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The Dead Sea Scrolls: The New Critical Edition and Translation Prepared on Computers

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Readers of *Zeitschrift für Althebraistik* should appreciate hearing that the two volumes of critical texts and translations of all the sectarian Dead Sea Scrolls will be available by the spring of 1993/4. The series of volumes is published by J.C.B. Mohr (Paul Siebeck) in Tübingen and Westminster/John Knox in Louisville. The editor is J.H. Charlesworth; the advisors are F.M. Cross, D.N. Freedman, J. Sanders, and S. Talmon. The series was launched in 1985 at a gathering of internationally recognized experts on the Dead Sea Scrolls. 38 scholars serve as subeditors in the project; most of them are from Germany, Israel, and the United States. A full list of the contents of these volumes, with the names of the subeditors, will be published in a later issue of this periodical.

The Goal of the Princeton Project

The project is preparing critical editions (with translations, introductions and notes) of all the documents among the Dead Sea Scrolls that are not copies of book in the Hebrew Bible. Better photographs have been obtained or taken. On the basis of improved readings a more accurate text, sometimes with an *apparatus criticus*, is prepared. On the basis of the reedited text a literal translation is prepared, with notes to variant readings (sometimes in manuscripts now published for the first time) and to philological observations. A succinct introduction precedes each document.

The First Two Volumes:

Rules I

The first volume is dedicated to the Rule of the Community and related documents.

It includes:

<i>Document:</i>	<i>Subeditors:</i>
Rule of the Community (1QS)	E. Qimron with J.H. Charlesworth
AQ A-J	E. Qimron with J.H. Charlesworth
5Q11	J.H. Charlesworth
Rule of the Congregation (1QSa)	J.H. Charlesworth with L.T. Stuckenbruck
Rule of Blessings (1QSB)	J.H. Charlesworth with L.T. Stuckenbruck
Sectarian Rule (5Q13)	L. Schiffman
Ordinances (4Q159)	L. Schiffman
Rules (4Q513)	L. Schiffman
Purification Rule (4Q514)	J. Milgrom

Rules II

The second volume is focused on the Damascus Document, the War Scroll and other rules.

Damascus Document (CD)	J. Baumgarten and D. Schwartz
4Q Fragments	J. Baumgarten with M.T. Davis
5QD	J. Baumgarten
War Scroll (1QM)	J. Duhaime
1QM 33, 4Q Fragments	J. Duhaime
War-Scroll-Like Fragment (4Q497)	J. Duhaime
Wicked and Holy (4Q181)	J.J.M. Roberts
[E]ternal Fragment (1Q51)	J.H. Charlesworth
Juridical Fragments (2Q25)	J.H. Charlesworth
Judgment Fragment (2Q28)	J.H. Charlesworth

Volume one contains not only the unpublished fragments to the Rule of the Community but a critical text of the major copy of the document, 1QS, with a critical apparatus citing the readings in these fragments.

Preparation and Use of Computers

The Princeton Project is making extensive use of computers at a number of levels. To begin with, all of the best editions of the sectarian texts were entered into the computer. The Ibycus system was chosen for this task because of its on-screen display of Hebrew characters and its ease of screen editing of the Hebrew text.

The entry format chosen allowed us to mark where superlinear insertions belonged in the line. It also saved keystrokes by ignoring line numbers and dispensing with right justification of lines. Since the Dead Sea Scrolls are not vocalized, we were able to use the characters normally used for pointing to indicate scribal and editorial marks that we wanted in the final copy. Our software then reformatted the pages so that they could be displayed on the screen or printed out for proofreading.

The resident capacity of the Ibycus to print Hebrew on either an Epson LQ-850 or an HP Laserjet proved particularly helpful at the beginning. After a while we developed our own downloadable fonts and print drivers in order to be able to print ligatures and other non-standard characters (such as Paleo-Hebrew) that occur in the scrolls. This print driver also allowed us to print the interlinear insertions in a smaller font for easier recognition. Because the number of characters needed was greater than the memory capacity of the Epson printer, we also incorporated into the print driver the ability to use a graphics font. Rarely used characters were graphically created, so the printing was slowed little by this addition. The entered texts could thus be proofread from hard copy in characters that corresponded fairly closely to the printed text from which they had been entered.

The major purpose of the entry of the original publications was the production of a concordance that could be used in further study of the texts, including study by scholars on the project team. It was anticipated that it would be used primarily to identify forms in obscure contexts by comparison with places where they occurred in clear contexts. This proved particularly useful with fragmentary texts. For this purpose we chose to make a concordance of the forms as they are written in the

text, i.e., a graphical concordance. Practically, it meant that lemmatization of the text was not necessary. This concordance was published as the *Graphic Concordance to the Dead Sea Scrolls* (see final section).

Since the scrolls include a number of features that are not found in a normal Hebrew text – such as erasures, delete signs, insertions, and lacunae, as well as editorial marks for uncertain readings and restorations – it was necessary for the project to develop its own concordance program that could account for all of these peculiarities of the text. The concordance program was designed so that deletions or insertions of letters which created new words resulted in concordance of the new words in the context. Whole words that were either deleted or inserted were concordance as separate words in the context. Insertions were marked by pointed brackets in the concordance as well as with italic citations. The latter were used because insertions were often long enough that the whole line in the concordance was an insertion and no brackets were present. Deletions were marked by whatever method the scribe had used originally. Erasures were placed in parentheses. Restorations were limited to completing partial words, and the completed word was concordance. Where no restoration had been proposed, the partial words were concordance. There was a separate section in the concordance for Paleo-Hebrew and the four dots sometimes used by the scribe in place of the divine name. Words with ligatures were placed where they would belong if not ligatured.

A modified version of the font and print driver developed for printing the texts for proofreading was used to print the concordance, using an Epson LQ-1050 printer. This allowed for the inclusion of Paleo-Hebrew as well as the four dots. The modifications included adding a routine to do page makeup in double columns.

The next step of the project was the retranscription and retranslation of the texts. Since the original publications had already been converted to electronic form, it was possible to enter the texts for the new publications as corrections to the earlier texts. Comparison could then be made to check what changes had been made in the text. The software used for printing the original texts for proofreading was used at this stage as well. However, as the publication time came nearer, it was possible to use the new print software developed for publication to print the texts for proofreading.

For the publication of the new transcriptions of the text it was decided that a proportionally spaced font on the HP Laserjet would be much more desirable than the fixed width characters of the Epson printer. The project developed software for designing soft fonts for the HP Laserjet and a print driver for printing the texts with proportional spacing. The font design software actually allowed for the conversion of Epson LQ fonts into HP Laserjet fonts as well as for the modification of characters and the creation of new characters.

The computer will be used at two further steps in the project that we can foresee at this time. The first of these is the preparation of a morphologically tagged Hebrew text that can serve as the basis for a lexical concordance of the new transcriptions of the scrolls. Present plans are to enter the morphological analysis and lemmas by hand into a text structure created by the computer. This plan may change as software is developed so that some automation of the process is possible. This would depend on software that can remember the analysis of forms as it proceeds

and can be taught to recognize when forms are ambiguous. The concordance programs will be modified to take into account the lemmatization and morphological analysis. The concordance printing programs will be modified to work with the HP Laserjet with proportional fonts.

The same process will be necessary to create a concordance of the new English translation of the text, except that the project already has available software for lemmatizing the English. Since the English translations will be printed by the publisher, they will have to be imported into the project computer from the publisher.

Eventually we expect to have all of the texts and concordances available in electronic form to those outside of the project, perhaps with software for searching and exporting portions of the text. We will certainly have this available within the project for work on texts published in the future. Vendors who have software available for searching and displaying the text of the Hebrew Bible may be relied on for the development of these possibilities. We will follow the format of the Westminster project for lemmatization and morphological tagging of Hebrew so that those who have developed software to work with biblical Hebrew from that source can work with these texts as well.

Appreciations

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The Graphic Concordance

The Princeton Project has published one volume already. It is the *Graphic Concordance to the Dead Sea Scrolls* (Tübingen: Mohr [Siebeck] and Louisville: Westminster/John Knox, 1991)

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