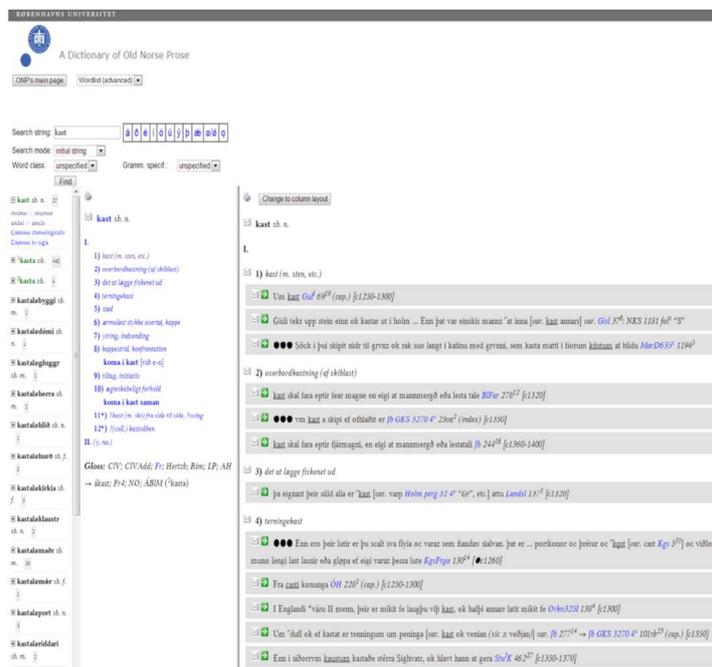


Figure 3: Example of an edited dictionary article in ONP Online.

A helpful search feature is the alphabetically ordered list of lemmas that appears on the left side of the screen when a search string is entered. This gives a quick overview of the words that have the same initial letters and might inspire the user to look up related words and compounds.

When it comes to material that has already been edited there are several additional features that facilitate working with the material. The structural overview (the middle column in Figure 2) is one such feature providing the user with a quick impression of different definitions from which to select the examples to view. This facilitates working through the list of citations, especially when headwords have a large number of citations associated with them.

The glossary section is located at the bottom of the structural overview. This list of abbreviations illustrates in which earlier dictionaries and glossaries the word is found. If the word is found under a different entry in these older works this is also indicated. Such glossary section is also a feature of the printed edition, but the online edition has the advantage of providing a hyperlink to the glossary or dictionary in question. Currently this feature is limited to the dictionary of Fritzner (1886, 1891, 1896): If the user clicks on the abbreviation *Fr.* a new tab opens displaying the relevant article.

On each level of the article an envelope icon is displayed. By clicking on this icon a new window will pop up giving the user the possibility to bring suggestions and comments to the attention of the editors. This can be done anonymously.

Once the user has chosen which citations to investigate first, she can click on a single definition and get a list of all relevant examples.

Clicking on the green arrow next to a specific citation will bring up a separate window:

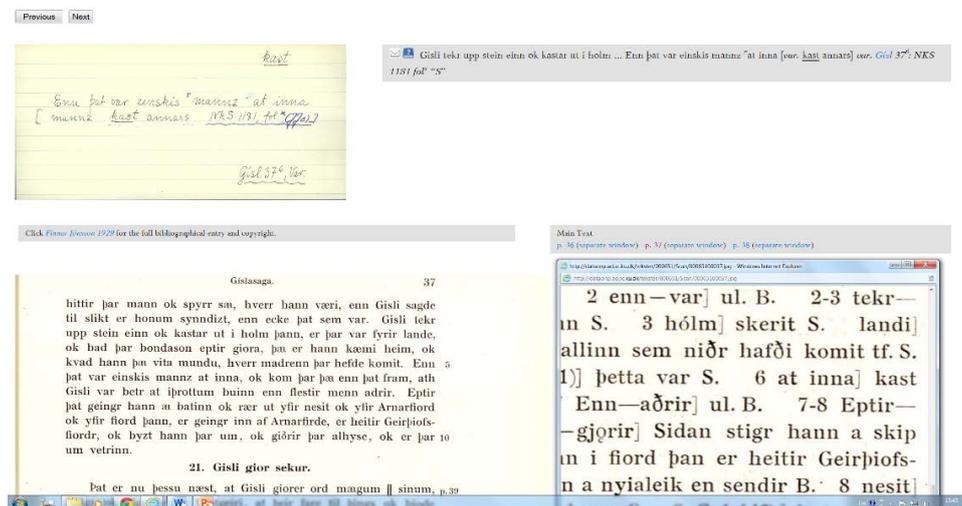


Figure 4: Closer look at a specific citation: citation slip, typed citation and scanned page from the edition (ONP Online).

Here the user will find access to a variety of additional information by further clicking on the relevant links. By clicking on the reference siglum the user has immediate access to the index entry of that particular text. This is displayed in yet a separate window. Here the user can quickly find out

more information about the text edition the dictionary refers to, i.e. what manuscript are used and where the text is found in those manuscripts (folio range). There might also be some other sources ONP has used in referring to this particular texts, such as other editions or even manuscripts that are not used by the editor in the scholarly edition the citation is taken from. This is the information that was also published in the printed volume of indices (ONP:Registre 1989). The user can seek further information about the scholarly edition by clicking on the title and on a separate page get a full entry from the ONP's bibliography. Once this information has been displayed the user has the option of browsing the bibliography, i.e. see what other scholarly editions or secondary literature this same editor might have helped create. The relative ease of access to all this secondary information can save scholarly users a lot of time as they often need the original citations to refer to in their own work.

Another feature that is of great benefit for the user is the access to the relevant scholarly edition itself, since ONP provides the possibility to view the actual printed page the citation is taken from. This is a huge improvement compared with the printed dictionary where the user had to get a hold of the actual book to get a closer look at the context of a specific citation. Almost all the works cited in the online edition are displayed in such a way. Due to copyright reasons the viewing of the editions is limited to three pages, i.e. the relevant page cited by the dictionary, the page immediately preceding it and the one immediately following it. This allows the user to gain a better grasp of the meaning of the word and further orient herself in the text the word is taken from.

## 5.1 Benefits of the digital edition

We have already in our discussion touched upon some of the benefits and disadvantages of the digital edition of ONP from the perspective of the dictionary user. We will sum up the most important features that are of benefit to the user:

- **Multiple search capabilities:** Chance to tailor the search according to needs and interest of the user.
- **Access to all the material:** The user has access to all the raw dictionary material. All the citation slips are available as well as all edited dictionary entries. The user is able to make some use of ONP's collection of citations, even though he is not able to derive the full benefits of an edited dictionary entry.
- **Possibility of greater context:** The user has some access to the actual edition the dictionary citations are taken from and is able to browse through relevant parts of editions.
- **Interactive communication:** The online edition offers an easy way of bringing comments and suggestions to the attention of the dictionary staff.
- **In the edited part, citations are assigned to a definition:** The editor of the dictionary entry strives to assign each citation to a definition, but noting if the use of the word is ambiguous or possibly can be interpreted as belonging to a different definition from the one it is assigned to.

## 5.2 Additional benefits for the editors

In the previous discussion it has become evident that the digital edition of ONP has many benefits to the users in terms of quick and easy access to the relevant information. Some of those benefits also extend to the editors. There are mainly two that we wish to highlight. The first is that the editor receives feedback, suggestions or comments from users regarding the dictionary entries that have already been edited and made available on the web. The editor can then take the necessary measures to improve the article in question and make corrections or additions which will be made available next time the online version is updated. This is a new type of interaction between users and editors with potentially mutual benefits.

This is closely related to another benefit the digital edition gives to the editor, i.e. the possibility to correct and improve on his/her contribution to the dictionary, even after it has been published on the web. This is of course a huge change from printed publication, where a lot of the editor's work involved reading and re-reading his own work and works of others in order to make sure that no errors or misprints would find their way into the final published product. This process can be quite tedious and is not necessary to the same extent when the publishing platform is a digital version on the internet. In practical terms this means that now the editor can spend less time proof-reading and more time editing actual dictionary entries, thus increasing the productivity.

Both of these benefits, the possibility to interact with the user and the possibility to improve published dictionary entries, change the nature of the dictionary making process slightly. The process of editing and preparing the printed volumes of the dictionary was a collective effort where many editors were often involved in the production of an individual dictionary entry. The editing procedure for the digital publication is in its nature such that it relies less on the collective effort and more on the individual editor. As a result the dictionary entries are now signed with the initials of the editor in charge of each particular entry. Although the production of the dictionary is still very much a result of collaboration and teamwork, it is the individual responsibility of each editor to make sure his/her dictionary entries adhere to the rigorous standards ONP holds itself to and to respond to the user when the need to do so arises. This makes the editing work more transparent and gives the user a chance to bring suggestions directly to the person responsible for a particular headword if needed.

## 6 Room for improvement and future plans

Even though many aspects of the digital edition of ONP provide the user with increased possibilities to interact with the dictionary material and editors there is still very much room for improvement. In some respects the printed volumes of the dictionary provide the user with more consistent distribution of information, because of the discrepancies between levels of the online edition discussed in section 4 above. The main difference is between edited material and the unedited part where the infor-

mation is only accessible as a more loose structure collection of citations. However it is our hope that these discrepancies will gradually diminish as the editing work progresses and the dictionary material keeps getting updated. Currently around 140.000 citations have been semantically edited online and around 170.000 have been structurally edited. This means that around 300.000 citations are not yet edited.

## **6.1 Focus areas for improving ONP online**

One area where there is room for improvement involves the target language in the edited part of the digital edition. The current editorial procedure calls for the target language to be either English or Danish. In practice this means that in the latest dictionary entries published online, the definitions are monolingual and mostly in Danish. This limits the user base of the dictionary somewhat, although we hope to bring back the consistent bilingualism of the printed volumes in a not so distant future.

Another area of focus involves reference to new editions. ONP has always tried to keep up with the latest scholarly advances in the field of Old Norse studies. If a new edition of a text appeared then all of the dictionary's citations involving that text would have to be updated to the new edition to reflect those advances. This means there is some internal inconsistencies in the printed volumes, i.e. some of the references in ONP3 did not exist when ONP1 came out. When the change to digital publication was put in place it was decided that point of reference should be the material as it was at that point in time. This means that there have been no updates to new editions after 2005. An historical scholarly dictionary like ONP needs to keep up with the latest research. Otherwise it slowly but surely will become obsolete. It is our hope that part of the continuous improvement of the digital edition will include updating the reference sigla to the latest available editions.

## **6.2 Potential future improvements of benefit to the user**

The current plan for ONP calls for the continuation of the editorial work and gradually assigning all unedited citation to structured dictionary entries available in the online version. In addition to completing the editing work, there are several other features, which will increase usability of the digital edition. Besides the ones already discussed, such as increasing the consistency between different levels of the online version as well as consistently providing the user with definition in two languages, we foresee other beneficial improvement that will become part of ONP online in the future.

The search options now are limited to the normalized lemma list. Part of the dictionary database includes a notation of by-forms and alternative forms, some of which are quite common although not searchable through the regular search options. A first step in increasing the search possibilities would be to link such non-normalized by-forms and alternative forms to their respective headwords and allow them to be part of the searchable material. The search options can be improved further. It is possible with relatively little effort to add a feature that searches not only in the list of lemmas, but also all citations that have been typed in. Of course, this feature would be rather primitive to begin with as

the citation texts are not lemmatized and not even normalized, but it definitely would be helpful to the user in certain cases.

Another feature that might in the long term become part of the online edition is a search feature, which would limit the search to certain periods, places (scriptoria), geographical areas (e.g. West Iceland) or even certain manuscripts (e.g. all texts found in a particular manuscript). The structure of the dictionary database allows for many kinds of searches, which are already available for the staff. These features are though still in a relatively early stage and have not been laid out in practical terms just yet but they would give the user new alternative ways to interact with the dictionary material.

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