A Medieval Icelandic manuscript[*]
The making of a diplomatic edition

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In November 1993 my edition of the Icelandic Homily Book[1] was published by the Stofnun Árna Magnússonar á Íslandi (SAM)[2] after having been 'in press' for a period of 19 years. If it had not been for TeX, this period might easily have been extended indefinitely. Looking back, work on the Icelandic Homily Book can be divided into three stages: the scholarly work, the attempts at printing before TeX, and the typesetting with TeX.

1   The scholarly work

My involvement with this edition, or with Old Icelandic scholarship in general, came about almost by accident. I arrived in Iceland in 1971 with my husband, who had taken a temporary job at the University of Reykjavík, and my two small sons; my knowledge of Icelandic at that time could easily find place in half a column of this journal. In order to escape the drudgery of diaper laundry I enrolled in the "Icelandic for foreigners" program at the university (Háskóli Íslands), where I became enthralled in my second year by the secrets of paleography and Old Icelandic grammar. So when I had passed my examination for the Bacc. Phil. Islandicae degree, I looked around for something useful in that direction to occupy me in my third and final year in Iceland.

A suggestion by Helgi Guðmundsson, associate professor of Icelandic at the University of Reykjavík, to write a doctoral thesis and to choose an edition with a thorough grammatical analysis as the topic did not strike me as a realistic option. I had majored in mathematics, so would have to go a long way before getting to a doctorate in a completely different field. Nevertheless, he insisted that shortcuts could be found and that preparing such an edition while I had the right resources was a sensible thing. Although I did not believe him at the time, he turned out to be right. Anyway, I let myself be talked into this undertaking and after some consultations with the SAM, I choose the Icelandic Homily Book from the three or four manuscripts that the institute and Helgi deemed suitable and most urgent.

Apart from some fragments, the Icelandic Homily Book is the oldest extant Old Icelandic manuscript, dating from around 1200 and containing on its 102 parchment leaves (204 pages) some 60 sermons. By its age alone, this manuscript is of the greatest interest for the study of the Old Icelandic language; but it is also considered to be an example of good style.

Work on the transcription started in the summer of 1973. At first I worked from a set of photographs, later I was able to use the manuscript itself.[3] After the first year the transcription with the critical apparatus was finished, and the introduction, which was going to concentrate on orthography and morphology, was well under way. Meanwhile, the staff at the institute had been keeping an eye on my work, and had offered to publish the edition in one of their series as a combined facsimile[4] and diplomatic edition.[5] I gladly accepted their offer, but should perhaps have sensed the problems that would develop afterwards when the project meeting was nearly exclusively devoted to the choice of paper, rather than to editorial principles, deadlines, special requirements, and the like.

I left Iceland in 1974 with the promise that typesetting the transcription would start next week. Famous last words. During the next two years I finished writing the introduction and fulfilled the requirements of the University of Utrecht for a masters degree in Old Germanics. As typesetting in Iceland still had not started, I typed the introduction, pasted the needed corrections into the transcription and handed the thesis in as typescript, thinking that it might well be several more years before the book got printed; but I never suspected that it would take 17 more years — or that I would have to be my own typesetter.

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[*] An earlier version of this article appeared in MAPS 14 (1995) pp. 31–34.

[1] Andrea de Leeuw van Weenen, ed., *The Icelandic Homily Book, Perg. 15 4° in the Royal Library, Stockholm*, Íslensk Handrit/Icelandic Manuscripts, Series in quarto vol. III, Stofnun Árna Magnússonar á Íslandi, Reykjavík 1993. pp. 436 + 204 plates.

[2] This institute in Reykjavík keeps most of the existing Icelandic manuscripts and is devoted to their study and publication.

[3] The Royal Library loaned the manuscript to Iceland and later kindly granted permission for it to be taken out of its binding to be photographed for the facsimile edition.

[4] This required photographing the whole manuscript. For this it had to be taken out of its binding. This was done in 1975. The delay in printing had also delayed the rebinding. In fact, I found that, in February 1996, the manuscript was still in loose pages.

[5] The edition is a diplomatic one. That is, it aims at reproducing the manuscript. In a diplomatic edition of the strictest kind, even the abbreviation marks would be reproduced. Here the abbreviations are expanded in italics. The facing facsimile allows the reader to observe the originals of such abbreviation marks.

2   Typesetting, the years before TeX

In 1974 all typesetting on Iceland was still done in lead. The transcription for my project required a number of unusual characters, and it turned out that not only did the typesetting firms not have these characters, they did not exist in the Monotype catalogue. So they would have to be specially cut for this publication. The various firms that were approached were understandably reluctant to invest in this, as there was no guarantee that the characters could be used for other books. These negotiations took several years — in the small Icelandic community, firms could be approached only one at a time, and most took their time to think the proposition over. In 1979 the news came that one firm had purchased phototypesetting machinery of the matrix variety and that they were willing to start work on the transcription. Slowly, the proofs started to come. But with them came a surprise.

I had believed that proofreading would be my responsibility, but now I found that proofs of books to be published by the Stofnun Árna Magnússonar[6] were habitually read by three independent readers — the editor of the edition, one of the senior staff members[7] and a junior staff member. Additionally, the proofreading did not mean comparing the proofs with the typescript but with the manuscript or the photographs, thereby checking not only the work of the typesetter but also that of the editor. This meant that proofreading took quite some time. For the SAM staff, it was one of the many jobs they had to do besides their own research. When we disagreed about a reading there were lengthy discussions by mail, which usually were only resolved during one of my visits to Iceland. So, when in 1983, we were finally in agreement about the corrections to be made and sent the corrected proofs to the typesetter, it was a very unpleasant surprise when we were told that he had just got himself a new phototypesetting machine and could not convert the material he had on punch tapes to this new machine. But he would have the thing typeset anew as soon as he could. In the end this took a year.

And so the whole circus started again in the autumn of 1984: proofreading in triplicate. There were fewer cases to discuss between us three; on the other hand, the work went a lot slower. I was both in the final stage of another project and taking up a new job which required a lot of reading up — if there had ever been any feeling of urgency about

the book in Iceland, that had now certainly gone. So it was early 1989 when the marked proofs were returned for the second time to the typesetter. But when I arrived in Reykjavík some months later, I found that the machinery had again been replaced and that the typesetter was planning to start from scratch. Again.

By this time I had about 10 years' experience with computers and I was quite sure that conversion was possible. Moreover, I had at some stage requested and obtained copies of the typesetting files. Admittedly, it had not been easy to decipher these,[8] but I had copies on DOS disks of the original files and conversions (via a SNOBOL4 program) of these files to ASCII, where the typesetting codes had been removed. At this stage the Stofnun Árna Magnússonar was as opposed as I was to going through the whole troublesome procedure again — it was becoming clear to us that, with the methods of the institute, we would always be limping behind the continuous advances in technology.

So the disks were sent to Iceland and in due course of time new proofs arrived. But after the initial joy that conversion to the new machine was possible, a closer look brought great disappointment. The font used looked decidedly irregular and the kerning of the high 's' (ſ) was absolutely ugly. But even worse, many errors had crept in. A systematic study of the errors identified on the first few pages brought me to the conclusion, later confirmed: a conversion program had been written, and where it produced erroneous results, rather than correcting and rerunning the program, they had opted for manual correction of the output file, but such corrections had not been carried out very systematically.

Considering the state of affairs and the possibilities for correcting the files, I decided that the best thing would be to get my hands on their files and repair them by comparison with mine. As this required only a physical conversion to DOS disks, it seemed easy enough. Unfortunately, this could not be done in Iceland, but had to be handled in Denmark by the manufacturer of the machinery, and after some phoning and explaining, two disks arrived, which were not too difficult to decipher. As soon as I had corrected a couple of pages, I returned the disk, and waited with some optimism for a corrected proof. No such thing — only a panicky fax that the disk could not be read. Some weeks of multilateral discussion followed between the institute and the typesetter in Reykjavík, the

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[6] Det Arnamagnæanske Institut in Copenhagen follows the same policy.

[7] In my case, Stefán Karlsson, now director of the Institute and professor at the University of Iceland.

[8] The original 8-inch disks were written in a proprietary format. It required the help of a specialized publishing house (Brill) to convert the files into DOS format.

technical staff of the manufacturer of the typesetting machine in Denmark, and myself in Leiden (the Netherlands). This discussion was not made any easier by the lack of a common language. In the end, it became clear that the lack of expertise on the Icelandic end, combined with the distances involved, made it highly unlikely that the problem would ever be solved.

By this time, 1990, I had gained some experience with TeX and METAFONT, enough at least to be confident that the job could be done, and luckily *not* enough to foresee all the problems involved. Moreover, I had already keyed in the apparatus, together with all the points raised in connection with them in 10 years of correspondence, and even made a few METAFONT characters needed there. So I wrote a letter to Iceland enumerating the possibilities open to us; these ranged from typesetting from scratch (for the third time) via various methods involving conversion to the new machine, to doing it myself with TeX. I outlined the disadvantages and advantages and the fact that, in my opinion, some methods were so impractical and relied so much on factors beyond our control that I was not willing to cooperate in them. Probably the members of the staff of the Stofnun Árna Magnússonar were then about as fed up with the whole thing as I was, so they agreed that I should have a go with TeX.

The edition had now been 'in press' for 15 years. This time was rather evenly divided in three periods: trying to find a suitable typesetting firm/system (1974–1979), first phototypesetting system (1979–1983), second phototypesetting system (1983–1989).

3   Typesetting, the years with TeX

3.1   Picking up the pieces

Apart from the transcription, which by now had gone through two failed typesetting attempts, the book was also to have an extensive introduction (215 pages in the finished product). Again the transcription was tackled first, and this time on the base of the machine-readable version produced in the second attempt. This had been converted to a simple ASCII-based encoding scheme of my own devising and had been used for searching, concordancing, etc. The features of LaTeX were irrelevant for this part, so plain TeX was used to produce this part. As I had to write a conversion program[9] anyway to convert the files in my code to TeX files, I could easily include line numbering as well. The apparatus existed already in TeX form and needed

only minor corrections, so the relevant part could be inserted after each page automatically. And so, while EDMAC was available, it was not considered.

Proofreading of the transcription could be minimal, as the original ASCII files had been corrected and only the correctness of the conversion and the working of the TeX macros needed to be checked.

In the previous stages, no attempt at typesetting the introduction had been made. Over the years I had had serious discussions with Stefán Karlsson about the arrangement of some of the quires. As this involved drawing and redrawing the figures depicting those quires, I had at some stage done the necessary drawings within LaTeX's picture environment. As a result I adopted LaTeX for the production of the introduction; however, neither LaTeX's book style nor the NTG's `boek` style were to the liking of the institute. I therefore had to write my own style file — or rather, to fiddle with `boek.sty` and its attached files to get the required results. A small surprise was having to define a new `strutbox`, as the normal one suits 10pt text only.

Some of the many tables in the introduction would only fit in landscape. As they all required a full page, I took the easy way out and produced them separately.

The introduction required even more special characters than the transcription, as the various abbreviation marks, which are expanded in italics in the transcription, have to be represented. On the other hand, it had been decided already in 1974 that the survey of the characters occurring in the manuscript should contain drawings by hand of the various characters and their variants. Here small gaps were to be left, to be filled in by hand in the final 1270dpi copy.

3.2   Design constraints

The edition of the Icelandic Homily Book had two components: the introduction (written after the body of the text had been produced), and the text itself. For the text, there were to be a series of notes at the bottoms of pages (the critical and paleological apparatus), line numbers in the left margins, occasional margin notes in the right, complex font combinations throughout, and forced line and page breaks. The introduction would be different in structure, with section headings at various levels, footnotes, tables, and numerous citations from the text. It also had a preface, table of contents, and a bibliography.

The book had to appear in a series and was planned as a combined facsimile and diplomatic edition, with photographs and transcription on facing

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[9] Again, the conversion was handled by a SNOBOL4 program.

pages (see illustrations). This meant that both page breaks and line breaks in the transcription were predetermined by the manuscript, not by the software. As well, presentation of the manuscript required a large paper size (30.3×23.3mm), which in turn meant using a 12-point font. It came therefore as an unpleasant surprise that the Computer Modern fonts which I wanted to use were significantly wider than the fonts used previously, and, more to the point, that the resulting lines did not fit the given page width. After much hesitation I decided to decrease the width of the characters by about 10%. As the line breaks are determined by the manuscript, I could have set the `\hsize` to a rather arbitrary large value had it not been for the biblical references which occasionally had to appear in the right margin. Setting `\hsize` to 175mm and setting the references flush right in the line resulted in only one or two places where line and reference clashed. In these cases a solution was found by moving the reference one line down.

The paperheight too was not unproblematic. Some manuscript pages had many more lines than others, and there was a critical apparatus that also had to be accommodated as a whole at the foot of the page and could not be allowed to float to the next page. If I chose a page height that would fit all pages, the majority would look ugly, as they would have far too large a gap between text and apparatus. So after some experiments I choose a page length that fitted most pages with the apparatus at the bottom of the page. The few overlong pages had a special page height and the apparatus directly following the text.

After some experimentation `\vsize` was set to 270mm and pages arranged as follows: first a headline containing the folio number (this is suppressed in the illustration), then the body of the text, then the apparatus part. For normal pages this took the form: `\vfill`, text of the apparatus, and finally 46.8mm vertical white space. For overlong pages, the apparatus followed the text after a 2.6pt gap and was followed by a `\vfill`. In both cases the apparatus was printed with a linewidth of 145mm.

TeX's habit of stretching and shrinking spaces, much as I value it elsewhere, did not improve the readability of this text, so I disabled it by redefining `\fontdimension`'s 2, 3, and 4 for all relevant fonts (roman, italic, bold, and bold italic). As well, the distances between the lines were set to a fixed value.

Otherwise, the style file for the transcription consisted only of macros to arrange the fonts at various sizes into families, and shorthands for the special characters. All other coding, for example,

the `\llap` for the line numbers, were put directly into the TeX files by the conversion program.

3.3   Font issues

The next problem concerned the special characters that had caused us difficulties right from the beginning: ſ aɾ ǫ ꜵ, to name a few, and of course þ. The latter could be taken from the Icelandic font, but the others had to be made with METAFONT. Some were easily constructed: the high 's' (ſ) only required removing the horizontal stroke from the 'f', and of course the introduction of quite a few new ligatures. Others, however, required adding a diacritic to a character: ǫ, ð̇, ǭ, ő. Still others required more METAFONT skills: aɾ or ⅁. I must stress that I was, and am, far from mastering METAFONT, and I remember with embarrassment the time that I had produced a version of an 'o' with a squiggle (ǫ) that looked acceptable in isolation, but different when inserted in a font. Only when I made a test font with just two copies of this character did I realise that the 'o' was drawn with the pen inherited from the previous character, and that I had introduced a smaller pen for the tail part.

Finally, I made roman, italic, bold, and bold italic fonts which consisted of the same characters as their cm counterparts, minus the Greek letters, but with the addition of the special characters and the small capitals needed (see below). In the part of the fonts taken over from the cm fonts I made a small change to the character ø — not to its shape, but to its height. The height of this cm character is the height not of the 'o', but of the diagonal stroke. This results in the accent above ø standing higher than that over 'o': ǿ ó. By reducing the height of the ø to the height of 'o', the accents come at the same height: ǿ ó.

The various fonts were produced in a 300dpi version for proofreading and a 1270 dpi version for the final production. The parameetrs were taken from the cm fonts as well, apart from the necessary adaptation mentioned above regarding the width of characters.

Besides the problem of designing special characters, there were also problems with the integration of various typefaces. Due to the diplomatic nature of the transcription, roman characters, italics, and small capitals can occur within a single word, and this poses problems.

The transcription follows the manuscript in its use of small capitals, which are employed to indicate double consonants.[10] Normally smallcaps are larger

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[10] This was one of the methods used by medieval Icelandic scribes to put as much text as possible on the expensive
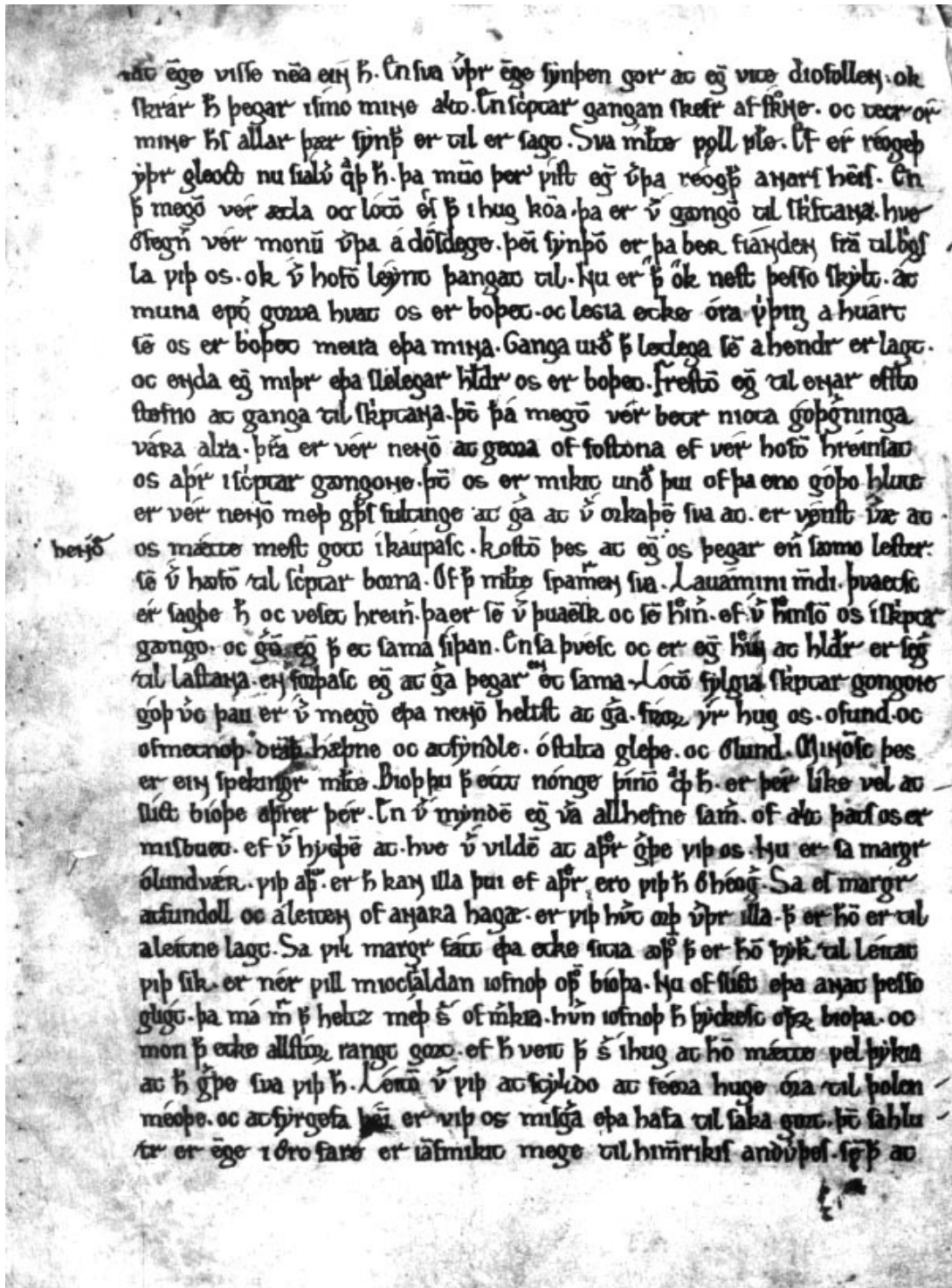
Figure 1: Photograph

at enge viſſe nema éiɴ haɴ. En ſva verþr enge ſynþen gor at eige vite diofolleɴ. ok
ſkrár haɴ þegar iſíno miɴe aʟt. En ſcriptar gangan ſkefr af ſkróne. oc tecr ór
3 miɴe hanſ allar þær ſynþer er til er ſagt. Sva mǽlte pǫll poſtole. Ef ér réogeþ   *I Cor 11.31*
    yþr gleoct nu ſiálver quaþ haɴ. þa muno þer víſt eige verþa réogþer aɴarſ heimſ. En
107   þat megom vér ætla oc lótom | ø\ſ/ſ þat i hug koma. þa er vér gǫngom til ſkriſtaɴa. hve
6 ôfegner vér monum verþa á dómſdege. þeim ſynþom er þa beʀ fiáɴdeɴ fram til brigſ-
    la viþ os. ok vér hofom léynt þangat til. Nu er ok þat neſt þeſſo ſkylt. at
    muna epter gorva hvat os er boþet. oc leɢia etke óra virþing a huárt
9 ſem os er boþet meira eþa miɴa. Ganga uɴder þat letlega ſem a hendr er lagt.
    oc eɴda eige miþr eþa ſlélegar heldr os er boþet. Freſtom eige til eɴar efſto
    ſtefno at ganga til ſkriptaɴa. þuiat þá megom vér betr niota góþgerninga
12 váʀa alra. þeirra er vér neɴom at geora of foſtona ef vér hofom hréinſat
    os áþr i ſcriptar gǫngoɴe. þuiat os er mikit under þui of þa eno góþo hlute
    er vér neɴom meþ guþſ fultinge at gera at vér orkaþem ſva at. er vęnſt vǽre at
15 os mǽtte meſt gott í káupaſc. Koſtom þes at eige ʼheɴde\ os þegar eɴer ſǫmo leſter.
 ʼ ſem vér hǫfom til ſcriptar borna. Of þat mǽlte ſpamaþreɴ ſva. Lauámini mundi. Þvaetſc   *Is 1.16*
    ér ſagþe haɴ oc veſet hreiner. Þa er ſem vér þuaemſk oc ſem hreiner. ef vér hreinſom os íſkriptar
18 gǫngo. oc gerom eige þat et ſama ſíþan. En ſa þvéſc oc er eige hréiɴ at heldr er ſeger
    til laſtaɴa. eɴ forþaſc eige at gera þegar \eɴ/ et ſama. Lótom fylgia ſkriptar gongoɴe
    góþ verc þau er vér megom eþa neɴom heltſt at gera. ſnorum ýr hug os. ofund. oc
21 ofmetnóþ. dramb. hǽþne oc atfyndle. ó ſtilta gleþe. oc ôlund. Miɴomſc þes
    er eiɴ ſpekingr mǽlte. Bioþ þu þat éitt nónge þínom quaþ haɴ. er þér líke vel at -
    ſlíct bióþe aþrer þér. En vér myndem eige vera allhefne ſamer. of aʟt þatſ os er
24 miſbuet. ef vér hyɢþem at. hve vér vildem at aþrer gerþe viþ os. Nu er ſa margr
    ólundvǽʀ. viþ aþra. er haɴ kaɴ illa þui ef aþrer ero viþ haɴ ô héoger. Sa ef margr
    atfundoll oc á leiten of aɴaʀa hagǽ. er viþ hvert orþ verþr illa. þat er honom er til
27 a léitne lagt. Sa viʟ margr fátt eþa etke ſitia ǫþrom þat er honom þyker til léitat
    viþ ſik. er nér vill mioc ſ\i/aldan iofnoþ oþrom bióþa. Nu of ſlíct eþa aɴat þeſſo
    glígt. þa má maþr þat heltz meþ sér of merkia. hvern iofnoþ haɴ þyckeſc oþrum bioþa. oc
30 mon þat etke allſtórum rangt gort. ef haɴ veit þat sér ihug at honom mǽtte vel þykia
    at haɴ gerþe ſva viþ haɴ. Léitom vér viþ at ſcyʟdo at féora huge óra til þolen-
    méoþe. oc at fyrgefa þéim er viþ os miſgera eþa hafa til ſaka gort. þuiat ſa hlu-
33 tr er enge i ôro fare er iamſmikit mege til himenrikiſ andvirþeſ. ſem þat at

2 ſkróne] ɔ: ſkróɴe 7 ok þat] *T*. 10 heldr] *Add* en (*Vr*). 11 þá] < þat. 20 ſnorum] n < v,
correction indicated by an accent. 21 ofmetnóþ] *Accent suspect, L* ofmetnoþ. 26 hagæ] æ <
a. 28 nér] *Del* (*SK*). 31 féora] o < e.

Figure 2: Transcription

than the corresponding romans, as can be seen when I use this strategy for English and write coʀect for 'correct', plaɴning for 'planning'. This makes the page look very jumpy, so I scaled down the small-caps. However, this was not completely successful. Even with the large number of parameters for the cm fonts, there seemed to be a relationship between the thickness of various strokes. I feel that a small capital that has to fit within a word should be parameterized in a different way, but for that task I lacked the time.

The transcription also has italics and romans mixed within words. I had thought that the italic correction would take care of that problem, but it did not. So I had to figure out experimentally the amount of kerning needed for each pair of roman-italic and italic-roman that occurred. Again, this can certainly be improved upon by someone with a designer's eye. I can only say that this kerning is a great improvement over the results without the kerning. As the TEX files for the transcription pages were produced by a conversion program, these explicit kernings had already been automatically inserted.

And while all of this had been resolved for the actual transcription pages, the introduction still only existed as a typescript and contained thousands of quoted words from the transcription. I was not looking forward to typing in all those explicit kernings, so I decided to solve the kerning problem by combining romans and italics in a single font while taking care of the kernings in the ligature tables. The roman and italic smallcaps which occurred within the transcription were placed in this same font. This arrangement meant that italics could not be accessed by the usual `\it` command, but via macros: `\ia` for italic-a, and so on. Since at most only one or two consecutive italic characters occur, this made the typing not too onerous.

4 Conclusion

The flexibility of TEX and METAFONT have made it possible to produce a publication which might otherwise never have made it to the printing press, as another typesetting + proofreading cycle would probable have taken even longer and left us even further behind in the technology race.

Looking back, the first typesetting and its proofreading were completely wasted. The second typesetting was not, although in a very round-about way, since it yielded a computer-readable, and after

further conversions, TEXable text. Nor was the second proofreading a waste, since all errors spotted were corrected in the machine-readable text.

I found it possible for somebody who is far from being a TEXpert to produce this rather complicated edition with the support of the ever helpful TEX community. In particular, I would like to thank Kees van der Laan and Piet van Oostrum, who were both very helpful, providing me not only with TEX tricks but also with their explanations. The final result looks far better than two of the attempts before TEX, and certainly as good as the third.

If I were to be confronted with the same problem now, I would certainly opt for TEX again. Also, many of the other decisions would be taken in essentially the same way. The only decision I might reconsider is the choice of LATEX for the introduction. I found the relations between the macros of LATEX itself and its various style files hard to understand. It was therefore difficult to achieve the requested design and format changes.

The example of the Homily Book has served to persuade a number of colleagues that TEX can rescue their work as well. In most of those cases a book has been produced with a word-processing program, the publisher wants camera-ready copy, but the requirements of the publisher (and sometimes even that of simple readability, or of the conventions in the specific field) cannot be met by the word-processing program. Up to now TEX has always provided the necessary functionality.

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parchment. Another was the frequent use of abbreviation signs.