Papyrological and Palaeographical Aspects of the Elephantine Documents Ada Yardeni

The corpus of the Aramaic documents from ancient Egypt consists of about 400 intact and fragmental documents written with ink on papyrus as well as hundreds of ostraca, most of them already published. In addition there are a number of documents written on leather, short inscriptions on stone and on wood, engraved tomb inscriptions, graffiti, an inscription on the wall of a cave, short inscriptions on coffins and mummy-labels, and incised inscriptions on metal bowls. Some of the documents have been discovered in the late 19th century but most of the material has been discovered at the first half of the 20th century and single documents and inscriptions came to light later and until recently. Most of the material, which had been discovered in Elephantine and in Saggarah as well as in Abidos and other sites in Egypt, has already been published in several large books and in many articles (see selected bibliography below).

The Aramaic language and script served as the official language and script in the large Persian Empire all along its existence, from the late 6th century to the late 4th century BCE, later splitting into local dialects and script styles. The Aramaic script evolved from the Phoenician script at about the 8th century BCE, i.e., the forms of certain letters in certain regions developed local variants which continued to exist in Aramaic writings, developing into a separate script style.



Aramaic letters of the Alphabet taken from a 5th century BCE deed from Egypt (Cowley 20)

This script is characterized by simple letter forms and by the small number of letter signs in its alphabetic system. It has only 21 signs, each consisting of about 2 or 3 strokes. Hebrew readers have almost no difficulty in identifying the various Aramaic letters, because the Hebrew letters used today evolved from the Aramaic ones. But, if the Hebrew square alphabet has certain letters-signs which resemble each other, such as Bet and Kaf, Gimel and Nun, Dalet and

Aramaic									
(Assyria) 7th cent. BCE	(Lapidary) 4th cent. BCE	5th-4th cent. BCE	3rd cent. BCE						
*	++	***	××						
4	כנ	9	צכ						
^		1	λ ∧						
ч	47	,	ч						
11	ファ	MMA	メメ						
7	٦	1	74						
`	11	1	111						
n	חח	n	пн						
	ь	6	66						
544	22	***	41						
74	7 7 LL	33	77						
L		T	7 7						
77	T)	ורמ	カカ						
1	1	55	7)[
37	ץ	ללל	חח						
	•	7 0	20						
2)	1)	JJ						
٣	ŗ	777	Z						
4	ተ ጉ	P	त द						
4	77	יי	47						
w	VV	v	ゼゼ						
~	Ph	5	ىر ىر						

Resh, Samekh and Mem, and in addition it has five letters of which each has a special final form, in the Imperial Aramaic script, each letter differs from the other except for Dalet and Resh which are usually written identically. The difference between middle forms and final forms of the letter-signs does not characterize this Aramaic

¹ See J. Naveh, *The Development of the Aramaic Script* Jerusalem 1974 (Hebrew).

Relaxed holding of a writing implement resting on the finger's lower phalanx



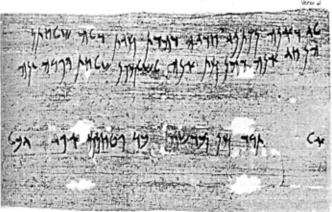
Stabilizing the writing implement by holding it between the tops of the thumb, the index finger and the third finger



Structure of various Aramaic letters

script, although in documents from the second half of the Persian period, such a difference occasionally appears, not only in the four letters





An early 5th century BCE Aramaic letter from Hermopolis, Egypt

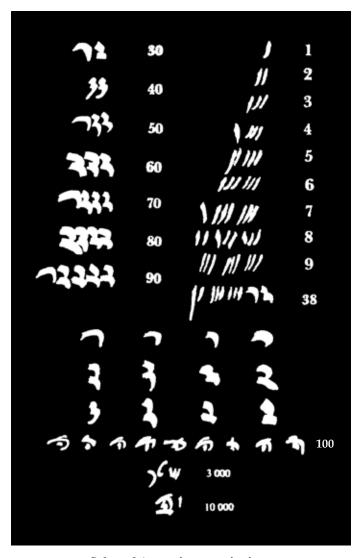
with the long legs (i.e., Kaf, Nun, Pe and Tsadi), but even in letters like Alef, Yod and Lamed. The long letters tended to curve at their bottom toward the following letter in the word, whereas at final position they retained their long form. Most of the Aramaic documents from Egypt were written in a relative large script with no ligatures, leaving a small space between the individual letters and a larger space between words. A reed pen was used for the writing in ink. Its nip was made into a flat brush. It was usually held at an angle to the horizontal imaginary line. Except for single cases, the thickest strokes are those slanting down to the



Handcopy of Aramaic papyrus fragments from Egypt (ca. 410 BCE)

right and the thin ones those slanting down to the left. The thickness of curved strokes changes with the change in their direction. No lines were marked on papyrus sheets or on ostraca, but the letters seem to follow imaginary horizontal lines. Many documents are dated and these enable a tracing of the development of the letter-forms and fixing a relative chronology of the stages of their formal evolution and a conjectural dating of undated documents.

In addition to the alphabetic system of letters there was a system of numeric signs the form



Selected Aramaic numeric signs

of which was also quite simple. The units are written as down-strokes according to their number. A horizontal stroke, which often curves down on its right edge, marked the numeral 10. Two 10-signs written one above the other marked the numeral 20, and then rapidly developed into one sign written with a to-and-fro movement. There was a special sign for 100 and a special sign for 10,000, whereas the number 1,000 appears as a word of two letters - Lamed followed by Pe, designating the name 'thousand'. Units appearing to the right of these signs mark the number of hundreds, thousands and ten-thousands.

In spite of the fact the reading of the Imperial Aramaic script is relatively easy, and in spite of the relative limited word treasure, as well as the fact that the language and grammar were known from the Aramaic chapters in the Hebrew bible, there appeared many wrong readings in the publications of the Aramaic documents from ancient Egypt. Therefore, a new collation of all this material was needed. Almost all the

documents, except for single intact ones, were more or less damaged. Erasures and scribal corrections appear in many of them. During almost a century of research in these documents, experience and knowledge were acquired which enabled corrections and restoration of many of the damaged texts. In the last decades of the 20th century, we published four volumes of these documents, offering hundreds of corrections and restorations.

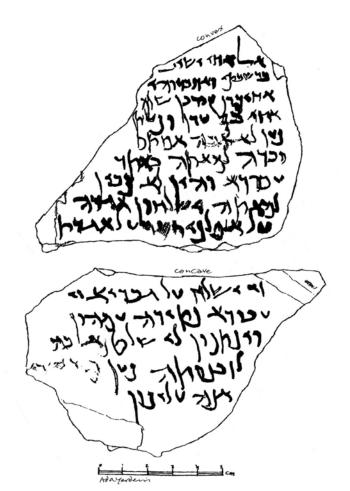
In its early stages, the method we used included the hand copy of the documents from excellent



Reconstruction of a late 5th century BCE Aramaic papyrus from Egypt (Cowley 38)

black-and-white photos and the identifying of problematic readings. Each document has been newly read. In the second stage, we examined the original document wherever it is and made a new hand copy from the original by tracing the text as well as the papyrus lacunae with a Rapidograph on transparent film. This drawing of the documents enabled the tracing of individual strokes and of the remains of damaged letters, thus confirming or refuting the earlier readings. The drawing also enabled a conjectural restoration of the text according to the size of the tear and on the basis of the context and formulae. The drawing also enabled the replacement or the joining of fragments of torn documents when actual papyrological work was not possible, if because the fragments were kept separately in different places or if we were not allowed to do the physical restoration by ourselves. The drawing also enabled the restoration of letters which were hiding inside folds which have not been opened during the restoration work at the laboratories of the museums or libraries which

were holding the documents. The drawing also tries to be a conjectural visual expression of the original appearance of the document and explains the reading corrections. In the final



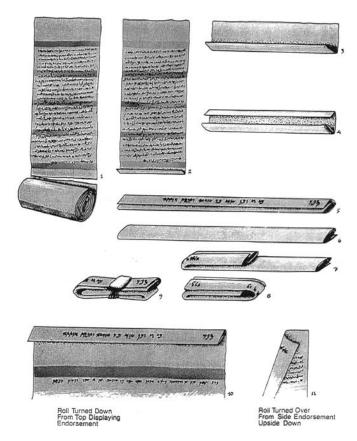
An Aramaic ostracon from Edfu, Egypt (ca. 3rd century BCE)

hand-copy we added papyrological information concerning the measures of the document, the size of the separate papyrus sheets and their joins, the folds and their direction, as well as the direction of the papyrus fibers.

The work with ostraca was less complex, but erased letters or text on the burned clay required the examination of the original since on photos, the spots or holes on the ostracon may occasionally look like ink. Therefore we preferred using color photographs and with the modern digital photographing it is now possible to enhance the colors and the worn out script. This technical development was only in its early stages when we worked on the documents and it is possible that a new examination of some of the documents could yield more corrections.

Following are three examples to our work on the documents written with ink on papyrus.

 $Papyrus\, sheets\, were\, made\, from\, papyrus\, reeds.$

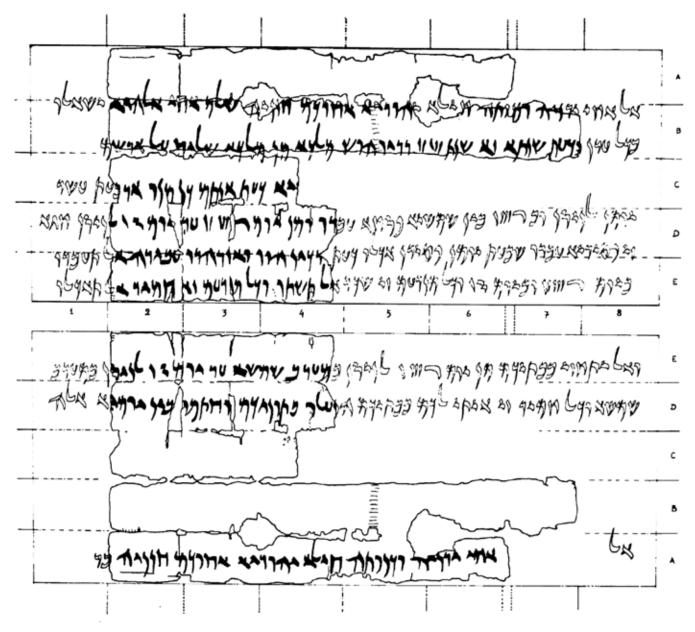


Folding of a papyrus scroll

According to one method², these were cut into long, thin strips and placed one near the other in one direction. On the first layer another layer of strips was placed in perpendicular direction to the first one. The two layers were then pressed together and the sticky liquid excreted as a result of the pressing served as glue and joined the two layers into one sheet. The sheets were then made into a scroll, the wide sides of each sheet overlapping that of another. On one side of the scroll the papyrus fibers ran in the direction of the rolling while on the other they ran across the scroll. In order to avoid the breaking of the sheets, the scroll was rolled parallel to the fibers on the outside. These scrolls were used to write literal texts in consecutive columns perpendicular to the fibers. Lists and long accounts were written in a similar way. For shorter texts or texts of one column, a piece in the required size was cut from the papyrus scroll. Most of the letters and deeds were written in this way, the direction of the written lines was perpendicular to the fibers.

² See Myriam Krutsch und Jörg Graf, Das Papyrusmaterial im Wandel der antiken Welt, in APF 58, 2012, 101-108; Beiheft 24, 2008: S. 71-83 - Falttechniken an altägyptischen Handschriften S. 93-98 - Blattklebungen erkennen und dokumentierenn

Tagungsband zum 1. Internationalen Workshop der Papyrusrestauratoren 2006 in Leipzig.

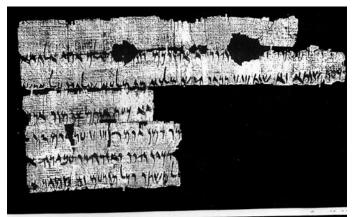


Handcopy and reconstruction of the Passover papyrus from Egypt (late 5th century BCE)

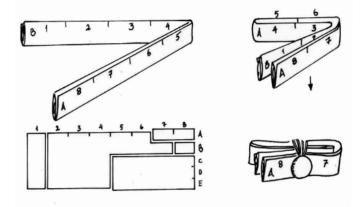
With occasional exceptions, most of the deeds were written on one side of the papyrus sheet while long letters occasionally continued on the back. The documents on papyrus were generally written in black ink.

As an example for a letter which was written on papyrus, one may mention the famous Passover letter (Cowley 21=*TAD* A4.1). It was written in year 5 of Darius II corresponding to 419/8 BCE. By examining the shape and physical condition of the document one may obtain information concerning the way it was folded. The fibers which run parallel on the back of the letter indicate that it was folded horizontally. The direction may be concluded from the width of the horizontal folds, 5 in number, which differ from each other in their size, the lower ones being somewhat narrower than the upper ones, indicating it

was folded from bottom to top. In this way, when opening the letter, its first line was seen first. This conclusion is supported by two holes appearing between the upper fold and the one below it. No such holes appear in the other folds, which were inside. On the back of the document, a single line appears at the bottom. This line is the address. In this case, this line is backing the top of the main text on the other side. This shows that the scribe turned the sheet upside-down in order to write the address. No text is missing at the bottom of the document although the last line is very close to the lower tear. However, there are no remains of letters above the first line on the back, where the scribe left an upper margin, and this shows that apparently nothing is missing at the bottom of the text inside. The two holes which appear on the upper fold, on





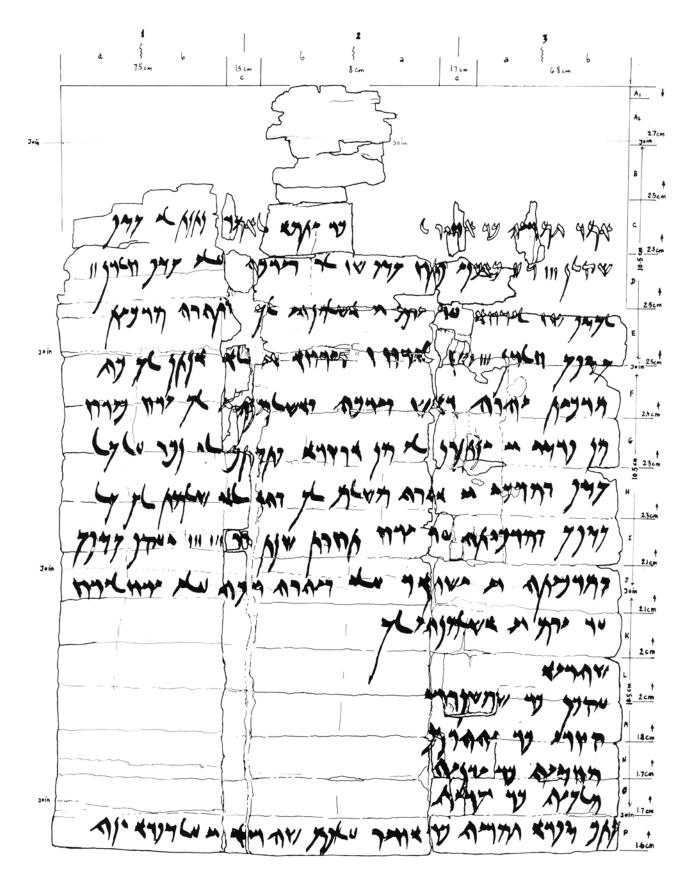


Reconstruction of the folding of the Passover papyrus

the back of the document, look quite similar, indicating that they were created together. When bending the folded document in the middle, the holes appear on the same place on both sides. This indicates that the folded document was folded in two in the middle and that something was pressing the outer folds on both sides and damaged the papyrus. And obviously, a rope was wound around the folded document and sealed in the gap between the now missing word el ('to') and the rest of the address which begins with the word akhi ('my brother'). However, if we fold the document in two, the pressure of the rope would not have been in the place of the holes. Therefore one must conclude that the document was folded into four. Returning to the text inside, we see that text is missing on the left, and mainly in the greeting formula which is known from other letters. The words after the hole in the first line are shelam ekhai elohaiya ('the welfare of my brothers, the Gods[' etc.), whereas the complete phrase would continue with the words yish alu bekol idan (they will seek always'). Since the following line begins with the word *ka^cet* ('Now,') which begins a new sentence, it is obvious that text is missing on the left. If we fold the document in a way that the holes fall together, we see that on the right side of the inner text also a part of the papyrus seems to have been torn away. Most of the scholars who tried to restore this document completed the text on the left. The missing opening words el ekhai ('to my brothers') they placed above the first line, claiming that there are remains of ink there. The restoration we proposed seems to be more convincing. According to it, this letter was composed in a similar manner as other contemporary ones, perpendicular to the fibers on the inside and continued on the back after turning the papyrus upside down. The address was then written at the bottom of the back. It was folded from bottom to top, toward the first line of the main text, then folded in two and again in two, bound with a rope and sealed. Part of the



IR photograph of a 5th century BCE Aramaic deed from Egypt (Cowley 11)

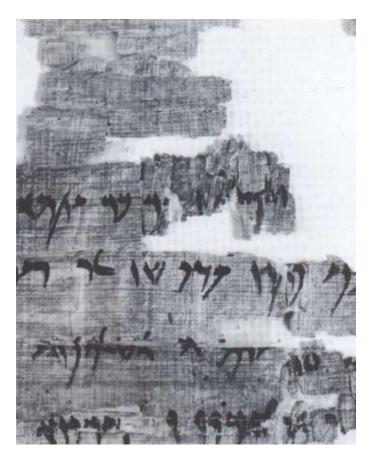


Handcopy and reconstruction of Cowley 11

beginning of the address remained outside. This restoration explains the damages evidenced in this document.

The second example is a promissory note (Cowley 11=TAD B4.2). On first sight one can observe vertical tears running through the

document dividing it into three parts. The tears and the damage at the top of the document, as well as the height of the initial folds, which increases toward the top, indicate that it was first folded from bottom upward, and then folded into three, as was the manner of folding deeds.



Detail of Cowley 11 showing misplaced fragments (in line 1) before restoration

The upper part of the document remained blank in order to avoid the damaging of the text. In many deeds, a written line appears on the back of the second fold from the top designating the kind of the deed. After folding it in three, the document was tied with a rope and sealed with a clay seal. It seems that in our case no such line appeared, perhaps because the debt was to be repaid in monthly payments. This deed is unique also because it does not begin with a date. However, a partial date formula marking the month and the year (without the name of the king) appears in the text concerning the time for the payment. The deed, which looks almost



Details of Cowley 11 showing damaged letters and a partial restoration of letters.



Detail of left vertical fold of Cowley 11 showing misplaced fragments before restoration

intact, was damaged mainly at its top and in the folds. The early restoration of this deed included an erroneous placement of certain fragments. The hand copying of the deed and a thorough papyrological examination enabled the replacement of about ten fragments.

On the basis of palaeographical considerations and the correction of the dating, we were able to move back the conjectural date offered by Cowley from 455 BCE to year 487/6 BCE, corresponding to the last year of the reign of Darius I (522-486 BCE).

Following the new placement of the fragments, we were able to restore the name of the payee - [Gm]ry[h br]hy[w] (Gemariah son of Aḥio), and to reduce the conjectured sum of the loan from 4 to 3 and a half Shekels, and of the monthly interest, from 8 to 7 Ḥallurs (an interest of 2 Ḥallurs for a Shekel, corresponding to 5 percent). In addition, the name of one of the witnesses has been corrected and some textual corrections were made.

Following is a description of the corrections: 4 small fragments which were joined together at the top of the document were separated from each other and replaced: one containing the

letters Resh and Yod of the name Gemariah, the second containing the letters Het and Yod of the name Ahio, the third containing 3 numerical units (rather than the letter Shin suggested by Cowley), and the fourth containing the letters Mem and Resh of the word l'mr ('to say') appearing in line 1. Three more fragments were placed as follows: In the right vertical fold a fragment was placed in line 6 containing the letter Taw of the word yntnwn ('they will give'); two fragments containing the numerals 10 and 20 which belong to line 8 were placed in the left fold; Instead of them, in line 4, the above mentioned fragment with the 3 numerical units has been placed, thus restoring the number of the Hallurs to 7. Accordingly, the sum of the loan has been restored in line 2 to *šqln 3 r 2* (3 Shekels and 2 quarters), fitting the size of the gap. In the left tear in line 4, a fragment which was placed upside-down, containing the tops of Nun and He, has now replaced the fragment with the letters Lamed and Alef in line 5 which was placed now in line 4. In line 15, a fragment with the letters Yod and He, which was placed upside down has been turned back at the end of the name Zkryh. The name of the second witness is Yhhrm (Yehoram) rather than Cowley's Yhhdry. Another correction we made was the turning back of the



Detail of right vertical fold of Cowley 11 showing upside-down fragment before restoration

upper, blank fragments so that the fibers on the inner side (the recto) are now perpendicular to the join of the two papyrus sheets at this place. The joins of papyrus sheets are better detectable on the inner side of the deeds than on the back (the verso) where they are parallel to the fibers.

The third example, which is here shortly discussed³, is a literal text, one of the few discovered in Elephantine, being the fragments of a big scroll. This text is known as the Proverbs of Ahigar. Remains of 14 columns have survived of this text, 5 of them containing the remains of the story and 9 containing the remains of the proverbs. Since its first publication, no convincing answer was given to the question concerning the order of the fragments. None of the many publications of this document gave an answer to this question. The known versions of the Ahigar story in other languages, such as Syriac and Armenian, differ from the Aramaic version and could not help in the restoration of the scroll.

While preparing the third volume of the TAD4, I made a hand copy on transparent film of the fragments and text which are located in Cairo and in Berlin. The text of Ahigar is written over an earlier, erased text which has never been published. This text is so faded and damaged that scholars refrained from trying to read it. I suggested to try and copy the text with the hope that it would solve the problem of the order of the Ahigar columns. The results of this painstaking work were far more astonishing than expected. 40 columns of an erased customs account have been discovered and deciphered, out of 60 columns which covered both sides of the original scroll (parts of which have not been found), thus being the longest Aramaic text ever surviving. The restoration of the scroll indicates that it was about 7 meters long. The text of the customs account revealed a unique historical picture concerning the maritime trade and the complex method of the Persian royal accountancy and collection of customs in the early 5th century BCE. The account contains remains of the monthly collection of customs from Greek and Phoenician ships, which were

³ See a detailed discussion in my Article 'Maritime Trade and Royal Accountancy in an Erased Customs Account from 475 B.C.E. on the Ahiqar Scroll from Elephantine', *BASOR* 293 (1994), 67-78.

⁴ B. Porten and A. Yardeni, *Textbook of Aramaic Documents from Ancient Egypt*, vols. 1-4 (Jerusalem 1986-1999).

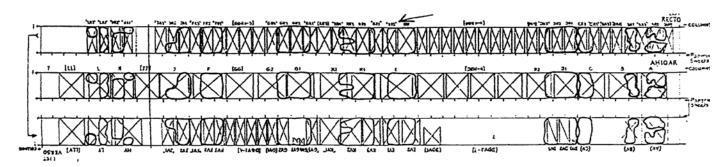
- .79 אף לאלהן יק[י]רה הי ענ[[00000] ל [00] מלכותא בשמ[י] שימה הי כי בעל קדשן נשא[ה]
 - 80. ברֹנין אל תלנוןט יומא עד תחזהֹנ לין לה
- .81 אול ותאתה על כלך כזי ככל אתר עונין הם ואדניהם לות פמך אשתמר לך אל יהוה טרפי [הם]
 - מן כל מנטרה טר פמך ועל זי שנמעת והוקר לבב כי צנפר הי מלה ומשלחה גבר לא לבֹנכן. 8:
 - 83. מ[0]י אחדי פמך אחרי כן הנפק[מלה]ך בערך ה כי עזיז ארב פם מן ארב מלחם
 - 84. אל תכסה מלת מלך רפה תהוין ללב]בר רכיך ממלל מלך שדק ועזיז הו מן סכין פמוֹ[ן
 - 85. חזי קדמתך מגדעם קשה[על]אנפי מ[ל]ך אל תקום זעיר כצֹפֹה מן ברק אנת אשתמר לך
 - .86 אל יחונהי על אמריך ותהך [ו]לא ביומיך
 - 87. [חזי ט]בֹת מלך הן פקיד אשה יקדה הי עבק עבדהי אל תהגשק עליך ותכסה כפיך[?]
- 88. [א]ף מלת מלך בחמך לבבא 🕂 [מ]ה ישפטון עקן עם אשה בשר עם סכין איש עם מֹ[לך]
 - פ8. טעמת אנועררתא מררתא ו[טעמ]א חסין ולא איתי זי [מ]ריר מן ענוה רכיך לשן מ[⁷ן מ
- 90. ועלעי תנין יתבר כמותא זין ל]א מתחזה 🕂 בשגיא בגן לבבך אל יחדה ובזעריהם (אל יאבל
 - .91 מלך כרחמן אף קלה גבה ה[ו]מן הו זי יקום קדמוהי להן זי אל עמה
 - 92. שפיר מלך למחזה כשמש ויקיר הדרה לדרכי ארקא בניח[ג'ן]
 - .93 מאן טב כס[י] מלה בלבבה והו זֹנִי ותביר הנפקה ברא
 - 94. אריא אזל קרב לש[לם חמרא]לם שלם יהוי לך ענה חמרא ואמר לאריא[

77. עון C. (L) עוד לעולמן להן 88. תלון שיומא (C96 (Sachau) תובוש יתרא: תחזה לילה C. (L) תחוה (כל C. (L) עוד לעולמן להן 80. תלון שיומא (C96 (Sachau) לובה C. (L) להן C. (L) שרק C. (L) שרק C. (L) ישרק C. (L) ישרץ C. (L) ישרץ C. (L) ישרץ C. (L) ישרץ C. (L) אל תהן שע C. (L) אל תהן שע C. (L) בחמר C. (L) בחמר C. (L) אל זעררתא ועררתא C. (L)

88. [אור 2012 (כל מולה: 80 [כל מולה: 30 [כל] 38 [מ]ה (ווה 30 [כל] 38 [מ]ה (ווה 30 [כל] 38 [מ]ה (ווה 30 [כל] 39 [כל] 38 [מ]ה (ווה 30 [כל] 39 [כל] 38 [מ]ה (الم 30 [כל] 39 [כל] 38 [מ]ה (الم 30 [כל] 39 [مرة] 39 [



Text and handcopy of fragment E of the 5th century BCE Ahiqar text from Elephantine



I

E recto

- ו AMDIO משחא | זי אשתכח ב[ה משח חמוש 1. [מנת משחא] זי אשתכח ב[ה משח חמוש
- ער ע ער ייע עביר על בית (מל)כאן כסף ט שע חרש ער ער ער ער ער נמל) .2
 - 3. [ח]מר כֿנֹדֹן[דּ / ופּ]לג
 - .. (משוה ספן [ער] עוֹ עני ופולג
 - .5 [עק סמכת /]
 - 6. סֹפֹן ריקנן הר בנו זילא ספיתן ר
 - 7. כל מנדתא ואחרן זי גכי מנה [ועביד ע]ל כנית מל]כא
 - 8. ז[ה]ב סתתרן רע לזהב כרשו ח [עו עו]
 - פ. [כ]סף כרשׁן לֹּלִר [ש] ש∨חֹר (ב) ני
 - 10. (חמר)ספן רו ופלג
 - וו. [משת ס]פן עו עו עו כ ט ב לע
 - 12. [עק סמכת \]
 - 13. [ס]פן[ריקנן דר כ]ג[ו זילא]ס[פי]חן[ר]
 - 14. [כ] או או לפותנס בקרו למצרין
 - 15. [ס]פינה (ו זי] ספנות ס (בר יוני פסלרשי)
 - 16. [ס]פינה[۱]רכה הי לקכל משחתה
 - 17. משח(א)זי אשתכת בה משח סֹפֹן רֹ(רֹר)
 - 18. מנדת[א]זי גבי מנה[ועביד ע]ל בֹנְיֹּןחֹן מלכאן
 - 19. זהב [ס]תתרן ר[ו] לנזהב כרשוח שוע
 - 20. כסף כרשן ללל מל (1) לי)
 - 21. מנת משח(א ז]ין א]שתכ(ח)בה משנח וחמושנ מעןשרנ ?
- 22. כֹסף גֿבֿר[יא זי עביד ע]ל ביח מןלכא כסף ש ש]V ו עוֹנען רוֹן עוֹני ודוֹנב סת]חׁ[ר]ן רוֹל לזהב כר[שות שש] 23. זהן בנון היוֹלנרן היו עלג 23. המר בֿנֹרַן היו ופלג

- COLUMN 2
- ו. משח [ספן ש ש] ש ופלג
 - נ. עלק[סמכת ו]
- בון זילא וספיתון רוב בנון מילא וספיתון רוב.
- כל מנדתא ואחרן זי גובןי מנהן ועביד על בית מלכאן .
 - ו. זהב סתתרון ר שע לוהב כרש ו חן ש שן
 - 6. כסף כרשן [דר]ר שעו[עחושע]
 - ז. [חמר כנדן]ל[/ ופלג]
 - 8. משח ספן ור רב (ע)
 - 9. עק [סמכ]ת ו
 - 10. ספון דיקנ]ן דר בגו זילא סֹ[פיחן ר]
 - 11. בר (לפת)נס בקרו למצרין
 - 12. ספינה זו זי פון זהלן כר מסכסן יוני פסלרשין
 - בו. טובינו זו ויכן זוין בו בוטבי
 - 13. אפֿ[ות כחמוש]סֿפֿינֹה רבֹה[הי]
 - 14. מנדתא זי גכי מנה ועביד (על ביה מלכא)
 - והב] סתת[ר]ן ר לזהב ש ש ש (ע חרשע). 15.
 - 16. כסף כרשן ר ח ער ע
 - 17. [ברשי]לפחנם בקרו למ[צרין]
 - 18. [ספי]נה ו [זי] סססס בר ארגל[ס יוני פסל בשי]
 - 19. ספינה ו [רב]ה הי לקבל מֹ[שחתה]
 - 20. משחא (זי אש)חֹ(כ)ח בה מֹ(שח ספן ררר)
 - 21. מגרתא ז[י]גבי מנה זעב[יר על בית מלכא]



sailing to Egypt and back in a ten months sailing season (avoiding sailing in the winter months). The Import list into Egypt contains about 20 items for which customs were collected from the ships. These include silver and gold, Greek wine and Phoenician wine, empty jars, oil, copper, two kinds of iron, zinc, wool from various places, clay (called *tyn*), and various kinds of wood as well as oars. In the Export list only one item appears which was exported from Egypt only in the Greek ships. This was Sodium. The names of the months appearing in parallel lists on both

sides of the scroll, and the order of the incoming and outgoing ships appearing in parallel lists of import and export enabled the arranging of all the columns of Aḥiqar.

The width of the papyrus sheets, and the repetition of similar formulae, as well as the calculation of the customs collected for the various goods and its comparison with the total sum surviving almost intact at the end of the list, enabled also the estimation of the width of the missing fragments and thus that of the measurements of the missing and damaged

19 L	nian Ships arge	Total Sidonian Ships	Athyr nnnn	Choiak כיחך	Tybi תעבי	Mehir מחיר	Phamenoth פמנחתף	Pharmuthi פרפותי	Paḥons oato	Paynt date	Epiph 70X	Mesore doing	ס"ה ספינות צירוניות	ינות יווניות	
42 = $\frac{17}{36}$	wr +	3 fyry	3 4 4 4	3 25 4016	3 LE XOLL	3 LEE 8014	4 LE XOLK	4 LEE XOLE	2 LEE XOLL	15/5/	9 15 X X X	6 2 2 2	א א א א א א א א א א א א א א א א א א א	19 at 17 m 36	27 DX - 42
Commodities Taken as Duty and Tithe	Total Duty and Tithe	Single Ship	ogue, 1	rargo	Large	1 7 Large	3 1	Large	3 2	1 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	81 1 2 1 2 2 1 2 2 1 2 2 2 2 2 2 2 2 2 2	2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	נתונים לספינה בודרת	ס"ה מנדתא ומעשרא	צרכים שהופרשו מהם מנדתא ומעשרא
	398 Staters	Large = 12 Staters *swt = 10 Staters	12-20-32	12+20-31	24+10-34	12+20-52	36+10-46	36+10-46	36+20-56	12+30-42	24+10=34	24+20-44	רבה • סתתרן 12 אסות • סתתרן 10	סתתרן 398	
Gold	33k, 5š, 9ḥ	Large = 1 k, 6 h	70 0 36 6 2	7 € 3 36 6 2	n ♥ ⊃	n 0 0	n v 5	n v 3	18 7 4	h w 0	h v 3 27 8 2	7 7 3 2 7 3	רבה - כרש 1 66 אסות - שא 150	9158333	זהב
Silver		Large = 50 k, 12 h, 2 q	7 H 2	7 N 2 2 17 70	7 h 3 2 27 110	7 N 2 2 17 70	7 3 1 160	U 3 1 160	7 NW 3	n 3 20 80	7 N 3 2 27 110	n 3	רבה -כ 50 מון רב 27 מות-כפו מון רב		ηοο
Silver of the Men		Large = 5 3, 15 h, 2 q G = 1 k, 2 3, 3 h 3 k, 6 3, 12 h	7 n v 2 15 5	ם ח ר 2 15 5	n 3	7 h w 2 15 5	7 n v 2 2 6 6 1	7 n w 2 2 6 6 1	7 N V 5	1 1 0 2 1276 3 215 5	1276 3 31 1	n w 3 1216 3 31 1	רבה - של חלו רב אי כו שב חנ		כסף גבריא
Total Silver	1,136+? karsh		n ♥ ⊃ 33 5 70	пр э 33 5 70	7 N W 2 2 18 1 111	n tr 3	7 87 3	7 NW 3 2 6 7 161	n w ⊃ 23 7 171	1 m v 3 2 7 2 84	7 N W 2 2 36 7 114	N 0 3	או:כנ ש6 חבר	כרסן 1+1,136	ס"ה כסף
Ionian Wine	408) Jars	Large = 211 Jars	211	211	45	21 1	641	64]	641	211	43	43	רבה • כנרן 112	408½ JIID	חמר יון
idonian Wine Year 10	257 Jars	= Variable								110	102	45	עא - מְשתנה	כנדן 257	זר צירנין שנת 10
Silver of the Men	46 Jats	"= 15 Jars								15}	15}	15]	15] אי בנדן (xy	46 [113]	כסף גכריא
Total Year 10	303 Jars								2	125}	1174	601		303 1732	ס"ה שנת 10
idonian Wine Year 11	182½ Jars	Syry = Variable					-		-		143	39].	שירי • משתנה	כנדן וֹנִצוּ	ר צירנין שנת 11
Silver of the Men	25½ Jars	šyry = 8½ Jars									17	8).	סירי - כנרן 81	מנדן בנסו	כסף גבריא
Total Year 11	208 Jars	77						-	,		160	48	21 1122 - 170	208 1732	ס"ה שנת 11
Total Sidonian Wine	511 Jars	-		-		_					100	48			ס"ה חמר צירנין
Total Wine	9191 Jars		-	-					_					כנרן 511	
Oil		I and a filt of												כנדן לַּפָּופ	ס"ה חמר
	195 Bowls	Large = 91 Jars					-						רבה - ספן ופ	סמן	משה
Oil + ḥmwš		93, 15 yw or 104	15 7 ,93	15 17 ,93	12 1 ,193	15 1 .93	[1+]295	[1+]29}	[7+]29}	101	12 17 .19‡	12 P ,19}	ין 15 או: 10ן 15 אַרָּיָּ	195	משה חמוש
	2,100 karsh	<i>Syry</i> , " = Variable		1						1,000	1,100		שירי, עא - מְשתנה	2,100 כרשן	נחש שלמוא
sny-iron	1,000 karsh	· = Variable								-		1,000	עא - מְשתנה	1,000 כרשן	מרול מני
pk/n-iron	4,100 karsh	(> = Variable									2,100	2,000	עא • מְשתנה	4,100 כרשן	פרול פכרן
Total Iron	5,100 karsh	() = Variable									2,100	3,000	עא - משתנה	5,100 כרשן	ס"ה פרול
Tin	200 karsh	fyry = Variable							1		200		שירי - משתנה	ברשן 200	Ł DK
												2,100	עא - משתנה	2,100 כרשן	קמר כפר צע
Wool of Kefar St	2,100 karsh	(> = Variable													
Wool of Kefar St Wool of Kefar n	2,100 karsh 715 karsh	3yry = Variable									715	1.45	שירי - משתנה	כרשן 715	קמר כפרן
	-,					t					715			כרשן 715	קמר כפרן עקי אכרֿםך
Wool of Kefar n	715 karsh	šyry = Variable				r							שירי, עא - מְשתנה	כרשן 715 כרשן 900	
Wood of 'kfpk	715 karsh 900 karsh	šyry = Variable šyry, (*) = Variable (*) = Variable ?				t				,	900		שירי, עא - מְשׁתנה עא - מִשׁתנה ז	כרשן 715 כרשן 900 ז	עקי אכרםך ז
Wool of Kefar n Wood of *k*pk [?] Clay of *Inw*	715 karsh 900 karsh ?	šyry = Variable šyry, (*) = Variable (*) = Variable ? šyry = Variable				r				,	900		שירי, עא - מְשׁתנה עא - מְשׁתנה ז שירי - מְשׁתנה	715 CT 71	עקי אכוֿמן ז טין שמוש
Wool of Kefar →n Wood of 'kfpk [?] Clay of šmwš Cedarwood BOARD	715 karsh 900 karsh ? 600 karsh 50	3yry = Variable 3yry, O = Variable O = Variable 3yry = Variable 3yry = Variable 3yry = Variable								,	900 600 50		שירי, עא - מְשׁתנה עא - מְשׁתנה שירי - מְשׁתנה עא - מְשׁתנה	715 CT 71	עקי אכלפך ז מין שמוש עק ארז מלות
Wool of Kefar n Wood of 'k*pk [?] Clay of *Inw* Cedarwood BOARD Cedarwood BEAM	715 karsh 900 karsh ? 600 karsh 50	Syry = Variable Syry, \(\cap = \text{Variable} \)								,	900		שירי, עא - מְשׁתנה ני עא - מְשׁתנה ני שירי - מְשׁתנה עא - מְשׁתנה עא - מְשׁתנה עא - מְשׁתנה	715 (CT 715 (C	עקי אכרֿמך ז טין שמוש עק ארז מלות עק ארז מי
Wool of Kefar n Wood of *k#pk [?] Clay of *#nw# Cedarwood BOARD Ccdarwood BEAM Ccdarwood PLANK	715 karsh 900 karsh ? 600 karsh 50 5	\$yry = Variable \$yry, \(' = \text{Variable} \)? \(' = \text{Variable} \)? \$yry = \text{Variable} \(' = \text{Variable} \) \(' = \text{Variable} \) \$yry = \text{Variable} \$yry = \text{Variable}								,	900 600 50	55	שירי, עא - מְשׁתנה ז נא - מְשׁתנה ז שירי - מְשׁתנה עא - מְשׁתנה עא - מְשׁתנה עא - מְשׁתנה שירי - מְשׁתנה	715 (CT) (CT) (CT) (CT) (CT) (CT) (CT) (CT)	עקי אכרֿפך ז טין שמוש עק ארז מלות עק ארז סי עק ארז סי
Wool of Kefar ••n Wood of *k#pk [?] Clay of *fmw# Cedarwood BOARD Cedarwood BEAM Cedarwood PLANK Cedarwood Pfffy	715 karsh 900 karsh ? 600 karsh 50 5 53	\$yry = Variable \$yry,** = Variable ** = Variable ? \$yry = Variable ** = Variable ** = Variable \$yry = Variable \$yry = Variable \$yry = Variable									900 600 50 5	55 24	שירי, עא - מָשׁתנה עא - מָשׁתנה שירי - מָשׁתנה עא - מָשׁתנה עא - מָשׁתנה שירי - מָשׁתנה שירי - מָשׁתנה שירי - מָשׁתנה	715 715	עקי אכרֿפך ז טין שמוש עק ארז מלות עק ארז סי עק ארז פק עק ארז פק
Wool of Kefar "n Wood of 'kfpk [7] Clay of Inim's Cedarwood BOARD Cedarwood BEAM Cedarwood PLANK Cedarwood PANK Old OARS	715 karsh 900 karsh ? 600 karsh 50 5 53 24	\$yry = Variable \$yry,** = Variable ** = Variable ? \$yry = Variable ** = Variable ** = Variable \$yry = Variable \$yry = Variable \$yry = Variable								1	903 600 50 5	53 24 1	שירי, עא - מְשׁתנה ז נא - מְשׁתנה ז שירי - מְשׁתנה עא - מְשׁתנה עא - מְשׁתנה עא - מְשׁתנה שירי - מְשׁתנה	715 715	ז טין שמוש עק ארז מלות עק ארז סי עק ארז מק עק ארז מעמי לקן עתיקן
Wool of Kefar "n Wood of 'kefpk [7] Clay of Inius! Cedarwood BOARD Cedarwood BEAM Cedarwood PLANK Cedarwood PLANK Old OARS New OARS	715 karsh 900 karsh ? 600 karsh 50 5 53 24 3	\$yry = Variable \$yry,** = Variable ** = Variable ? \$yry = Variable ** = Variable ** = Variable \$yry = Variable \$yry = Variable \$yry = Variable									900 600 50 5	55 24	שירי, עא - מָשׁתנה עא - מָשׁתנה שירי - מָשׁתנה עא - מָשׁתנה עא - מָשׁתנה שירי - מָשׁתנה שירי - מָשׁתנה שירי - מָשׁתנה	715 pro 715 pr	עקי אכלפך ז טין שמוש עק ארו מלות עק ארו סי עק ארו מק עק ארו מקטי עק ארו מעטי לקן עתיקן לקן עתיקן
Wool of Kefar "n Wood of 'kefpk [7] Clay of Inins! Cedarwood BOARD Cedarwood BEAM Cedarwood PLANK Cedarwood PLANK Oddarwood PLANK New OARS Total OARS	715 karsh 900 karsh 7 600 karsh 50 5 24 3 50 53	\$yry = Variable \$yry, " = Variable ? " = Variable ? \$yry = Variable " = Variable " = Variable \$yry = Variable \$yry = Variable \$yry = Variable \$yry = Variable									903 600 50 5	53 24 1	שירי, עא - קשתנה ז קשתנה ז שירי - קשתנה קא - קשתנה קא - קשתנה שירי - קשתנה שירי - קשתנה שירי - קשתנה שירי - קשתנה	715 715	עקי אכלפך ז טין שמוש עק ארז מלות עק ארז מי עק ארז פק עק ארז פעמי עק ארז פעמי לקן עתיקן
Wool of Kefar "n Wood of 'kefpk [7] Clay of Inins! Cedarwood BOARD Cedarwood BEAM Cedarwood PLANK Cedarwood PLANK Oddarwood PLANK New OARS Total OARS	715 karsh 900 karsh ? 600 karsh 50 5 53 24 3	\$yry = Variable \$yry,** = Variable ** = Variable ? \$yry = Variable ** = Variable ** = Variable \$yry = Variable \$yry = Variable \$yry = Variable	1	1	3	1	3	3	3		903 600 50 5	53 24 1	שירי, עא - קשתנה ז קשתנה ז שירי - קשתנה קא - קשתנה קא - קשתנה שירי - קשתנה שירי - קשתנה שירי - קשתנה שירי - קשתנה	715 pro 715 pr	עקי אכליםך ז טין שמוש עק ארו מלות עק ארו מי עק ארו מי עק ארו מק עק ארו מעמי לקן עתיקן לקן עתיקן
Wool of Kefar "n Wood of 'kefpk [7] Clay of Inins! Cedarwood BOARD Cedarwood BEAM Cedarwood PLANK Cedarwood PLANK Oddarwood PLANK New OARS Total OARS	715 karsh 900 karsh 7 600 karsh 50 5 24 3 50 53	\$yry = Variable \$yry, " = Variable ? " = Variable ? \$yry = Variable " = Variable " = Variable \$yry = Variable \$yry = Variable \$yry = Variable \$yry = Variable	1	1	3	1	3	3	3	1	900 600 50 5	55 24 1 20	שירי, עא - קשתנה ז קא - קשתנה ז שירי - קשתנה עא - קשתנה קא - קשתנה שירי - קשתנה שירי - קשתנה עא - ב	רשן 715 900 ברשן 900 7 600 כרשן 600 50 5 5 24 3 50 53	עקי אכלפך ז ניין שמוש עק ארז מלות עק ארז פיי עק ארז פיי עק ארז פק עק ארז פעמי עק ארז פעמי לקן עתיקן לקן עתיקן לקן הרתן עק סמכת
Wool of Kefar "n Wood of Kefar "n (?) Clay of Iminif Cedarwood BOARD Cedarwood BEAM Cedarwood PLANK Cedarwood PLANK Cedarwood PIANK Cedarwood PIANK Total OARS Total OARS Wooden SUPPORT	715 karsh 900 karsh 7 600 karsh 50 5 24 3 50 53 19	\$yry = Variable \$yry,** = Variable ** = Variable ? \$yry = Variable ** = Variable ** = Variable \$yry = Variable \$yry = Variable ** = 1 \$yry = Variable Large = 1	1 50	1 50	3	1	3	3	3	1	900 600 50 5	55 24 1 20	שירי, עא - קשתנה קא - קשתנה ז שירי - קשתנה עא - קשתנה קא - קשתנה שירי - קשתנה שירי - קשתנה עא - ז שירי - קשתנה עא - ז שירי - קשתנה דרי - קשתנה	715 Cru 217 Cru 217 Cru 217 Cru 217 Cru 217 Cru 217 Cru	עקי אכליסך ז עק ארו מיו שמוש עק ארו מלות עק ארו סי עק ארו מק עק ארו מק עק ארו מעמי עק ארו מעמי לקן עהיקן לקן תהתן עק מסכת
Wool of Kefar "n Wood of Kefpk [?] Clay of Intel® Cedarwood BOARD Cedarwood BEAM Cedarwood PLANK Cedarwood PLANK Cedarwood PIANK Odd OARS New OARS Total OARS Wooden SUPPORT Total Wood	715 karsh 900 karsh 900 karsh 2 600 karsh 50 5 53 24 3 50 53 19 204	\$yry = Variable \$yry, ** = Variable ** = Variable ? \$yry = Variable ** = Variable ** = Variable ** = Variable ** = Variable \$yry = Variable \$yry = Variable \$yry = Variable \$yry = Variable Large = 1								1	900 600 50 5 5	55 24 1 28	שירי, עא - קשתנה ז קא - קשתנה ז קירי - קשתנה עא - קשתנה קא - קשתנה קא - קשתנה קא - קשתנה קא - קשתנה עא - נא -	715 204	עקי אכלפך ז נין שמוש עק ארו מלות עק ארו מי עק ארו פי עק ארו פק עק ארו פעמי עק ארו פעמי לקן עהיקן לקן מהתן לקן מהתן עק סמכת ס"ה עקן ממנין

Chart showing the ships and goods in the reconstructed text of the Customs Account from Elephantine