

ADDENDUM FOR CET 1.9.3b

1. Arab \TeX

CET is ready for Arab \TeX (author: Klaus Lagally, University Stuttgart). You can get Arab \TeX via ftp (Internet) and you must install it manually. After the installation of Arab \TeX and after enabling the Semitic languages with SEMITIC_LANGUAGES *Y the following languages are available: Hebrew, Arabic, Farsi, Maghribi, Pashto and Urdu

INSTALLATION INSTRUCTIONS FOR Arab \TeX

1. Copy ftp://ftp.uni-stuttgart.de/pub/tex/languages/arabtex/arabtex.zip into an empty directory and unzip arabtex.zip:
`\emtex\unzip\unzip arabtex.zip`
2. Read arabtex\arabtex.faq for copyright information.
3. Copy arabtex\fonts*.tfm to \emtex\tfm
Copy arabtex\mfinput*. * to \emtex\mfinput
Copy arabtex\texinput*. * to \emtex\texinput
4. Add 32 to each of the numbers 96 ... 123 in \emtex\texinput\hewrite.sty:

old:
`\chardef \sk@a 96 % aleph`
...
`\chardef \sk@Pv 123 % vowel ayin`

new:
`\chardef \sk@a 128 % aleph`
...
`\chardef \sk@Pv 155 % vowel ayin`
5. Copy \emtex\texinput\uheb~ba.fd to \emtex\texinput\uheb.fd
Copy \emtex\texinput\unash~aa.fd to \emtex\texinput\unash.fd
Copy <http://s.top.ruhr-uni-bochum.de/bernt/arabdoc.dvi> to \cet\text
6. Start CET and Print arabdoc (the generation of the missing fonts will take several minutes ...).
7. Read and/or print the files arabtex\arabtex.* and arabtex\readme.*. arabtex\readme.303 contains documentation for using Hebrew.
8. Remove the directory arabtex.

9. Copy <http://s.top.ruhr-uni-bochum.de/bernt/vowels.zip> into an empty directory and unzip vowels.zip:
`\emtex\unzip\unzip vowels.zip`
10. Read `vowels\mf\inputs\dclassic.mf` for copyright information.
11. Copy `vowels\tfm\dclassic.tfm` to `\emtex\tfm`
 Copy `vowels\mf\inputs\dclassic.mf` to `\emtex\mfinput`
 Copy `vowels\mf\inputs\hcbase_p.mf` to `\emtex\mfinput`
12. Add
`end;`
 to `\emtex\mfinput\dclassic.mf` as the last line.
13. Remove the directory vowels.
14. Test the installation (enable Semitic languages with `SEMITIC_LANGUAGES *Y`),
 Typeset and Print:

`#N+ #L+`

`<[- - - 15 pt 15 pt]>`

`(*<ARB>mana`a<ARE>*) {Var. 1}`

`(*<ARB>dAru-h_u<ARE>*) {Var. 2}`

`(*<ARB>ri^gli-h_i<ARE>*) {Var. 3}`

`(*<HEB>bb.ir_e'^s_iyt<HEE>*) {Var. 4}`

`#L- #N-`

Result:

مَنَّع

دَارُهُ

رِجْلُهُ

בְּרִאשִׁית

א	,	aleph
ב	b or v	beth
ג	g	gimel
ד	d	daleth
ה	.h or h	heh
ו	w	waw
ז	z	zayin
ח	_h	chet
ט	.t	teth
י	y	yod
כ	k	kaph
ל	l	lamed
מ	m	mem
נ	n	nun
ס	s	samekh
ע	‘	ayin
פ	p or f	peh
צ	.s	sade
ק	q	qof
ר	r	resh
ש	.s	sin
׃	^s	shin
ׂ	S	s(h)in
ת	t	taw

א	a patach	א	_a qames	א	A qames	א	.a chateph patach
א	e segol	א	_e sere	א	E sere yod	א	.e chateph segol
א	i chireq	א	_i chireq	א	I chireq yod	א	.i shewa
א	o qames chatuph	א	_o cholem	א	O cholem waw	א	.o chateph qames
א	u qibbus	א	_u shureq	א	U shureq waw		

"dagesh" is coded by doubling the consonant; thus two equal consonants in sequence must be separated by some short vowel indicator.

"meteg" is indicated by | after the vowel.

"maqqef" is -- (en-dash)

"raphe" and cantillation marks are not supported.

2. Empty lines

<EL> (EMPTY_LINE (<EL>, *command name*)) generates an empty line. <EL> can be used within a separate paragraph only.

Example:

Line 1

<EL>

Line 2

3. Changing the line number margin

The following commands switch the line number margin from within the text:

LINEATION_LEFT	<LL>
LINEATION_RIGHT	<LR>
LINEATION_INNER	
LINEATION_OUTER	<LO>

4. Overlaying of pages

OVERLAY_PAGES *Y (OVERLAY_PAGES (*N Y, *yes/no*)) causes CET to overlay pages with the same page number:

Example:

```

-----
left
<NP>
<PNB>1<PNE>
<LMB>6 cm<LME>
right
<NP>
<PNB>1<PNE>
<LMB>4 cm<LME>
center
-----

```

results in (using OVERLAY_PAGES *Y):

```

-----
left                center                right
-----

```

Possible use:

Printing of a text with several columns, whose columns are provided with different line numberings, while only one column has a critical apparatus.

The existence of the file *.OVL indicates that the user requested overlaying of pages for the corresponding text. Therefore, *.OVL is a reserved file name extension.

The setting OVERLAY_PAGES is respected by PostScript-Preview and Print, but not by Preview.

5. Font selection

If a font is selected with <[...]> within an unnumbered paragraph and if this paragraph contains further text or further commands, the selected font is active only up to the end of the paragraph (up to now the font selected within an unnumbered paragraph was active up to the end of the text - in contrast to font selection within numbered text).

6. Suppressing the headline

<HOFF> causes CET to suppress the headline on the current page and on all following pages. <HON> causes CET to print the headline on the current page and on all following pages.

HEADLINE_OFF	(<HOFF>, <i>command name</i>)
HEADLINE_ON	(<HON>, <i>command name</i>)

7. Lemma position defined by user

#a|b|c|d|e|f# after the beginning of a variant reading causes CET to print the corresponding lemma in the critical apparatus with the position a,b.c-d,e.f (a = page number beginning of lemma, b = line number beginning of lemma, c = subline number beginning of lemma, d = page number end of lemma, e = line number end of lemma, f = subline number end of lemma). a, b, c, d, e, f may be empty. In this case the normal number is printed. Successive | at the end may be omitted.

Example:

```
-----
(*lemma 1*) {#1|2|3|4|5|6#variant reading 1}
(*lemma 2*) {#|5|||5#variant reading 2}
-----
```

results in (using LINEATION_BY *page):

```
-----
1,2.3-4,5.6 lemma 1] variant reading 1
5 lemma 2] variant reading 2
-----
```

8. Vertical distance between footnote series

The vertical distance between footnote series can be adjusted with FOOTNOTE*_RULE:

FOOTNOTE*_RULE *width height distance1 distance2*

width and *height* specify the width and height of the separator line. *distance1* specifies the vertical space above the separator line and *distance2* specifies the vertical space underneath the separator line.

9. Changing the hyphenation rules for specific words

If CET hyphenates a word at the wrong place, the right places can be specified with <HB>...<HE>. This specification applies to all further occurrences of this word in the text. If CET encounters a word for which user defined hyphenation rules exist, CET ignores the built-in hyphenation rules and hyphenates the word according to the user defined rules. Hyphenation rules for a specific word are specified by marking all possible places for a hyphen with -: <HB>ta-ble<HE>. Only one word may be specified within <HB>...<HE>. For about up to 300 words user defined hyphenation rules may be specified. By omitting all - CET can be instructed not to hyphenate a word: <HB>table<HE>. The various <HB>...<HE> commands should be collected at the beginning of the text. Only the characters a ... z, A ... Z, ' and - are valid within <HB>...<HE>.

```
HYPHENATION_BEGIN      (<HB>, command name)
HYPHENATION_END        (<HE>, command name)
```

10. Suppressing the hyphenation character

Words specified within <NHB>...<NHE> are hyphenated without hyphen. The specification applies to all further occurrences of this word in the text. Only one word may be

specified within <NHB>...<NHE>. The various <NHB>...<NHE> commands should be collected at the beginning of the text. Words specified within <NHB>...<NHE> must not contain |-

Words specified within <N-B>...<N-E> are hyphenated without hyphen, but this specification only applies to the word within <N-B>...<N-E>. Words between <N-B>...<N-E> are part of the text and are printed by CET — in contrast to words specified within <NHB>...<NHE>. Words specified within <N-B>...<N-E> must not contain |-

NO_HYPHEN_G_BEGIN	(<NHB>, <i>command name</i>)
NO_HYPHEN_G_END	(<NHE>, <i>command name</i>)
NO_HYPHEN_L_BEGIN	(<N-B>, <i>command name</i>)
NO_HYPHEN_L_END	(<N-E>, <i>command name</i>)

Example:

```
<HB>AD' -J' -K' -P' -R' -S' -T' W' <HE>
<NHB>AD' J' K' P' R' S' T' W' <NHE>
```

instructs CET to hyphenate all further occurrences of the "word" AD'J'K'P'R'S'T'W' at the places marked with -. The second line instructs CET to hyphenate without hyphen.

11. Changing the order of lemmata in the critical apparatus

Beginning with CET version 1.4 the lemmata in the critical apparatus are ordered according to the beginning of the lemmata in the text (lemma 1 appears before lemma 2 in the critical apparatus if and only if lemma 1 starts before lemma 2 in the text). You can revert to the old order (lemma 1 appears before lemma 2 in the critical apparatus if and only if lemma 1 ends before lemma 2 in the text) by specifying REVERSE_ORDER *Y in the configuration file.

REVERSE_ORDER	(*N Y, <i>yes/no</i>)
---------------	------------------------

12. Avoiding wrong line numbers

The combination of LINEATION_BY *page with WORD_DISTANCE x (x does not equal 0) may lead to wrong line numbers because EDMAC oscillates between two different sets of page break decisions. In this case follow the instructions given in the warning message and specify BALLAST 9000 in the configuration file in order to suppress the oscillation.

BALLAST	(0, <i>number</i>)
---------	---------------------

13. Defining the maximal number of calls to T_EX

Typeset calls T_EX several times. The maximal number of these calls can be specified with MAX_TYPESET in the configuration file. When the new DVI file generated by T_EX does not differ from the old DVI file, typesetting is finished and no further calls to T_EX are necessary. If typesetting is not finished after the number of calls to T_EX specified with MAX_TYPESET, CET outputs a warning message. In this case you have to increase the number after MAX_TYPESET (up to 30) and you must call Typeset again. If the warning message reappears, follow the instructions given in the warning message (see 12. Avoiding wrong line numbers).

MAX_TYPESET (30, *number*)

14. Avoiding bad line breaks

<NLB> instructs CET not to break the line at the current position in the text.

FOOTNOTE*_LINE_BREAK_AFTER_LEMMA determines, whether CET may break lines in the critical apparatus between a lemma and the corresponding variant reading from the footnote series specified with * (*Y) or not (*N).

NO_LINE_BREAK (<NLB>, *command name*)
 FOOTNOTE*_LINE_BREAK_AFTER_LEMMA (N *Y, *yes/no*)

15. addpsfnt

addpsfnt can be used with PFA files. If addpsfnt cannot find the required binary PFB file, addpsfnt tries to convert an existing PFA file into a PFB file using the program \EMTEX\PS\T1UTILS\T1BINARY.EXE.

16. Changing the page numbering

PAGE_NUMBER_INCREMENT defines the distance between the page numbers printed in the headline.

PAGE_NUMBER_INCREMENT (1, *number*)

17. Special characters accents

The following special characters and accents are available:

Input	Output	Keyword
<AL>	<	ANGLE_LEFT
<AR>	>	ANGLE_RIGHT
<BS>	\	BACK_SLASH
<BLB>	⏟	BRACKET_LEFT_BOTTOM
<BRB>	⏞	BRACKET_RIGHT_BOTTOM
<BLT>	⏟	BRACKET_LEFT_TOP
<BRT>	⏞	BRACKET_RIGHT_TOP
<DG>	†	DAGGER
<DGD>	‡	DAGGER_DOUBLE
<D->	Ð	CAPITAL_ETH ¹
<d->	ð	SMALL_ETH ¹
<PI>	Þ	CAPITAL_THORN ¹
<pI>	þ	SMALL_THORN ¹
<o>a	ą	OGONEK

Characters without corresponding command names can be entered using {C...}, {S...}, {Z...} and {T...}. The available characters are listed in the four following tables.

CHAR_BEGIN	({C, <i>command name</i>)
CHAR_END	(}, <i>command name</i>)
SYMBOL_BEGIN	({S, <i>command name</i>)
SYMBOL_END	(}, <i>command name</i>)
ZAPF_BEGIN	({Z, <i>command name</i>)
ZAPF_END	(}, <i>command name</i>)
TEXSYMBOL_BEGIN	({T, <i>command name</i>)
TEXSYMBOL_END	(}, <i>command name</i>)

The first table lists the character set for the font Times. The table may differ for other fonts. Typeset and print \CET\TEXT\CHARSET.TXT in order to generate a printout of the character set for your font (do not forget to replace Times with the name of your font; see instruction at the beginning of CHARSET.TXT).

The second table contains the symbols defined in the PostScript Language Reference Manual². All these symbols are available as roman and as italic characters only.

The third table contains the symbols from the font Zapf Dingbats, the fourth table contains the symbols from the T_EX symbol font. All symbols from the third and the fourth table are available as roman characters only.

¹ available for fonts added with addpsfnt

² PostScript Language Reference Manual, Second Edition, Adobe Systems Incorporated, Addison-Wesley, ISBN 0-201-18127-4; Appendix E.11: Symbol Character Set

Input	Output	Input	Output	Input	Output	Input	Output
{C000}	Γ	{C064}	@	{C128}	^	{C192}	Ÿ
{C001}	Δ	{C065}	A	{C129}	~	{C193}	Û
{C002}	Θ	{C066}	B	{C130}	Ž	{C194}	Û
{C003}	Λ	{C067}	C	{C131}	ç	{C195}	Û
{C004}	Ξ	{C068}	D	{C132}	ÿ	{C196}	Ä
{C005}	Π	{C069}	E	{C133}	ã	{C197}	Ú
{C006}	Σ	{C070}	F	{C134}	î	{C198}	Ô
{C007}	Υ	{C071}	G	{C135}	ê	{C199}	·
{C008}	Φ	{C072}	H	{C136}	è	{C200}	À
{C009}	Ψ	{C073}	I	{C137}	é	{C201}	ÿ
{C010}	Ω	{C074}	J	{C138}	õ	{C202}	í
{C011}	↑	{C075}	K	{C139}	Á	{C203}	á
{C012}	↓	{C076}	L	{C140}	ó	{C204}	Û
{C013}	·	{C077}	M	{C141}	ý	{C205}	~
{C014}	ı	{C078}	N	{C142}	ü	{C206}	·
{C015}	ı̇	{C079}	O	{C143}	â	{C207}	É
{C016}	ı̂	{C080}	P	{C144}	ë	{C208}	—
{C017}	·	{C081}	Q	{C145}	ù	{C209}	À
{C018}	·	{C082}	R	{C146}	ò	{C210}	À
{C019}	·	{C083}	S	{C147}	š	{C211}	ö
{C020}	·	{C084}	T	{C148}	İ	{C212}	ó
{C021}	·	{C085}	U	{C149}	ú	{C213}	ì
{C022}	·	{C086}	V	{C150}	à	{C214}	Ó
{C023}	·	{C087}	W	{C151}	ñ	{C215}	Ä
{C024}	·	{C088}	X	{C152}	â	{C216}	Ý
{C025}	ß	{C089}	Y	{C153}	ž	{C217}	
{C026}	æ	{C090}	Z	{C154}	Î	{C218}	
{C027}	œ	{C091}	[	{C155}	Ñ	{C219}	
{C028}	ø	{C092}	\	{C156}	û	{C220}	
{C029}	Æ	{C093}	]	{C157}	Ê	{C221}	
{C030}	Œ	{C094}	^	{C158}	Í	{C222}	
{C031}	Ø	{C095}	·	{C159}	Ç	{C223}	
{C032}	!	{C096}	·	{C160}	Ö	{C224}	
{C033}	!	{C097}	a	{C161}	Š	{C225}	
{C034}	"	{C098}	b	{C162}	ç	{C226}	
{C035}	#	{C099}	c	{C163}	£	{C227}	·
{C036}	\$	{C100}	d	{C164}	/	{C228}	
{C037}	%	{C101}	e	{C165}	¥	{C229}	
{C038}	&	{C102}	f	{C166}	f	{C230}	
{C039}	'	{C103}	g	{C167}	§	{C231}	
{C040}	(	{C104}	h	{C168}	¤	{C232}	Ł
{C041}	)	{C105}	i	{C169}	Ë	{C233}	
{C042}	*	{C106}	j	{C170}	“	{C234}	
{C043}	+	{C107}	k	{C171}	«	{C235}	·
{C044}	,	{C108}	l	{C172}	<	{C236}	
{C045}	-	{C109}	m	{C173}	>	{C237}	
{C046}	.	{C110}	n	{C174}	fi	{C238}	
{C047}	/	{C111}	o	{C175}	fl	{C239}	
{C048}	0	{C112}	p	{C176}	Ï	{C240}	
{C049}	1	{C113}	q	{C177}	—	{C241}	
{C050}	2	{C114}	r	{C178}	†	{C242}	
{C051}	3	{C115}	s	{C179}	‡	{C243}	
{C052}	4	{C116}	t	{C180}	·	{C244}	
{C053}	5	{C117}	u	{C181}	ä	{C245}	
{C054}	6	{C118}	v	{C182}	¶	{C246}	
{C055}	7	{C119}	w	{C183}	·	{C247}	
{C056}	8	{C120}	x	{C184}	,	{C248}	ı
{C057}	9	{C121}	y	{C185}	„	{C249}	
{C058}	:	{C122}	z	{C186}	”	{C250}	
{C059}	;	{C123}	{	{C187}	»	{C251}	
{C060}	<	{C124}	|	{C188}	...	{C252}	
{C061}	=	{C125}	}	{C189}	‰	{C253}	
{C062}	>	{C126}	~	{C190}	Ò	{C254}	
{C063}	?	{C127}	·	{C191}	È	{C255}	

Input	Output	Input	Output	Input	Output	Input	Output
{S000}		{S064}	\equiv	{S128}		{S192}	\aleph
{S001}		{S065}	A	{S129}		{S193}	\aleph
{S002}		{S066}	B	{S130}		{S194}	\aleph
{S003}		{S067}	X	{S131}		{S195}	\aleph
{S004}		{S068}	Δ	{S132}		{S196}	\otimes
{S005}		{S069}	E	{S133}		{S197}	\oplus
{S006}		{S070}	Φ	{S134}		{S198}	\otimes
{S007}		{S071}	Γ	{S135}		{S199}	\cap
{S008}		{S072}	H	{S136}		{S200}	\cup
{S009}		{S073}	I	{S137}		{S201}	\cup
{S010}		{S074}	ϑ	{S138}		{S202}	\cup
{S011}		{S075}	K	{S139}		{S203}	\aleph
{S012}		{S076}	Λ	{S140}		{S204}	\subset
{S013}		{S077}	M	{S141}		{S205}	\sqsubseteq
{S014}		{S078}	N	{S142}		{S206}	\in
{S015}		{S079}	O	{S143}		{S207}	\notin
{S016}		{S080}	Π	{S144}		{S208}	\angle
{S017}		{S081}	Θ	{S145}		{S209}	∇
{S018}		{S082}	P	{S146}		{S210}	
{S019}		{S083}	Σ	{S147}		{S211}	$\text{\textcircled{C}}$
{S020}		{S084}	T	{S148}		{S212}	TM
{S021}		{S085}	Y	{S149}		{S213}	Π
{S022}		{S086}	ζ	{S150}		{S214}	$\sqrt{\quad}$
{S023}		{S087}	Ω	{S151}		{S215}	\cdot
{S024}		{S088}	Ξ	{S152}		{S216}	\neg
{S025}		{S089}	Ψ	{S153}		{S217}	\wedge
{S026}		{S090}	Z	{S154}		{S218}	\vee
{S027}		{S091}	[	{S155}		{S219}	\Leftrightarrow
{S028}		{S092}	\therefore	{S156}		{S220}	\Leftarrow
{S029}		{S093}	]	{S157}		{S221}	\Uparrow
{S030}		{S094}	\perp	{S158}		{S222}	\Rightarrow
{S031}		{S095}	$_$	{S159}		{S223}	\Downarrow
{S032}		{S096}	$_$	{S160}		{S224}	\diamond
{S033}	!	{S097}	α	{S161}	Υ	{S225}	\langle
{S034}	∇	{S098}	β	{S162}	'	{S226}	
{S035}	#	{S099}	χ	{S163}	\leq	{S227}	$\text{\textcircled{C}}$
{S036}	\exists	{S100}	δ	{S164}	/	{S228}	TM
{S037}	%	{S101}	ϵ	{S165}	∞	{S229}	Σ
{S038}	&	{S102}	ϕ	{S166}	f	{S230}	(
{S039}	ε	{S103}	γ	{S167}	\clubsuit	{S231}	|
{S040}	(	{S104}	η	{S168}	\diamond	{S232}	(
{S041}	)	{S105}	ι	{S169}	\heartsuit	{S233}	[
{S042}	*	{S106}	φ	{S170}	\spadesuit	{S234}	|
{S043}	+	{S107}	κ	{S171}	\leftrightarrow	{S235}	|
{S044}	,	{S108}	λ	{S172}	\leftarrow	{S236}	|
{S045}	-	{S109}	μ	{S173}	\uparrow	{S237}	{
{S046}	.	{S110}	ν	{S174}	\rightarrow	{S238}	
{S047}	/	{S111}	\omicron	{S175}	\downarrow	{S239}	|
{S048}	0	{S112}	π	{S176}	\circ	{S240}	
{S049}	1	{S113}	θ	{S177}	\pm	{S241})
{S050}	2	{S114}	ρ	{S178}	"	{S242}	}
{S051}	3	{S115}	σ	{S179}	\geq	{S243}	{
{S052}	4	{S116}	τ	{S180}	\times	{S244}	|
{S053}	5	{S117}	υ	{S181}	∞	{S245}	}
{S054}	6	{S118}	ω	{S182}	∂	{S246})
{S055}	7	{S119}	ω	{S183}	\bullet	{S247}	|
{S056}	8	{S120}	ξ	{S184}	+	{S248}	}
{S057}	9	{S121}	ψ	{S185}	\neq	{S249}	|
{S058}	:	{S122}	ζ	{S186}	\equiv	{S250}	|
{S059}	;	{S123}	{	{S187}	\approx	{S251}	}
{S060}	<	{S124}	|	{S188}	...	{S252}	|
{S061}	=	{S125}	}	{S189}	|	{S253}	}
{S062}	>	{S126}	\sim	{S190}	$_$	{S254}	|
{S063}	?	{S127}		{S191}	\lrcorner	{S255}	

Input	Output	Input	Output	Input	Output	Input	Output
{Z000}		{Z064}	⊕	{Z128}		{Z192}	①
{Z001}		{Z065}	⊗	{Z129}		{Z193}	②
{Z002}		{Z066}	⊖	{Z130}		{Z194}	③
{Z003}		{Z067}	⊗	{Z131}		{Z195}	④
{Z004}		{Z068}	⊗	{Z132}		{Z196}	⑤
{Z005}		{Z069}	⊕	{Z133}		{Z197}	⑥
{Z006}		{Z070}	◆	{Z134}		{Z198}	⑦
{Z007}		{Z071}	◇	{Z135}		{Z199}	⑧
{Z008}		{Z072}	★	{Z136}		{Z200}	⑨
{Z009}		{Z073}	☆	{Z137}	{Z201}	⑩	
{Z010}		{Z074}	⊕	{Z138}		{Z202}	①
{Z011}		{Z075}	☆	{Z139}		{Z203}	②
{Z012}		{Z076}	★	{Z140}		{Z204}	③
{Z013}		{Z077}	★	{Z141}		{Z205}	④
{Z014}		{Z078}	★	{Z142}		{Z206}	⑤
{Z015}		{Z079}	☆	{Z143}		{Z207}	⑥
{Z016}		{Z080}	☆	{Z144}		{Z208}	⑦
{Z017}		{Z081}	★	{Z145}		{Z209}	⑧
{Z018}		{Z082}	✧	{Z146}		{Z210}	⑨
{Z019}		{Z083}	*	{Z147}		{Z211}	⑩
{Z020}		{Z084}	*	{Z148}		{Z212}	→
{Z021}		{Z085}	☪	{Z149}		{Z213}	↓
{Z022}		{Z086}	*	{Z150}		{Z214}	↑
{Z023}		{Z087}	*	{Z151}		{Z215}	↔
{Z024}		{Z088}	*	{Z152}		{Z216}	↘
{Z025}		{Z089}	*	{Z153}		{Z217}	→
{Z026}		{Z090}	⊗	{Z154}		{Z218}	↘
{Z027}		{Z091}	*	{Z155}		{Z219}	↓
{Z028}		{Z092}	*	{Z156}		{Z220}	↓
{Z029}		{Z093}	*	{Z157}		{Z221}	↓
{Z030}		{Z094}	⊗	{Z158}		{Z222}	↓
{Z031}		{Z095}	⊕	{Z159}		{Z223}	↓
{Z032}		{Z096}	⊗	{Z160}		{Z224}	↓
{Z033}	✂	{Z097}	⊗	{Z161}	⌄	{Z225}	↓
{Z034}	✂	{Z098}	*	{Z162}	⋮	{Z226}	∨
{Z035}	✂	{Z099}	*	{Z163}	⋮	{Z227}	∨
{Z036}	✂	{Z100}	*	{Z164}	♥	{Z228}	∨
{Z037}	⬢	{Z101}	*	{Z165}	♥	{Z229}	↓
{Z038}	⬢	{Z102}	⊗	{Z166}	⊗	{Z230}	↓
{Z039}	⬢	{Z103}	⊗	{Z167}	⊕	{Z231}	↓
{Z040}	⬢	{Z104}	⊗	{Z168}	⊕	{Z232}	↓
{Z041}	⬢	{Z105}	⊗	{Z169}	◆	{Z233}	↕
{Z042}	⬢	{Z106}	*	{Z170}	♥	{Z234}	↕
{Z043}	⬢	{Z107}	*	{Z171}	↑	{Z235}	↕
{Z044}	⬢	{Z108}	●	{Z172}	①	{Z236}	↕
{Z045}	⬢	{Z109}	○	{Z173}	②	{Z237}	↕
{Z046}	⬢	{Z110}	■	{Z174}	③	{Z238}	↕
{Z047}	⬢	{Z111}	□	{Z175}	④	{Z239}	↕
{Z048}	⬢	{Z112}	□	{Z176}	⑤	{Z240}	↕
{Z049}	⬢	{Z113}	□	{Z177}	⑥	{Z241}	↕
{Z050}	✓	{Z114}	□	{Z178}	⑦	{Z242}	○
{Z051}	✓	{Z115}	▲	{Z179}	⑧	{Z243}	↓
{Z052}	✓	{Z116}	▼	{Z180}	⑨	{Z244}	↘
{Z053}	✕	{Z117}	◆	{Z181}	⑩	{Z245}	↘
{Z054}	✕	{Z118}	◇	{Z182}	①	{Z246}	↘
{Z055}	✕	{Z119}	▷	{Z183}	②	{Z247}	↘
{Z056}	✕	{Z120}	|	{Z184}	③	{Z248}	↘
{Z057}	⊕	{Z121}	|	{Z185}	④	{Z249}	↘
{Z058}	⊕	{Z122}	|	{Z186}	⑤	{Z250}	→
{Z059}	⊕	{Z123}	‘	{Z187}	⑥	{Z251}	↓
{Z060}	⊕	{Z124}	’	{Z188}	⑦	{Z252}	↓
{Z061}	†	{Z125}	“	{Z189}	⑧	{Z253}	↓
{Z062}	‡	{Z126}	”	{Z190}	⑨	{Z254}	∨
{Z063}	‡	{Z127}		{Z191}	⑩	{Z255}	

Input	Output	Input	Output	Input	Output	Input	Output
{T000}	—	{T032}	←	{T064}	ℵ	{T096}	⋮
{T001}	·	{T033}	→	{T065}	ℒ	{T097}	⋮
{T002}	×	{T034}	↑	{T066}	ℓ	{T098}	⋮
{T003}	*	{T035}	↓	{T067}	ℓ	{T099}	⋮
{T004}	÷	{T036}	↔	{T068}	ℓ	{T100}	⋮
{T005}	◊	{T037}	↗	{T069}	ℓ	{T101}	⋮
{T006}	±	{T038}	↘	{T070}	ℓ	{T102}	{
{T007}	≠	{T039}	ℓ	{T071}	ℓ	{T103}	}
{T008}	⊕	{T040}	⇐	{T072}	ℓ	{T104}	<
{T009}	⊖	{T041}	⇒	{T073}	ℓ	{T105}	>
{T010}	⊗	{T042}	⇑	{T074}	ℓ	{T106}	|
{T011}	⊙	{T043}	⇓	{T075}	ℓ	{T107}	||
{T012}	⊚	{T044}	⇔	{T076}	ℓ	{T108}	↑
{T013}	○	{T045}	↖	{T077}	ℓ	{T109}	↓
{T014}	◦	{T046}	↙	{T078}	ℓ	{T110}	↖
{T015}	•	{T047}	∞	{T079}	ℓ	{T111}	↙
{T016}	∫	{T048}	/	{T080}	ℓ	{T112}	↗
{T017}	≡	{T049}	∞	{T081}	ℓ	{T113}	∏
{T018}	∩	{T050}	∈	{T082}	ℓ	{T114}	∇
{T019}	∪	{T051}	∃	{T083}	ℓ	{T115}	∫
{T020}	∩	{T052}	Δ	{T084}	ℓ	{T116}	∩
{T021}	∪	{T053}	∇	{T085}	ℓ	{T117}	∩
{T022}	∩	{T054}	/	{T086}	ℓ	{T118}	∩
{T023}	∪	{T055}	∩	{T087}	ℓ	{T119}	∩
{T024}	∩	{T056}	∇	{T088}	ℓ	{T120}	§
{T025}	∩	{T057}	∃	{T089}	ℓ	{T121}	†
{T026}	∩	{T058}	∩	{T090}	ℓ	{T122}	‡
{T027}	∩	{T059}	∅	{T091}	ℓ	{T123}	¶
{T028}	∩	{T060}	∩	{T092}	ℓ	{T124}	♣
{T029}	∩	{T061}	∩	{T093}	ℓ	{T125}	◇
{T030}	∩	{T062}	∩	{T094}	ℓ	{T126}	♥
{T031}	∩	{T063}	∩	{T095}	ℓ	{T127}	♠

18. Avoiding club and widow lines

Use the configuration file settings `CLUB_PENALTY` and `WIDOW_PENALTY` for telling \TeX how bad club lines and widow lines are. The default value for both settings is 150. Using higher values should solve the problem with club lines and widow lines.

If increasing `CLUB_PENALTY` and `WIDOW_PENALTY` does not solve the problem, you can use `<LNB>...<LNE>`: If you put `<LNB>1<LNE>` into the paragraph containing the widow line (or into the paragraph in front of the paragraph containing the club line), \TeX will try to make the paragraph containing this command one line longer than its optimum length. `<LNB>-1<LNE>` causes an attempt to make it one line shorter. You may have to increase the plus (and minus) values for `WORD_GLUE` in order to convince \TeX to obey your `<LNB>...<LNE>` command.

<code>CLUB_PENALTY</code>	(150, <i>value</i>)
<code>WIDOW_PENALTY</code>	(150, <i>value</i>)
<code>LOOSENESS_BEGIN</code>	(<LNB>, <i>command name</i>)
<code>LOOSENESS_END</code>	(<LNE>, <i>command name</i>)

19. Breaking the line within Semitic texts

You have to use `<NL>` for telling $\text{T}_{\text{E}}\text{X}$ where to break the lines within Semitic texts.

`NEW_LINE` (`<NL>`, *command name*)

20. New formatting commands

`<NPG>` (`NEW_PARAGRAPH` (`<NPG>`, *command name*)) is equivalent to an empty line and can be used for typesetting lemmata which cover several paragraphs:

```
-----
Paragraph1 (*test1 text1
<NPG>
Paragraph 2 test2*) {variant} text2
-----
```

`<NM>` (`NORMAL_MODE` (`<NM>`, *command name*)) is equivalent to `<IE>` `<UIE>` `<SE>` `<SCE>` `<SPE>` `<UE>` `<RE>` `<LE>` `<BDE>` `<GE>` `<LTE>` and activates `GLOBAL_FONT` from the current position to the end of the current scope (current alternate lemma, current variant reading, current paragraph). `<NM>` ignores trailing spaces.

`FROM_TO_SEPARATOR` (`--`, *text*) defines the symbol which separates the line numbers in front of a lemma in the critical apparatus.

`ELLIPSIS` (`...`, *text*) defines the symbol which is used for marking the ellipsis within lemmata in the critical apparatus.

21. Changing the appearance of indices and exponents

`INDEX_EXPONENT_FACTOR` (`0.6`, $0 < \textit{value} \leq 1$) defines the font size for indices and exponents relative to the current font size.

`LOWER_FACTOR` (`0.15`, $0 < \textit{value} \leq 1$) defines the degree of lowering of indices relative to the current font size. The default value has been changed from `0.2` into `0.15`.

`RAISE_FACTOR` (`0.3`, $0 < \textit{value} \leq 1$) defines the degree of raising of exponents relative to the current font size. The default value has been changed from `0.4` into `0.3`.

22. addpsfnt and small capitals fonts

addpsfnt has a new optional parameter for installing a small capitals font:

```
addpsfnt <normal> <italic> <bold> <bold italic> [caps>|<factor>]
```

If <factor> ($0 < \text{<factor>} \leq 1$) is supplied on the command line, addpsfnt generates the small capitals font from the normal font: The small capitals font consists of the capitals from the normal font and the lower case characters, which are the capitals from the normal font zoomed by the factor supplied on the command line.

If <small caps> is supplied on the command line, addpsfnt uses the supplied font for small capitals and does not generate the small capitals font from the normal font.

If the fifth parameter is omitted, addpsfnt works as before (default value for <factor>: 0.8).

23. Line breaks within underlined text

Line breaks within underlined text are possible, but for hyphenation of underlined words the corresponding places in the words must be marked with |- and nesting of <UB>...<UE> is not allowed.

24. Removing the punctuation marks within abbreviated lemmata

REMOVE_PUNCTUATION_MARKS (N *Y, *yes/no*) defines whether punctuation marks (,:;?!) within abbreviated lemmata in the critical apparatus are printed (*N) or not (*Y).

25. Devanagari

CET is ready for Devanagari (author: Frans J. Velthuis, University of Groningen). You can get Devanagari via ftp (Internet) and you must install it manually.

INSTALLATION INSTRUCTIONS FOR Devanagari for T_EX Version 1.2

1. Copy ftp://ftp.dante.de/tex-archive/language/devanagari.zip into an empty directory (name it devanaga.zip) and unzip devanaga.zip:
`\emtex\unzip\unzip devanaga.zip`
2. Read devanaga\copying for copyright information.

3. Copy devanaga*.tfm to \emtex\tfm
 Copy devanaga*.mf to \emtex\mfinput
 Copy devanaga\latex2e\dev2e.sty to \emtex\texinput
 Copy devanaga\latex2e\ot1dn.fd to \emtex\texinput
 Copy <http://s.top.ruhr-uni-bochum.de/bernt/manual.dvi> to \cet\text
4. Start CET and Print manual (the generation of the missing fonts will take several minutes ...).
5. Remove the directory devanaga.
6. Test the installation (enable Devanagari with DEVANAGARI *Y). Typeset and Print:

```
-----
#N+ #L+

<[ - - - 15 pt 15 pt ]>

<DNB>*hindi mohan raake"s:
(*mis*) {<LTB>variant reading<LTE>} paal<DNE>

#L- #N-
-----
```

7. Typeset and Print devanaga. devanaga.txt contains additional information about typesetting with Devanagari.

26. Concealing the CET menu item "Settings"

If the file \AUTOEXEC.BAT contains the line SET CET_CONCEAL_SETTINGS=Y, CET conceals the CET menu item "Settings" from the user. Remove this line from \AUTOEXEC.BAT and reboot your computer in order to get the CET menu item "Settings" back.

27. Indexing of phrases

Phrases (several successive words) can be indexed. Add the successive words to be indexed to the index file (*.IW and/or *.IM), but omit the spaces between the words. Replace in the text (and/or in the variant readings) all spaces between the successive words to be indexed with <SP> (SPACE (<SP>, *Befehlsname*)). After typesetting the text the index files contain the locations of the phrases to be indexed.

Example:

How to index the phrase "et ex quo": Put the line `etexquo` into the file `*.IW` and/or `*.IM` (without spaces!). Replace all occurrences of "et ex quo" in your text file with `"et<SP>ex<SP>quo"` and typeset your text.

28. Installing Expert fonts

Expert fonts (e. g., for small capitals) can be installed with `addpsfnt` by adding a `*` in front of the Expert font name within the `addpsfnt` command line.

Example:

How to install the font family Monotype Baskerville, which contains the Expert font `Bskvill Exp MT` (file name: `bay_____`) for small capitals: Use the following `addpsfnt` command line:

```
addpsfnt bas_____ basi_____ basb_____ basbi_____ *bay_____
```

29. Error messages

190 Use SEMITIC_LANGUAGES *Y

If you use Semitic languages, you have to put `SEMITIC_LANGUAGES N *Y` into the configuration file. This setting requires more computing time. Therefore you should enable Semitic languages only if you use Semitic languages within your text.

Example: `<HEB>bb.ir_e'^s_iyt<HEE>` (without `SEMITIC_LANGUAGES *Y`)

191 ArabTeX not installed

CEPPEXE cannot find the file `\EMTEX\TEXINPUT\HEBTEX.STY`, which is part of Arab \TeX . Install Arab \TeX (see 1. Arab \TeX).

192 Invalid empty line command

`<EL>` is not valid in this place. `<EL>` must be surrounded by empty lines.

Example: `A <EL> A`

193 Headline is already off

Suppressing of the headline is already active due to `<HOFF>`.

194 Headline is already on

Printing of the headline has not been switched off by `<HOFF>`.

195 Invalid within Semitic mode

Only `<TB>...<TE>` and `<TMB>...<TME>` are valid within Semitic text.

Example: `<HEB>bb<GB>logos<GE>bb<HEE>`

196 Invalid line number

Only numbers (up to six) and `|` (up to five) are valid between `#` and `#`. At least one number must be specified. Spaces between `#` and `#` are invalid. The second `#` must not be omitted.

Example: `(*lemma*) {#|3|A#variant reading}`

197 Invalid while suppression of hyphens is active

`|-` is invalid within `<HB>...<HE>`, `<NHB>...<NHE>` and `<N-B>...<N-E>`. If the offending word mentioned in the error message is not surrounded by these commands, the offending word has been used within `<NHB>...<NHE>` at a different place in the text and all occurrences of this word must not contain `|-`.

Example: `Com| -pu| -ter` after a previous `<NHB>Computer<NHE>`

198 Invalid within definition of global hyphenation rule

Only a `...z`, `A ... Z`, `'` and `-` are valid characters within `<HB>...<HE>`.

Example: `<HB> (bad) <HE>`

199 Wrong lemma begin/end commands for this variant reading

The lemma corresponding to the variant reading mentioned in the error message has been marked with wrong commands.

Example: `(*lemma+) {variant reading}`

200 Invalid command after `<NHB>`

CET commands between `<NHB>` and `<NHE>` are invalid.

Example: `<NHB><IB>italic<IE><NHE>`

201 Invalid outside Semitic mode

`<NL>` must not be used outside Semitic texts.

Example: `<NL>` in Latin texts

202 Leading must not exceed 15 pt

The leading for footnote fonts must not exceed 15 pt.

Example: `FOOTNOTE1_LINE_NUMBER_FONT Palatino m m n 15 pt 16 pt`

203 Devanagari not installed

CEPPEXE cannot find the file `\EMTEX\TEXINPUT\DEV2E.STY`, which is part of Devanagari for \TeX Version 1.2. Install Devanagari (see 25. Devanagari).

204 Use `DEVANAGARI *Y`

If you use Devanagari, you have to put `DEVANAGARI N *Y` into the configuration file. This setting requires more computing time. Therefore you should enable Devanagari only if you use Devanagari within your text.

Example: `<DNB>mohan<DNE>` (without `DEVANAGARI *Y`)

205 Nesting not allowed

Nesting of the command displayed at the end of the error message is not allowed.

Example: `<UB>A <UB>B<UE> C<UE>`

206 Illegal Devanagari character(s)

The string displayed at the end of the error message is illegal.

Example: `<DNB>ca" smaa<DNE>`

207 Devanagari is not compatible with Arab \TeX

`DEVANAGARI *Y` and `SEMITIC_LANGUAGES *Y` is not allowed.

208 Invalid character

Characters with ASCII code 0–20, 22–31, 127, 169–172, 174–224 or 226–255 are not allowed.