ܣܪܛܘ *Serṭo* – a font for Syriac (Aramaic)

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Contents

1 Introduction

Serṭo is a form of the alphabet used for Aramaic (a western semitic language) which has been spoken in the Near East since at least 1100 BC. More precisely, Serṭo is used for Syriac which is the variant of Aramaic spoken since the second century AD.[1]

Syriac used other alphabets as well, notably *Esṭrangelo*, which is indirectly contained in this package (for use with XeLaTeX only, see below). Since Serṭo is, as the Arabic alphabet, a syllabic script, vowels are marked by diacritic marks above (or under) the consonantic letters. Modern forms of Aramaic still use either Serṭo, the Chaldean alphabet or Esṭrangelo. Since Syriac split up in two main dialects in the fifth century AD, two differing systems of vowel-marking were established: Whereas the western dialect (Edessean) used Greek letters as vowel symbols, the eastern dialects uses dots to indicate the vowels (Chaldean vowels).

This package enables you to typeset words or paragraphs in Serṭo using a preprocessor which chooses the correct letter form depending on context. In order to typeset paragraphs the use of a recent version of pdfLaTeX is needed, which can handle the right-to-left typesetting. For older version of LaTeX, the preprocessor must be used with the option `-o` (see section 3).

This package also includes an adapted version of a Chaldean font (thanks to Tony Khoshaba, who put this font to the Web).

In order to use the Esṭrangelo alphabet, you have to use XeLaTeX instead of pdfLaTeX, and install the font *Estrangelo Edessa*. For copyright reason, this font cannot be included in this package[2]. The support for Esṭrangelo is still experimental.

2 The alphabets

Every letter in Serṭo (and some letters in the Chaldean alphabet and Esṭrangelo) has several forms, depending on its position in the word: An initial, medial or final form. Since some letters do not connect to the following letter, there are isolated forms as well (i.e. a letter which is not connected to the right nor the left). The coding column in the following table refers to

[1] See Ungnad 1932, Brockelmann 1960, Costaz 1986 or Nöldeke 1986f (English translation Nöldeke 2001) for further information on Syriac.

[2] The font can be easily found on the Web, or downloaded at `https://fontzone.net/download/estrangelo-edessa`

the preprocessor described below (section 3). If you do not want to use the preprocessor, please refer to the encoding table in section 2.6.

2.1 Consonants

Serṭo				Estr.		Chaldean	name	translit.	coding
isolated	final	medial	initial	isolated	final				
ܐ	ܐ			ܐ	ܐ	ܐ	ʾālap̄	ʾ	'
ܒ	ܒ	ܒ	ܒ	ܒ	ܒ	ܒ	bēt̄	b[3]	b
					̰	̰ ܒ		v	v
ܓ	ܓ	ܓ	ܓ	ܓ	ܓ	ܓ	gāmal	g	g
						̇ ܓ		g	g
						̣ ܓ		j	j
				ܓ	ܓ		gāmal garšūnī	g	G
ܕ	ܕ			ܕ	ܕ	ܕ	dālaṯ	d	d
				ܕ	ܕ		dotless dālaṯ/rīš	d	D
ܗ	ܗ			ܗ	ܗ	ܗ	hē	h	h
ܘ	ܘ			ܘ	ܘ	ܘ	waw	w	w
ܙ	ܙ			ܙ	ܙ	ܙ	zayn	z	z
ܚ	ܚ	ܚ	ܚ	ܚ	ܚ	ܚ	ḥēt̄	$ḥ$	.h
ܛ	ܛ	ܛ	ܛ	ܛ	ܛ	ܛ	ṭēt̄	$ṭ$	.t
				ܛ	ܛ		ṭēt̄ garšūnī	$ṭ$	.T
ܝ	ܝ	ܝ	ܝ	ܝ	ܝ	ܝ	yāḏ	y	y
ܟ	ܟ	ܟ	ܟ	ܟ	ܟ	ܟ	kāp̄	k	k

Serṭo				Estr.		Chaldean	name	translit.	coding
isolated	final	medial	initial	isolated	final				
						ܚ		$\underline{h}$	_k
						ܟ		$\check{c}$	^k
ܠ	ܠ	ܠ	ܠ	ܠ	ܠ	ܠ	ܠܡܕ *lāmaḏ*	l	l
ܡ	ܡ	ܡ	ܡ	ܡ	ܡ	ܡ	ܡܝܡ *mīm*	m	m
ܢ	ܢ	ܢ	ܢ	ܢ	ܢ	ܢ	ܢܘܢ *nūn*	n	n
ܣ	ܣ	ܣ	ܣ	ܣ	ܣ	ܣ	ܣܡܟܬ *semkaṯ*	s	s
ܥ	ܥ	ܥ	ܥ	ܥ	ܥ	ܥ	ܥܐ *ʿē*	ʿ	`
ܦ	ܦ	ܦ	ܦ	ܦ	ܦ	ܦ	ܦܐ *pē*	p	p
						ܦ		f	f
ܨ	ܨ			ܨ	ܨ	ܨ	ܨܕܐ *ṣādē*	$\dot{s}$	.s
ܩ	ܩ	ܩ	ܩ	ܩ	ܩ	ܩ	ܩܦ *qāp̄*	q	q
ܪ	ܪ	ܪ	ܪ	ܪ	ܪ	ܪ	ܪܫ *rīš*	r	r
ܫ	ܫ	ܫ	ܫ			ܬ		r	R
				ܖ	ܪ		dotless *dālaṯ*/*rīš*	r	R
ܫ	ܫ	ܫ	ܫ	ܫ	ܫ	ܫ	ܫܝܢ *šīn*	$\check{s}$	^s
ܬ	ܬ			ܬ	ܬ	ܬ	ܬܘ *taw*	t	t
					ـ	ܬ		$\underline{t}$	_t

2.2 Vowels

The package allows to typeset the greek vowels or Chaldean vowels symbols. To have the vowel symbol written in inversed form under the consonant, user upper case input.

Greek	Chaldean	name	transliteration	coding
◌ͤ	◌̇	ܦܬܵܚܵܐ *pt̲āḥā*	*a*	a
◌ͬ	◌̱	ܪܒܵܨܵܐ *rb̲āṣā*	*e*	e
	◌̣	ܪܒܵܨܵܐ ܐܲܪܪܺܝܟܵܐ *rb̲āṣā ’arrikā*	*e*	E
◌ͭ	◌̤	ܚܒܵܨܵܐ *ḥb̲āṣā*	*i*	i
◌ͮ	◌̈	ܙܩܵܦܵܐ *zqāpā*	*ā*	=a
◌ͯ	◌̤	ܥ̣ܨܵܨܵܐ *ʿṣāṣā*	*u*	u
◌ـ	◌̇		*ā*	o
◌̈		ܣܝܵܡܹܐ *syāmē*		P

Greek	coding
◌ͣ	A
◌ͫ	E
◌ͪ	I
◌ͦ	=A
◌ͧ	U

Note: The *ḥb̲āṣā* and *ʿṣāṣā* of the Eastern or Chaldean vowels do in general occur together with a *mater lectionis*: ܒ◌ܼ, ◌ܼ (or ◌ܒ, ◌ܼ)

The ܣܝܵܡܹܐ *syāmē* is processed as a vowel sign, even if it is not so from a linguistic point of view. Its coding `<S>P</S>` is chose because of its plural signification. If you do not want it over a letter, put it over a word stretch: The Aramaic at the beginning of this paragraph has been typset in the following: `<S>sy=a--Pme'</S>`.

[3]The *bēgad̲kepāt̲* are not yet always processed. In general, the doubling of the consonant creates a ◌ܶ *qušš̄āyā* in the syriac text and does not change the transliteration. On the other hand, a consonant followed by `+` will receive a ◌ܷ *rūkkāḫ̲ā* and in the transliteration *bgdkft* will appear as *b̲ḡd̲ḫp̲t̲*.

[4]Modern Aramaic dialects using the Chaldean alphabet have diacritic symbols (dots and tildes) which can be typeset directly.

To avoid that the simple preprocessor does not mess about with vowels in ligatures (notably *Lāmaḏ-ālaf* and *Ālaf-lāmaḏ* the vowel must be set after both consonants of the ligature:

`<S>l=a'</S>` yields (incorrect) ܠ݂ܐ *lā* but `<S>l'=a</S>` yields the vocalized ligature ܠ݂ *lā*

`<S>'Al=Ah=a'</S>` yields (incorrect) ܐ݂ܠ݂ܗ݂ *ʾalahā* but `<S>'la=Ah=a'</S>` yields the vocalized ligature ܐ݂ܠ݂ܗ݂ *ʾalaahā*

The Chaldean letters do not have this ligature. Instead, a *tawālā* ligature is provided: ܣ݂ܝ݂ܪ݂ܝ݂ܬ݂ *siprāyūta*

The default vowels are the greek-based vowels. In order to get Chaldean vowels, it suffices to add : in front of the vowel in coding. Thus you can set the most famous Aramaic phrase in all Syriac alphabets in either vowel system:

```
<S>eliy eliy lm=an=a' s=ab=akt=aniy</S>
```
ܐ݂ܠ݂ܗ݂ ܐ݂ܠ݂ܗ݂ ܠ݂ܡ݂ܢ݂ ܫ݂ܒ݂ܩ݂ܬ݂ܢ݂ܝ

```
<S>:el:iy :el:iy lm:=an:=a' s:=ab:=akt:=an:iy</S>
```
ܐ݁ܠ݁ܗ݁ ܐ݁ܠ݁ܗ݁ ܠ݁ܡ݁ܢ݁ ܫ݁ܒ݁ܩ݁ܬ݁ܢ݁ܝ

```
<C>eliy eliy lm=an=a' s=ab=akt=aniy</C>
```
ܐ݂ܠ݂ܗ݂ ܐ݂ܠ݂ܗ݂ ܠ݂ܡ݂ܢ݂ ܫ݂ܒ݂ܩ݂ܬ݂ܢ݂ܝ

```
<C>:el:iy :el:iy lm:=an:=a' s:=ab:=akt:=an:iy</C>
```
ܐ݁ܠ݁ܗ݁ ܐ݁ܠ݁ܗ݁ ܠ݁ܡ݁ܢ݁ ܫ݁ܒ݁ܩ݁ܬ݁ܢ݁ܝ

```
<E>':el:iy ':el:iy lm:=an:=a' s:=ab:=akt:=an:iy</E>
```
ܝ݁ܠ݁ܗ݁ ܝ݁ܠ݁ܗ݁ ܠ݁ܡ݁ܢ݁ ܫ݁ܒ݁ܩ݁ܬ݁ܢ݁ܝ *ʾelī ʾelī lmānā sābāktānī*

For Estrangelo the same vowel codings can be used

2.3 Transliteration and long vowels

As mention in section 3 below, the preprocessor can produce a transliteration as well. The transliteration can be defined in the table used by the preprocessor `serto.font` and `assyr.font`. The current definition uses the transcription as shown in the tables in sections 2.1 and 2.2, with the exception of long vowels. In words using a vowel symbol together with a *mater*

lectionis, the transliteration shows the transcription instead, for instance ܫܝܬ transliterates as *ḥēṯ* and not *ḥeyṯ* and ܩܳܝܡ *qāyēm*:

Greek	Chaldean	transliteration	coding
ἀ	ܐ	$\bar{a}$	`=a'`
ε	ܶ	$\bar{e}$	`ey`
ἐ	ܶ	$\bar{e}$	`e'`
ι	ܺ	$\bar{\imath}$	`iy`
ου	ܽ	$\bar{u}$	`uw`

2.4 Punctuation and paragraph marks

form	coding
.	.
:	:
※	.X.
∴	.:.

form	coding
::	::
÷	:-
∾	.~.
⁒	./.

Estrangelo	coding
܁	.
܂	:
❖	..:
⁜	.X.

2.5 Unicode

This package has a limited Unicode support in that texts encoded in UTF8 can be directly typeset. In order to activate the UTF8 interpretation, either use UTF8 for your whole document by declaring `\usepackage[utf8]{inputenc}` in the preamble of you document, or just put `%\usepackage[utf8]{inputenc}` somewhere at the beginning of your document.

2.6 The encoding

The following table shows the internal encoding of the defined letters of Serṭo and the Chaldean variant.

	0	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*A*	*B*	*C*	*D*	*E*	*F*
"0n		◌	◌	◌	◌	◌	◌	◌	◌				◌	◌		
"1n		◌	◌	◌	◌	◌		◌		◌	◌	◌				
"2n		※	∴	∷	÷	≈	⁒							◌	◌	
"3n											:					
"4n		◌	◌	◌	◌	◌	◌	◌	◌	◌	◌	◌	◌	◌	◌	◌
"5n	◌	◌	◌	◌	◌	◌	◌	◌	◌	◌	◌					–
"6n										◌	◌	◌	◌	◌	◌	◌
"7n	◌	◌	◌	◌	◌	◌	◌	◌	◌	◌	◌					
"8n		◌	◌	◌	◌	◌	◌	◌	◌	◌	◌	◌	◌	◌	◌	◌
"9n	◌	◌	◌	◌	◌	◌	◌	◌	◌	◌	◌	◌	◌	◌	◌	◌
"An	◌											◌	◌	◌		

	0	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*A*	*B*	*C*	*D*	*E*	*F*
"0n		◌	◌	◌	◌	◌	◌						◌	◌		
"1n		◌	◌	◌	◌	◌				◌	◌	◌				
"2n					◌		◌				◌			◌		
"3n													◌	◌	◌	
"4n	◌	◌	◌		◌	◌		◌	◌	◌	◌	◌	◌	◌	◌	◌
"5n	◌	◌	◌	◌	◌	◌	◌	◌	◌	◌	◌					
"6n		◌	◌		◌	◌		◌	◌	◌	◌	◌		◌	◌	◌
"7n	◌	◌	◌	◌	◌	◌	◌		◌	◌	◌		◌			
"8n																
"9n																
"An																

3 The preprocessor `serto[2].py`

Typesetting of texts is still not yet possible with standard LaTeX, since the right-to-left typesetting (as for instance as in ArabTeX) has not yet been implemented. For the time being I propose a preprocessor (written in Python[5]) and pdfLaTeX[6].

[5] Every version from 2.4 onwards up to version 2.7 should do for `serto2.py`; for Python 3.* use `serto.py`.

[6] XeLaTeX can handle UTF-8. However I have not yet adapted this package to XeLaTeX.

I'm well aware that `serto[2].py` is not part of the most beautiful pieces of software code, on the contrary, it's rather spaghetti code. Many things could have been in a more intelligent way, but it works, which is the most important thing. If you find the time to improve it please share your changes with me!

3.1 Using the preprocessor

The preprocessor is called with the LaTeX-file as argument:

```
serto.py [-o] ppfilename.tex > filename.tex
```

The resulting LaTeX-file can be LaTeXed as usually. Please make sure to have the `\usepackage{serto}` included in your preamble.

The option `-o` is necessary if you use an older version of LaTeX which is not capable to typeset texts from the right to the left (`TeX--XeT` extension). The `-o` -option tells the preprocessor to inverse the letters on its own. In order to typeset whole paragraphs pdfLaTeX is the better solution. Usually it comes with every modern TeX-distribution. At least since Ubuntu 12.04 (texlive package), the standardly installed pdfLaTeX behaves correctly.

The preprocessor recognizes two types of commands. Within a single line you can put Syriac words between `<S>` and `</S>`: For example `<S>ser.t=a'</S>` becomes ܣܪܛܐ.

`<ST>` and `</ST>` generate the enclosed part in Serṭo and generates a transliteration as well (`<ST>mdiyt=a'</ST>` becomes ܡܕܝܬܐ *mdīta*ʾ "city"), whereas `<T>` and `</T>` can be used for parts only need in transliterated form (`<T>ser.t=a'</T>` becomes *serṭā*). Since in transliteration a "neutral vowel" is needed, which does not appear in Serṭo, the code `@` can be used: `<ST>^s@m=a`</ST>` produces ܫܡܥ *šᵉmāʿ*

For multiple lines, start a block using `<SERTO>`[7] in a line on its own. This block must be closed by a line containing `</SERTO>`. If you need transliterated Syriac, use `</TRANS>` and `</TRANS>`. The commands `<SERTO>`/`</SERTO>` and `</TRANS>`/`</TRANS>` do not work properly with the `-o` option of the preprocessor and and older LaTeX. If you add TeX-commands in these blocks, a right-to-left typesetting version of LaTeX is obligatory.

[7] Using `<SERTO>` or `<TRANS>` cannot work correctly with the `-o` option of the preprocessor `serto.py`. Use `<CHALDEAN>` … `</CHALDEAN>` and `<ESTRANGELO>` … `<ESTRANGELO>` for the Chaldean or Estrangelo alphabets.

For the time being the preprocessor tries to set the hard sign ܼ *quššāyā* on top of a consonant if the consonant is doubled in the input:

`<S>q.tl</S>` yields ܩܠ but `<S>q.t.tl</S>` yields ܩܬܠ

In cases where you need a ܼ *quššāyā* without wanting to double the consonant, a `*` can be used after the letter to typeset a dot above a letter: `<S>h*=anon</S>` produces ܗ݂ܢܢ *hānon* and `<S>^sl=amk+on</S>` results in ܫ݂ܠܡ̱ܗ݂ܢ *šlāmḫon*

To avoid a *quššāyā* (when you need to adjacent identical consontants, either use a vowel on the first, use the stretching symbol:

`<S>maml'e</S>` yields ܡܰܥܠܶ *mamʿle*
`<S>m^ml'</S>` yields ܡܥܠ *mmʿ*
`<C>maml'e</C>` yields ܡܰܥܠܶ *mamʿle*
`<C>m^ml'</C>` yields ܡܥܠ *mmʿ*

To get the soft sign ̰ *rūkkāḫā* a `+` must *follow* the letter: `<S>'ab+d=a'</S>` yields ܐ݂ܰܒ̰ܕ݂ܐ

An *ālaf* is autmatically prefixed before an initial vowel:

`<S>etqa.tel</S>` and `<S>'etqa.tel</S>` both yield ܐܰܬ̰ܩ݂ܐ ܬܶܠ

Sometimes the letter *rīš* is written with two points. To achieve this, use `R` instead of `r` in the input:

`<S>^sapiyRe'</S>` yields ܣ̈ܰܦ̰ܝ̈ܬ̰ܐ

Silent consonants have a bar ̱ *mḇaṭlānā* (*linea occultans*) under the line which is produced by `=` just before the consonant (attention `=a`, however, yields ܐ݂:

`<S>'an=tt</S>` yields ܐ̰ܰܢ̱ܬ̰

In order to have the *linea occultans* on top of the letter, use `==`:

`<S>h==wiyt</S>` yields ܗ̿ܰܘ̿ܬ̰

There is no automatic stretching yet, but the `--` can be used to insert a "manual stretch":

`<S>napiyqt=a'</S>` becomes ܢܦܝܩܬܐ but `<S>na--piyq--t=a'</S>` is printed as ܢ--ܦܝܩ--ܬܐ

This works also for the Chaldean letters `<C>n:ap:iyqt:=a'</C>` becomes ܢ:ܐܦ:ܝܩܬ:ܐ but `<C>n:a--p:iyq--t:=a'</C>` is printed as ܢ:ܐ--ܦ:ܝܩ--ܬ:ܐ

If you do not use the preprocessor, you can activate Serṭo by the command `\serto`. In this case you have to choose the correct letters yourself, and use the commands `\upperserto{`*vowelnumber*`}{`*letter*`}` or `\lowerserto{`*vowelnumber*`}{`*letter*`}` to set vowels. Please see the encoding table in section 2.6 for the correct vowel numbers.

In order to get bold letters, you can use `\sertob` with or without preprocessor (see section 3 for more information on the preprocessor.

4 The format of the `*.font` files

These files are necessary to tell the preprocessor where (in the font) a certain letter is found, and whether it has different forms. The format is straight forward, with, however, a few idiosynchrasies. In general there are two sections, the first (starting with a line `#FONT`) indicates which letter has which form in which position and a second (`#TRANS`) to define the transcription.

The first part consists of lines like the following

```
b beth 66+124 66 66 66+124 1
```

which reads, coding `b` is for the letter *beth*, its isolated form is character 66 followed by character 124, its initial and medial form is character 66, it's final form is character 66 followed by character 124 and the next letter (if any) must take it's medial form.

However, if one of the four last columns has a value of -1, no form is provided in the font. Values from 0 to 15 are reserved for accents/vowels above the line, values from 16 to 31 are reserved for vowels under the line.

The lines

```
~  blank   32 32 32 32 0
Q  shadda  6 6 6 6 2
-- stretch 45 45 45 45 1
```

must not be deleted.

The coding for digits (starting with 0 up to 9 in the first column cannot have the + in the position definition

The transcription definition defines for each coding symbol (defined in the font-section) a valid TEX-string to be used if transcription is needed, e.g.

```
.t \d{t}
```

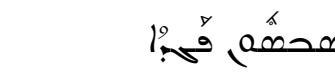
i.e. the coding `.t` will be representend by $\dot{t}$ in transcribed portions.

5 Two examples

Some of the following can be found in `example.ptex` which comes with this package.

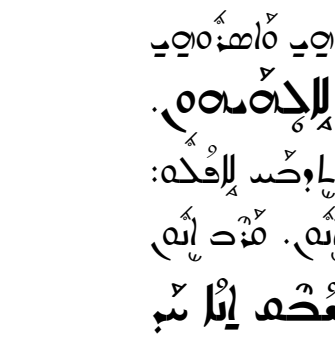
The following input was used to generate the output below:

```
\documentclass[12pt,a4paper]{article}
usepackage{serto}

\begin{document}

<S>men qadiy^se' ho' tetqada^s</S>

<ST>kmo' dat+basb@suwn pagdo'</ST>

\end{document}
```



kmā daṯbasb^{e}sūn pagdā

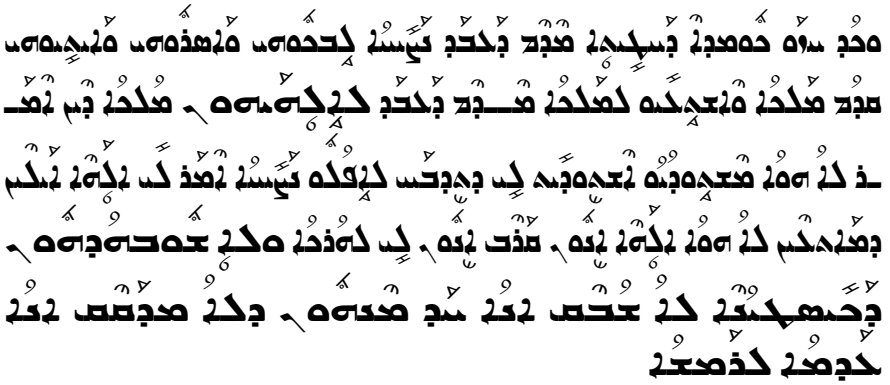
A long example in Serṭo:



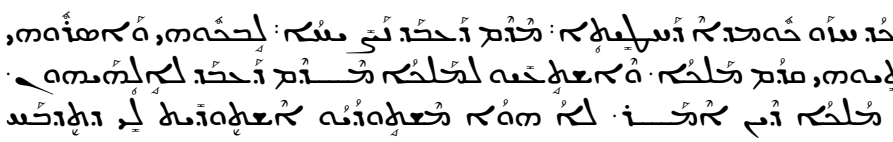
The preceding text was set typeset with the following input:

```
\documentclass[12pt,a4paper]{article}
\usepackage{serto}
\begin{document}

<SERTO>

wk=ad .hzaw kuwmd'e da.h.tIyt=A' : medem
da`bad na.siy.h=a': lAbkuwh=y=
wa'sruwh=y= wa'ytIywh=y= qd=am malk=a'.
we'^stA`iyw lmalk=a' me----dem da`bad
{\sertob l'Al=Ahayhwn}. m=alk=a' deyn 'emar. l'=a hw=a'
me^stAwd=ay=aw 'e^stEwdiyt lIy dtEdba.h
l'Ap=aluw: na.siy.h=a' 'emar. liy 'la=Ahe'
'ayleyn dma't`eyn. l'=a hw=a' 'la=Ahe'
'Enuwn. qareb 'Enuwn lIy lh=ark=a'. \sertob wl'=A
^suwbh=adhuwn dakiys.ty=ane' l'=a ^s=abeq
'=n=a' .had menhuwn dl'=a mdaqeq '=n=a'
`adm=a' lram^s=a'.

</SERTO>

\end{document}
```

Replacing `<SERTO>` by `<CHALDEAN>` and `\sertob` by `\assyrb` results in this



Using `<ESTRANGELO>` (and deleting remaining `\sertob` and `\assyrb`) results in



ܟܬܒ ܠܟ ܒܫܡ ܐܠܗܐ ܐܒ ܘܐܡ ܘܪܘܚܐ ܩܕܝܫܐ ܐܡܝܢ ܀
ܐܠܗܐ ܕܫܠܡ ܠܟ ܘܒܪܟ ܠܟ ܘܢܛܪ ܠܟ ܡܠܐܟܐ ܕܝܠܝ ܘܩܕܝܫܐ ܀
ܠܟ ܐܡܪ ܐܠܗܐ ܕܐܒ ܘܐܡ ܘܪܘܚܐ ܩܕܝܫܐ ܀

The file was preprocessed using `serto3.py` and then typeset with XeLaTeX.

6 Things still missing

The todo-list is long. I try to add features etc. as soon as possible. Please tell me items you would like to have, but which are not yet on this list. Any volunteers are welcome!

- proper typsetting of texts (without preprocessor, maybe in the ArabTeX package)
- proper treatment of *matrēs lectionis* (long vowels)
- proper treatment of the silent bar صحلهدنا *mḇaṭlānā*
- proper treatment of *begāḏkepāṯ* with hard sign مغنا *qušš̈āyā* and soft sign ومضحا *rūkkāḥā*
- automatic transcription mode
- interpunction
- proper dealing with ligatures
- اصلزيحا *ʾesṭrangelā*
- numbers the `inputenc.sty` package.
- support for existing Syriac fonts

7 Installation

The easiest way to install the fonts and the preprocessor is by installing the debian package (this includes only the `pfb`, `tfm` and `afm` files for the fonts), the needed styles and the preprocessor, but not the METAFONT sources:

```
sudo dpkg -i serto-1.3.2.deb
```

If you are not on a Debian or Ubuntu plateform, you need to install manually from the `.tgz` file:

7.1 Using Metafont sources

Put the `*.mf` files into a subdirectory `serto` of your metafont branch in your `texmf`-directory. For example using the texlive distribution under Linux, you should put them into `/usr/local/share/texmf/fonts/source/serto/`. Do not forget to call `texhash` in order to make the tex software find the newly installed fonts.

7.2 Using vector fonts

Using vector fonts depends a little from the TEX-installation used, the following is tested for Ubuntu 12.04 and 10.04, it will probably work on Debian platforms as well, or other platforms using the texlive installation.

- copy `syriac.map` to `/usr/local/share/texmf/fonts/map/dvips/config/`
- copy `*.afm` to `/usr/local/share/texmf/fonts/afm/syriac/serto/`
- copy `*.pfb` to `/usr/local/share/texmf/fonts/type1/syriac/`
- add `Map syriac.map` to `/etc/texmf/updmap.d/10local.cfg`
- run `sudo update-updmap`
- run `sudo updmap-sys`

7.3 Other Files

The Stylefile etc. `*.sty`, `*.fd` go into a directory for stylefiles, e.g. /usr/local/share/texmf/tex/latex/serto/.

The preprocessor `serto.py` and the encoding file `serto.font` somewhere where it can be found (e.g `/usr/local/bin`). They must reside in the same directory unless you specify in the environment variable `SERTOFONTDIR` the directory containing `serto.font` and `assyr.font`. Possibly you have to adjust the first line of the preprocessor `#!/usr/bin/python` if your python interpreter is somewhere else.

In order to typeset using Estrangelo, an external (Unicode encoded) font has to be downloaded. The examples in this document use *Estrangelo Edessa* designed by Paul Nelson and George Kiraz and copyrighted by the Syriac Computing Institute. For copyright reasons this font is not included in this package. Once you have downloaded the `.ttf` file, install it with your system fonts (in both Linux (Ubuntu) and Windows, clicking on the file name usually

opens a font viewer application which allows the (local) installation. Note, that Estrangelo only works with XeLaTeX and its `fontspec`-package.

If you use a different font, adapt `estrangelo.sty` accordingly.

8 License

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9 Changelog

- Version 1.3.2
  - added Chaldean vowel ܒ̈ ܒ̈ ܒ̈ ܒ̈ *rb̄āṣā ʾarrikā*: ܒ̈
  - documentation updated
- Version 1.3
  - documentation updated
  - error in loading `*.font`-files corrected
  - `serto.py` (for Python3), no more support for Python2 any more.
- Version 1.1
  - encoding script for Python3: `serto3.py`
  - experimental Estrangelo support using a `.ttf` (needs to be downloaded)
- Version 1.0
  - adding a character for the *linea occultans* above the letter
  - `SERTOFONTDIR` enviromnment variable to specify the directory of `*.font` files
  - some UTF8 support
- Version 0.7
  - Chaldean vowels

  - Integration of the Chaldean font provided by Tony Khoshaba
  - Major adjustements to the `serto.py` preprocessor
- Version 0.2, 0.3 and 0.4
  - can't remember, didn't keep track of changelog those days…
- Version 0.1
  - Initial version

References

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