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Editing the OI Elucidarius with the Aid of the Computer

The following paper will begin with a progress report on the OI Elucidarius edition and then proceed to a brief discussion of three issues, which have proven to be problematic for me in my work on this project and which I suspect others, too, may have wrestled with. It is in the hope of receiving advice and sparing future editors some of these problems that I raise these issues for discussion.

According to the most recent report on the Elucidarius edition published by my colleague and coeditor Evelyn Firchow in the Eggers Festschrift ("Editing Medieval Manuscripts with the Help of the Computer: The Case of the Old Icelandic Elucidarius," in Sprachen und Computer: Festschrift zum 75. Geburtstag von Hans Eggers, 9. Juli 1982, ed. Hans Fix, Annely Rothkegel and Erwin Stegentritt), only the two large ms. fragments, AM 674a and AM 675, had been transferred to computer-readable form. As we all know, the process of encoding the manuscript, typing the encoded text into the computer, and then proofreading the printout is both tedious and time-consuming. We felt that an extensive corpus like that represented by the above-mentioned fragments well warranted the time and effort in order to make subsequent linguistic and literary analysis easier and more accurate. On the other hand, we reasoned that the six remaining fragments, varying in length from under 100 words to about 4000 words of running text, could be analyzed without the aid of the computer and the number of additional computer symbols required to encode their orthographic peculiarities would overload the system. Once we had adopted this decision, our project was left in a peculiar state of discord, since part of the text was reproduced through the use of the Statos printer, for which we designed a number of graphs,

while the rest was simply typed on a regular typewriter with unavailable graphs drawn in by hand. Originally the finished edition was to be a mixture of photographed typeface from the Statos printer for the two large fragments and conventional typeface for the other fragments, apparatus, Latin text and introduction. We arrived at this plan because at the time the technology was not available in Iceland to print directly from computer tape.

In the meantime, however, the situation has changed. Together with Hans Fix, my coeditor is compiling a dictionary for the entire Elucidarius corpus, and therefore it is now desirable to transfer the six smaller fragments to computer-readable form. In addition, printing from a computer tape is now feasible in Iceland, and the printer has expressed interest in our tape for this purpose. Consequently Hans Fix and I have spent the winter and spring transferring the six fragments. Although our fears about the time-consuming nature of the work were borne out, we did not find that we had to enlarge our already existing code system substantially to accomodate the additional manuscript characteristics. Now that the task is completed, we have the entire OI Elucidarius corpus in computer-readable form, and this must be seen as an advantage, both in terms of consistency for the project and in terms of providing a complete tradition for those who wish to undertake an examination of the material.

One issue I would like to bring up for discussion in connection with my remarks above is the problem of codes. Our code has been developed at the University of Minnesota for use with medieval manuscri and is chiefly distinguished by a combination of non-alphabetical graphs (such as " or =) and a letter to mark the specific manuscript characteristic (a ligature, dot above a letter, abbreviation, etc.)

with a number to indicate where in the word this characteristic appears. This string of additional information is then placed after the word in question. The advantage of our system is that the individual word can be read more easily in the encoded version; the disadvantage, as it was pointed out to me in Iceland last summer, is that it may be more difficult for a programmer to work with a code string that follows the word and contains instructions about letters and abbreviations found within the word than with a code that directly follows the graph it describes. Another alternative might be the system used by Hans Fix which utilizes two lines. The individual word is kept intact, and the code, which is reduced to simple numbers, appears under the graph it describes. In any case, we should devise a standard code that can be easily used by editors and programmers and easily read by scholars who use the encoded transliterations for linguistic or literary analysis.

A second issue I wish to raise, and one that is of major concern to me and my coeditor Evelyn Firchow, concerns the future direction of computer-aided text editing. The question is what kind of editions will we produce? In his 1984 article "Production and Usage of a Machine-Readable Manuscript: A Report on the Saarbrücken Version of Grágás Konungsbók"(in Computer Applications to Medieval Studies, ed. Anne Gilmour-Bryson) Hans Fix reminds us of Konráð Gíslason's prescription of over a century ago that Old Icelandic text editions should be of two types: facsimile prints for philologists and linguists and text-immanent normalizations for ordinary readers. Fix points out that Gíslason's ideas have not borne fruit. Text-immanent normalizations required too much of the ordinary reader, especially the non-Icelandic reader, and could not compete with the texts that adopted

the artificial "norm" of Old Icelandic. Facsimile prints were never really feasible because of the cost and difficulty in editing and printing, and the task of preserving texts in facsimile was later very sensibly taken over by the photographer. Indeed, aside from Gíslason's own experiments, Fix mentions only one edition that qualifies as a facsimile print, Verner Dahlerup's 1880 edition of Ágrip af Nóregs Konunga Sögum. In spite of what one might consider to be the obvious advantages of the photographic facsimile, Fix suggests that Gíslason might still have recommended the facsimile print. Here a trained scholar has been at work on the text, removing such aggravations to the reader as fading, stains and general darkening, peculiarities of the scribal hand and holes or imperfections in the manuscript which in a photograph might well be confused with scribal marks.

For various reasons, such as cost, technical problems, difficulty for editors and printers, decisions to provide texts that conform to one orthographic standard to facilitate ease of reading, etc., we have rejected Gíslason's ideas and limit ourselves to three kinds of editions: photographic facsimiles, for those to whom the exact personality of the manuscript with all its nuances are important; normalized editions, which are far from being text-immanent normalizations, for the "general public," as Gíslason puts it; and the so-called "diplomatic" editions, which occupy some middle ground between complete facsimile and complete normalization and attempt in varying degrees to represent the orthographic features of a given manuscript. In some cases they may be very similar to text-immanent normalization. These latter are the editions used by scholars who want a text easier to read than the actual manuscript, but who are interested in knowing more about the orthographic system of that manuscript than a normalized edition could tell. They can be called graphemic transcriptions.

In the above-mentioned article Hans Fix suggests that the new omputer technology in text editing enables us to produce a type f diplomatic text which is very close to the previously impractical acsimile print and from which such a print may be produced. The achine-readable transliterations of original manuscripts that several f us have already prepared make possible both an unambiguous reestablish-ent of the original to the graphetic plane and the compilation of arious kinds of data lists. With the use of a programmed plotter he graphetic transliteration can be turned into a facsimile print, nd the end results of this process can be viewed in the new edition f Möðruvallabók which the Arnamagnaean Institute in Copenhagen is ublishing. The programmed plotter has also been used to produce he final text in the Elucidarius project; however, our goal was rather o generate a highly accurate diplomatic edition from our translitera-ion. When the Elucidarius project was begun many years ago, Evelyn irchow clearly envisioned the potential of the computer technology or the production of graphetic transliterations from which one could evelop more accurate diplomatic texts, as well as text-immanent ormalizations. During the decade or so that the project has been der way, the technology has developed, and now it is quite feasible or our publishers of medieval Nordic texts, the Arnamagnaean Institutes Copenhagen and Reykjavík, to produce a fuller range of text editions, ncluding the kinds that Konráð Gíslason recommended so long ago.

Although the technology for computer-aided editing and printing available and several pilot projects are in progress or near com-letion, the decision still rests with the editorial boards of these nstitutes as to how fully the new possibilities will be realized, ow much encouragement will be given to scholars interested in beginning

computer-aided editing projects. It is urgent that editor and publishe negotiate and set the scope and design of the project at its inception so that the work can be carried out in a consistent fashion. The decision of the institute in Copenhagen to open a new series and publish the Möðruvallabók and its dictionary as the first two volumes in the series is an announcement of their interest in the new technology and constitutes a step vital to the future of text editing. The nature of the project they have chosen to launch their new series provides indisputable proof of their commitment; the Möðruvallabók edition is a facsimile print, which reproduces the manuscript with all of tis abbreviations exactly, and thereby utilizes the technology to its fullest extent. The Elucidarius project should provide the institute in Reykjavík the opportunity to make a corresponding commitment to computer-aided editing technique and presumably without the need to open a new series, since the Elucidarius edition is a more conventional diplomatic edition. However, in spite of the fact that they have had the tape containing the two major fragments for two years and have promised for two years to set a programmer to work on our code and send us samples of the printed text, no progress has been made. This is very disheartening to us as editors and can only be regarded as lack of support for a project we feel has great merit. Progress has also been delayed by a long series of unproductive negotiations between the editors and publishers in an attempt to fit the edition to the current norm of diplomatic editions published in Reykjavík. As a result, a number of changes have been made in the project's original design which compromise its consistency and prevent the text from being as close to a transliteration as possible. Now that the technological resources are avilable in Iceland, as well,

we need a clear statement from the institute in Reykjavík concerning its commitment to this and future computer-aided editing projects. At the very least we can say that computer technology is here to stay and that future editing work will utilize this technology in one way or another. The exciting possibilities for graphophomemic and other types of research (see, for example, Hans Fix's study of word pairs in Grágás and Jónsbók in the Eggers Festschrift) make it imperative that we cooperate to produce highly accurate machine-readable transliterations of the original manuscripts, which can then either be published as facsimile prints, like the Möðruvallabók edition, or be used to generate diplomatic editions, like the Elucidarius edition.

The third issue I would like to address briefly is the editor's relationship to the text and the possible complications that may arise in this relationship when computer technology is utilized. I will assume that a basic prerequisite for the entire editing process is a familiarity with the manuscript and that this familiarity is established when the editor as a first step recreates the role of scribe and copies the manuscript in exact detail. The information gained from this first step allows the editor to proceed with various other processes, such as filling in damaged portions of the text, emending, expanding abbreviations and correcting mistakes, and perhaps also normalizing. My point is that prior to transcribing the manuscript and producing what we have here called a facsimile transliteration, the editor cannot know enough about the personality of the text to carry out the other editing processes. In her article "The Computer in Old Norse Textual Editing," which appeared in the ALLC Bulletin in 1982, Andrea van Arkel discusses the difficulties associated with the traditional manual method and recommends the computer-readable

transliteration as the most accurate base from which to do further editing. However, the material must first be encoded and typed into the computer, tasks which the editor may put in the hands of programmers and assistants, relegating himself or herself to the role of proofreader. At this point the editor can experience a sense of alienation from the text which may have negative consequences for the work. In my own case I have felt less and less in control of the project as the number of assistants has grown. Only by assuming the responsibility of performing all the steps necessary to produce the machine-readable version myself have I been able to reestablish this crucial relationship to the text I am editing. I would suggest that for most of us the computer technology does not only offer possibilities for more accurate editing and data-processing; it also creates new complications since we must now not only relate to the text, but to the equipment we are using. We must know how to command the machines to enter our text, how to avoid losing files, how to work with programmers to get the data we need for our research, etc. In order to derive the greatest possible benefits from computer technology in editing texts, it is essential that the encoded machine-readable transliteration be extremely accurate, for it will be stored and used for further editing and other research on the text. It is therefore at this critical point that I feel the editor must personally undertake all the necessary work and not relinquish it to assistants. Whether we use computers or not, the quality of the final product ultimately depends on how intimately the editor knows the text.

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Evelyn Firchow will serve as discussant for this paper, adding her own remarks to the issues I raise and presenting a report of the state of the project after her stay in Iceland in July.