1. Venerating the manuscript

The invention of printing by moveable types in the fifteenth century inevitably led to the demise of manuscript culture, even if manuscripts were produced for many centuries after that moment in history. Printing fundamentally changed the production and dissemination of texts, but it did not change their physical aspects. The explicit aim of Johann Gutenberg was to re-create the handwritten manuscripts of his day, and, as has often been pointed out, his Bible closely resembles a contemporary manuscript. In general, new technologies tend to mimic existing technologies, and rely on familiar presentation forms. It may well be claimed that the codex with its display of the text in one or two columns, its use of coloured initials and sometimes illuminations had proven to be a simple and user friendly way of organising a text. The printed book did not change the basic aspects of the codex to any great extent.

Johann Gutenberg developed his typeface on the basis of contemporary handwritten lettering in Gothic script. This style, which originated in Northern France towards the end of the twelfth century, had become the standard style for the Latin alphabet across Europe, especially in its condensed textura variant. Gutenberg kept many of the abbreviation characters, variant letter forms and ligatures in this script, so it was not only in general outlook that his book kept close to the manuscripts but also in typographical and functional details. A similar approach can be seen in Abraham Farley’s usage of ‘record type’ in his folio edition of the Domesday book (1783). In the context of Old Norse editing, this manner of painstakingly recording the manuscript was taken up by Konráð Gíslason in his remarkable anthology Um frum-parta íslenskrar tíngu í fornöld (1846) and later on by Verner Dahlerup in his edition of Agrip (1880). When compared with the manuscript itself (fig. 1) it is clear that Dahlerup intended to represent the source as faithfully as possible, line by line and by copying the individual letter forms, e.g. the small capital n, the enlarged minuscule a, the ligature of a+v, and any signs in diacritical position, e.g. the bar above (typically indicating a nasal), dots above and the zig-zag sign for er. By this time, however, photographic facsimiles made their entrance (cf. Hansen 2005), and throughout the nineteenth century most editors seemed to concur with P.A. Munch, who, when planning the Diplomatarium Norvegicum, distanced himself from the ugly appearance of editions with italicised abbreviations, and even more from contemporary record type editions.

While the Old Norse record type of edition was more or less forgotten after the few nineteenth-century experiments, many printed editions were subsequently published in what may be described as relatively narrow transcriptions of the manuscripts. The edition of Óláfs saga ins helga by O.A. Johnsen (1922) is one of many examples (fig. 2). In this edition, all expansions of abbreviations are shown in italics and many variant letter forms have been faithfully copied. It is not a record type of edition like the one by Verner Dahlerup, nor is it an edition in regularised
orthography, as we know them from e.g. the Íslenzk fornrit series. In the span from record type editions to fully regularised editions, it falls somewhere in between, but closer to the former than to the latter. The general term for this type of edition seems to be diplomatic, although there is some variance here. In their handbook On Editing Old French Texts, Alfred Foulet and Mary B. Speer, for example, would like to distinguish between diplomatic editions in a strict sense, making no interpretations, and interpretative diplomatic editions, in which abbreviations are expanded (1979, 44).

For studies of linguistics and language history, the edition by O.A. Johnsen is suitable since it displays the source closely and clearly indicates all interpretations by the editor. For other studies, it proved to be less inviting, and it was strongly criticised by historians after the publication. The edition by Magnus Rindal of Barlaams ok Jospahats saga (1981) met with a similar line of criticism; it was acknowledged as a faithful rendering of the codex optimus, Holm perg 6 fol, but was not seen as very helpful for those who would like to read the saga. Holm perg 6 fol contains several lacunae which are dutifully recorded in the edition, and since the beginning of the text is missing, the edition consequently opens in the middle of a sentence, mælite ekki fleirum orðum. This is fine for a linguistic study of the manuscript Holm perg 6 fol, but not for the study of Barlaams ok Jospahats saga as a literary work.

2. A diplomatic turn?

In the 1970’s, advances in computer and font technologies made it possible to reproduce manuscripts at an even higher degree of fidelity than in the old record type editions. This was the focus for a heated debate at the sixth saga conference in Helsingør in 1985, as many saga congress participants will remember. With modern
With the exception of a few exercises in the Runic alphabet, notably AM 28 8°, Old Norse manuscripts are written in the Latin alphabet. The basic inventory of this alphabet has changed little over the years, but the adaptation of the alphabet to the vernacular European languages meant that a number of diacritics were added over the centuries, and in the case of Old English and Old Norse, also a handful of characters such as the wynn and yogh characters in Old English, and the thorn and eth characters in Old English and subsequently Old Norse. To this should be added several ligatures in Old Norse, especially of vowels, e.g. of a+r, a+o and a+a. It is not a particularly long list, but sufficiently long to create problems for any edition limited to the basic Latin alphabet.

Fig. 2. Example of a diplomatic edition: Öláfs saga ins helga, ed. O.A. Johnsen 1922, p. 53. Abbreviations are expanded and shown in italics, and many variant letter forms are copied (e.g. tall s, round d and r, y with dot, i without dot, o with loop).

In the time of lead typography, special characters had to be cast separately. Many successful fonts have indeed been the result of this process, but there are also characters which have not yet reached a mature form -- the round form of r and the
Insular shapes of ð and ð, to take a few examples. Modern font technology has simplified the process of designing special characters, but due to the widespread use of font design applications (e.g. Fontographer, FontLab) a number of non-compatible fonts have been produced since the late 1980’s. The font ReykjavikTimes, developed in the early 1990’s, has become a de facto standard, but it is a customised, non-standard font with different code point allocations for the Mac and the PC. In addition there are several versions for both platforms. This has led to much unnecessary and sometimes disruptive work on file conversions.

Fortunately, the increasing support of the Unicode Standard has greatly simplified the encoding of special characters. For texts in regularised Old Norse orthography, only the ø with both ogonek (caudata) and acute accent can cause problems. For diplomatic editions and especially the record type of editions, the list of missing characters is longer, but the recent approval by Unicode and ISO of a number of medieval characters means that the problem has been greatly reduced. For example, all characters used in the Old Norse dictionary in Copenhagen (Ordbog over det norrøne prosasprog) are now likely to be accepted by Unicode in a forthcoming version of the Standard.

Unicode fonts that contain special characters for Old Norse usage are still few and far between, but a handful of fonts are now available on the website of the Medieval Unicode Font Initiative, www.mufi.info. A recommendation listing useful characters in the Standard as well as in the Private Use Area of the Standard can be found there, too. The screen shots in fig. 4 show a MUFI compatible Unicode font based on a Garamond design (still under development). Another MUFI compatible font which has been around for some years is the Junicode font by Peter Baker, modelled on the early seventeenth-century Old English typeface Junius.

Most encouraging is the fact that Windows TrueType fonts now work on Linux as well as on the Mac platform (as of os x). This means that a text encoded according to the Unicode Standard and displayed in a suitable font will be displayed in exactly the same way on these platforms, and that it can be transferred from one platform to another (and back again) without loss of information. Anyone who has struggled with Old Norse fonts over the last decade will appreciate this fact. Furthermore, recent web browsers support Unicode encoding, which means that texts, even complete editions, can be displayed with a high degree of editorial and typographical control on the web. It is still required that a compatible font is available on the computer which is used to access the web page; otherwise the text will display incorrectly. This problem can partly be solved by making texts available in PDF format so that the correct font is embedded and thus travels along with the file.

2.2 Representation and display of document structure

Diplomatic editions are faithful to the manuscript and will typically render the text line by line, even if there are discontinuous or overlapping structures. A typical example is the position of chapter titles as shown in fig. 3. The title (in bold type) is added at the end of lines 9 and 10, but should obviously be understood as being a title for the chapter beginning in line 10. In any normalised edition, the title would be given as a heading at the beginning of the new chapter, possibly in another font or style. Most
diplomatic editions would treat this case in a similar manner. In a facsimile text edition, however, the title would be given exactly as it is, spread over two lines. The facsimile text edition should reflect the exact structure of the source, including the position of each word on its line, column and page. While this level of representation has the disadvantage of being ‘illogical’ in the syntagmatic structure of the text, it has the distinct advantage of locating every word correctly in its position in the basic document structure.

相似的考虑适用于任何在两行之间或页面边缘的文本定位。页面上的实际定位可能对有意图的单文本（如Ausgabe letzter Hand，即最后的手稿）来说是相关的，但也可以用于理解文本的不同层次，可能是由不同的手写。

The encoding of discontinuous or overlapping structure is a well-known problem for XML, which boldly (and, one might add, naively) assumes that every text is a hierarchy of nested objects. There are ways around this in XML encoding, but the solutions can be cumbersome and non-intuitive. A chapter will typically be encoded as beginning at a certain point in the text and ending at another point so that all text in between these points are seen as belonging to the chapter in question. This will by many encoders be seen as the basic structure of any extended text, and the general element <div> (for ‘division’) is used to show how chapters can be ordered in a nested structure of books, chapters, sections and paragraphs. Adding information about page, column and line numbers on top of this is simple, since XML allows certain types of
markup to be without extension. These numbers are simply inserted in the document structures as ‘milestones’; rather than saying that a line begins at a certain point and then contains all text to the end of the line from which a new line begins, it is the actual line shift that is encoded. What is not simple, though, is to encode a text which has a text sequence at different positions along the syntagmatic axis, depending on the structural point of view. The section title in fig. 3 is a case in point; its position in the line-by-line structure of the text is different from its position in a hierarchically nested structure.

In my view, the best solution to this problem is to accept that alternative structures should not be conflated in a single level of encoding, but should be represented on parallel levels of encoding. As a consequence, the text will have two or even more levels of transcription and these levels must be kept systematically distinct from each other. The obvious cost is that the encoding becomes more complex. XML encoding is often criticised for being verbose, and encoding a text on several levels certainly does not reduce verbosity. Yet verbosity is in many cases a prerequisite for explicitness in the encoding.

The exact number and definition of levels are a matter of discussion, but based on the tradition of Old Norse editing, I believe that three focal levels can be identified (for a wider set of levels, see Haugen 1995 and Guðvarður Már Gunnlaugsson 2003). The closest level is the one that can be termed the facsimile level, in which the source is copied line by line, using a broad spectrum of characters and rendering the abbreviations unexpanded. This is the level exemplified by the old record types of editions and the Mádruvellabók edition in fig. 3. The intermediate level is the diplomatic level, in which the source is copied less closely, abbreviations are expanded and only (presumed) phonologically distinct characters are recorded. The distinction between the tall s and the round s is usually headed since the latter can represent a geminate sound, but not the distinction between the Caroline and Insular forms of the for r. The third level is the normalised level, in which the orthography and punctuation have been regularised and the text may be emended. The three levels are shown in the short extract from Nidarstigningar saga in fig. 4. They are all derived from a single XML encoding of the text using parallel levels of textual representation. The actual transformation from the encoded XML file to readable HTML or PDF files is done by XSLT stylesheets (for details of this procedure, cf. Haugen 2004).

The three levels discussed here are incorporated in The Menota handbook, developed in conjunction with the Medieval Nordic Text Archive (cf. www.menota.org). The Menota handbook aims at giving practical advice for the encoding of Medieval Nordic texts in XML and to supply tools and resources for this work. The present version of the handbook, v. 1.1, was published in May 2004 and is compatible with the guidelines of the Text Encoding Initiative (TEI), version P4. The next major version of the handbook is expected in late 2006, and will be compatible with TEI P5. The handbook is available on the Internet (in HTML or PDF) and also contains a full Document Type Definition (DTD) and XSLT style sheets for transformation of XML files to other formats.
3. Reverence for the insignificant?

Although special characters and concurrent layers of text can be adequately represented in an encoding language like XML, there is no simple answer to the question of how ‘deep’ the encoding should be. The crucial question now, as ever, is where to draw the line between significant and insignificant aspects of the text. For any study of major structures in a text, normalised editions will often suffice, although examples are found of interpretations that are simply wrong or at best anachronistic because of the inevitable simplifications in normalised editions.

The strength of representing the text on more than one level is that a broader spectrum of investigations into the text can be carried out. A stylistic analysis can in most cases be done on the basis of a normalised text since little or no information about stylistic figures can be read into the minutiae of character variants and abbreviation practice. Punctuation might be of interest, however, so a diplomatic rendering of the text will in some cases be a welcome addition. For syntactical studies, normalised texts are potentially misleading since the punctuation and orthography
have been regularised, so a diplomatic level would usually be preferred. For morphological studies, a diplomatic edition is de rigeur, especially one in which expanded abbreviations are clearly indicated. Otherwise, observations about variation in the inflectional system might turn about to be observations about variability in the editor’s expansion of abbreviations. For paleographical and codicological studies, a representation on the facsimile level is preferable, although not essential. A full paleographical or codicological study demands a photographic facsimile of high quality and access to the manuscript itself, but the facsimile print is helpful in deciphering the source, since manuscripts sometimes can be quite difficult to read.

Having identified three levels of representation does not mean that all levels should be used in any one project. Some editors will be happy with a normalised level only, others would prefer the diplomatic level, while yet others would like to combine two or possibly three levels in their encoding. The edition of Óláfs saga ins helga by Johnsen 1922 fits easily in with the diplomatic level, while that of Möðruvallabók by van Arkel-de Leeuw van Weenen 1987 is uncompromisingly on the facsimile level. At a later stage, a facsimile level might be added to the Johnsen edition, and a diplomatic level (even a normalised one) to the Möðruvallabók edition. Any additions to the text are easily documented and recorded in the header of the XML file. In fact, XML encoding according to the TEI guidelines handles accumulative texts with great ease. Electronic editions are eminently more suited to documenting the incremental growth of an editorial project than printed editions, not only making the whole, accumulated edition accessible but also picking out and displaying the individual layers of the edition.

The Menota handbook is neutral in the question of levels. It shows a way of encoding text on more than one level, but it leaves the decision of levels to the editor. While diplomatic and normalised editions have broad support among Old Norse scholars, editions on the facsimile level are still controversial. Some would claim that they are a hybrid type of edition, too close to the manuscript for easy reading and too far from the manuscript for a true paleographical analysis. A diplomatic edition can be defined as an emic edition in the sense that it only records graphemic variation. The facsimile type of edition is an etic edition in the sense that it reflects graphetic variation below the graphemic level. As stated above, the distinction between the tall and round s is usually seen as a graphemic distinction, while the distinction between Caroline and Insular letter forms would typically be seen as a graphetic distinction. In spite of this, the graphematic distinction between the two s types is not recorded in all diplomatic editions, while other diplomatic editions would record the non-graphematic distinction between Caroline and Insular letter forms. As is often the case, a distinction which is simple in theory tends to become blurred in practice.

The facsimile level allows for the recording of variation on the graphetic level and is thus more flexible when it comes to identifying meaningful (in a broad sense) aspects of the text. For example, the round r is usually not said to be distinct in a graphemic sense from the straight r, but it would surely be recorded in a facsimile type of edition. The graphetic distinction between the two r types does give chronological information, since the round shape initially was only used after curved characters like o and ð but later became used after an increasing number of characters. This is a question of graphetic analysis rather than paleographical analysis, and it is for this
reason that the facsimile level can prove to be helpful. Indeed, excluding this level from encoding practice would exclude many ongoing editorial projects.

4. A pragmatic point of view

While the question of text representation is basically a theoretical one, the pragmatic aspects should not be underestimated. Above all: which level is the best entry-level for a transcription? Most people would probably agree that the normalised level is not suited. This level simply requires too many modifications of the source text; not only of the graphemic inventory, but of general orthography, capitalisation and punctuation. In short, it requires too much interpretation on part of the transcriber. From this observation, it seems reasonable to assume that a transcription should be narrow, i.e. based on a reduced amount of interpretation of the source.

It should be stressed that a transcription sine interpretatione is simply impossible; any transcriber has to make a continuous assessment of which aspects of the writing are significant and which are insignificant. Hairstrokes are typical examples; in many cases they simply have to be disregarded, while they in other cases turn out to be accents. It is rather a question of lowering the interpretation threshold, and postponing some decisions to a later stage. Abbreviations are a case in point. While some abbreviations are more or less unique, e.g. the ampersand or the Tironean nota '7° for ok (or oc), the majority of abbreviations in Old Norse manuscripts are not unique. The full stop and the stroke are probably the most polyvalent of all abbreviation characters. Although the stroke is often used for the nasals m and n it can abbreviate virtually any sequence. It occurs twice in the third line of fig. 1; in the first instance it should be expanded with m, in the second with enn. Superscript characters are also polyvalent. Superscript vowels usually abbreviate r + the vowel, but sometimes it is the other way round, the vowel + r, and for the superscript a, it is usually v + a.

If it is in fact true that a narrow transcription is a preferable entry-level, this is a pragmatic and independent argument for what has been termed the facsimile level of text representation. From this level, a diplomatic level and ultimately a normalised level can be added cumulatively, by the transcriber himself or herself or by someone else at a later stage. In an electronic text, there are no practical space limitations, and the process is easily documented. Moving in the reverse direction, from a normalised text towards a facsimile representation is a much more cumbersome process. Conflating a distinction, e.g. between two s types, can be made with a few keystrokes and would be part of moving the text in a normalised direction; introducing the distinction between the two s types in a text that initially did not make this distinction would require a check of each s character in the whole text. This is not a tempting prospect.

Secondly, the emphasis on the encoding of primary sources may lead one to prefer encoding each source in toto rather than giving representative readings from other sources in a critical apparatus. While the 'space is no problem' argument also applies here, it should be admitted that a complex critical apparatus does strain XML encoding. An apparatus very often consists of overlapping readings in the text, and it may in fact be simpler to make separate files for each of the other text sources. As a consequence, the whole variance is documented, and the selection of readings is no
longer the privilege of the editor. In many cases, the transcription of the additional sources can be done by using the first transcription as a template and then changing the text only where necessary. This method can speed up the process considerably and prove to be as expedient as carefully selecting readings and entering them into an apparatus.

The conclusion drawn here is that there is no level of text representation which is optimal for all users and for all usage. There are several levels, all easily encoded and displayed in an electronic edition. It is rather a question of working towards standards of text representation, of identifying levels that are focal and suitable for the interest that scholars and non-scholars invest in text editions. The three levels proposed here may not be the final answer, but they are based on a long tradition of Old Norse editing, and the flexibility of XML encoding readily permits additional levels within this framework.

Literature


Johnsen, Oscar Albert, ed. 1922. Olafs saga háins helga. Kristiania.


The Text Encoding Initiative: www.tei-c.org
The Menota handbook: www.menota.org/guidelines
The Medieval Unicode Font Initiative: www.mufi.info
The Unicode Standard: www.unicode.org