

**NAME**

**tlgu** – convert beta code TLG and PHI CD-ROM txt files to Unicode

**SYNOPSIS**

**tlgu** [ *options* ] [ *input\_file* ] [ *output\_file* ]

**DESCRIPTION**

**tlgu** will convert an *input\_file* from Thesaurus Linguae Graeca (TLG) and Packard Humanities Institute (PHI) representation to a Unicode (UTF-8) *output\_file*. If *input\_file* is not specified, standard input will be read. If *output\_file* is not specified, the Unicode text is directed to standard output. The TLG/PHI representation consists of **beta-code** text and **citation** information.

**OPTIONS**

- b** inserts a form feed and citation information (levels a, b, c, d) on every "book" citation change. By default the program will output line feeds only (see also **-p**).
- p** observes paging instructions. By default the program will output line feeds only.
- r** primarily Roman text (PHI). Some TLG texts, notably doccan1.txt and doccan2.txt are mostly roman texts lacking explicit language change codes. Setting this option will force a change to roman text after each citation block is encountered.
- v** highest-level reference citation is included before each text line (v-level)
- w** reference citation is included before each text line (w-level)
- x** reference citation is included before each text line (x-level)
- y** reference citation is included before each text line (y-level)
- z** lowest-level reference citation is included before each text line (z-level).
- Z <custom\_citation\_format\_string>**  
an arbitrary combination of citation information is included before each text line; see also -e option e.g. "%A/%B/%x/%y/%z\t" will output the contents of the A, B **citation description** levels, followed by x, y, z **citation reference** levels, followed by a TAB character.
- e <custom\_blank\_citation\_string>**  
if there is no citation information for a citation level defined with the -Z option above, a single right-hand slash is substituted by default; you may define any string with this option e.g. "-" or "[NONE]" are valid inputs
- B** inserts blank space (a tab) before each and every line.
- X** compact format; v, w, x citations are inserted as they change at the beginning of each section.
- Y** compact format; w, x, y citations are inserted as they change at the beginning of each section.
- N** no spaces; line ends and hyphens before an ID code are removed while hyphens and spaces before page and column ends are (still) retained.
- C** citation debug information is output.
- S** special code debug information is output.
- V** block processing information is output (verbose).
- U** vowels with acute accent are output using the Unicode 0x0370 codes rather than the 0x1F00 ones for compatibility with most current (as of 2020) keyboard encoders.
- W** each work (book) is output as a separate file in the form output\_file-xxx.txt; if an output file is not specified, this option has no effect.

## HISTORY AND INTENDED USE

The purpose of **tlgu** is to translate binary TLG/PHI-format files into readable and editable text. It is based on an earlier program written in 80x86 assembly language (1996) outputting codes for a home-made font which used the prevalent hellenic font encodings of that time complemented by dead accent characters - not very attractive, but readable.

Then came Unicode and a plethora of accented character glyphs; Polytonic fonts are already available (Cardo, Gentium, Athena, Athenian, Porson); new fonts are being created and older fonts are being expanded as special-use code points are included in the Unicode definition (musical symbols, other special symbols). A notable effort since this note was originally drafted is that of the Greek Font Society, now featuring a great, and expanding, selection of open polytonic fonts.

So, at this point in time, **tlgu** will crunch a file which has been formatted according to the published TLG/PHI format and produce codes for most glyphs generally available. No attempt has been made to introduce multi-character sequences or formatting codes (font changes). If a code has not been defined, the program will output the respective "code family" glyph. You may use the **-S** option to check such codes against the published beta code definition.

July 2005 - Troy A. Griffiths (scribe, crosswire org) contributed the arbitrary citation output code and added per-line processing of the input file.

April 2006 - Final sigma will now be output at end-of-line (!) from free-form input text (thank you Jan).

October 2011 - stdout is used if output\_file is not specified.

November 2011 - citations (v, w, x) at the start of section changes (e-book option)

May 2012 - Nick White (nick white, durham ac uk) revised the input arguments to use **tlgu** as a filter; stdin is used if input\_file is not specified

May 2020 - Alternate output codes for vowels with acute accent (-U option)

July 2021 - Corrections to citation code

## EXAMPLES

**./tlgu -r DOCCAN2.TXT doccanu.txt** Translate the TLG canon to a unicode text file. Note the use of the **-r** option (this file expects Roman as the default font).

**./tlgu -x -y -z TLG1799.TXT tlg1799u.txt**

Generate a continuous file with the texts of granpa Euclides. Available citations (-x -y -z) are Book//demonstratio/line as shown in the respective "cit" field of doccan2.txt.

**./tlgu -b -B TLG1799.TXT tlg1799u.txt**

Generate the same texts, this time with a page feed and book citation information on the first page of each book and a tab before each line (use with OOo versions earlier than 1.1.4).

**./tlgu -C TLG1799.TXT tlg1799u.txt**

See how the citation information changes within each TLG block.

**./tlgu -S TLG1799.TXT tlg1799u.txt | sort > symbols1799.txt**

Check out the symbols used in a work. Book and x, y, z references are printed on a separate line for each symbol. Sort / grep the output to locate specific symbols of interest; save in a file for later use.

**./tlgu -W TLG0006.TXT tlg0006u**

Will produce separate files for each work, named tlg006u-001.txt etc.

**./tlgu -Z "%A/%B/%D/%c/%d/%Z/%x/%y/%z" -e "-" chr0010.txt chr0010u.txt**

Will generate a file with citation description (A, B, D, Z) and citation reference (c, d, x, y, z) levels, separated by "/" followed by a TAB character and the respective text. Blank citation elements will be filled with a single "-" e.g. Asia/Smyrna/1222-1223 ac/IGChAs/Asia Min [Chr]/88/-/2A/7p1 [TAB] inscription text etc.

**./tlgu -r -N -X LAT0448.TXT LAT0448.xx.TXT**

will produce a compact version of the Gaius Iulius Caesar texts with v and x citations printed as they change; similarly, **./tlgu -r -N -Y LAT2150.TXT LAT2150.yy.TXT** will produce a compact version of Zeno's texts.

## POST-PROCESSING EXAMPLES

I use the OpenOffice/LibreOffice suite for most of my work. This example shows one of many possible ways of using the search and replace facility to create a readable version of the Suda lexicon.

**./tlgu -B TLG4085.TXT tlg4085u.txt**

A Unicode file with the text is created

### Open the generated file with Openoffice/LibreOffice:

File | Open | Filename: tlg4085u.txt, File Type: Text Encoded -- Press Open

The ASCII Filter Options window appears. Select the Unicode (UTF-8) character set and a proper Unicode font installed in your machine (e.g. Cardo). Press OK.

### Replace angle brackets with expanded text

Lexicon terms are enclosed in <angle brackets>. The actual beta codes indicate the use of expanded text for emphasis. Select Edit | Find & Replace. The **Find & Replace** window appears.

In the **Search For** field, type the following expression: <[<>]\*> This means "find any characters between angle brackets, not including angle brackets".

In the **Replace With** window insert a single ampersand: **&** This means that we need to **add** formatting information (this case) or additional text to the text found. Press **More Options, Format...** and select the **Position** tab; select Spacing Expanded by 2.0 points. Press OK.

Check the **Regular Expressions** box and press **Replace All**.

You may now replace the angle brackets with nothings.

Repeat the above procedure for titles enclosed in {braces}. Write a macro...

### Other useful information

If you are using your wordprocessor with a locale setting other than Hellenic (el\_GR), the following invocation with the desired character classification may prove useful for the occasional polytonic editing:

**LC\_CTYPE=el\_GR.UTF-8 /usr/bin/soffice (or /opt/libreoffice3.4/program/soffice).**

I put my default locale and keyboard definitions in my **.bashrc** or **.profile**:

```
export LC_CTYPE=el_GR.UTF-8
setxkbmap us,el ,polytonic -option grp:ctrl_shift_toggle -option grp_led:scroll
```

This way multi-lingual text can be entered; keyboard layout switching is done by pressing Ctrl/Shift; alternate keyboard layout is indicated by the Scroll Lock light on the keyboard.

## FURTHER DEVELOPMENT

You may not like the character output for a specific code. Check out the **tlgcodes.h** file containing the special symbol and punctuation codes and select one to suit you better. It will probably be a while before the beta to Unicode correspondence settles down.

Drop me a line, if you need a new feature; let me know if you do find an interesting applications that others can profit from.

## REFERENCES

There are several texts describing the internal representation of **PHI** and **TLG** text, ID data, citation data and index files. The originator of this format is the Packard Humanities Institute. The TLG is maintained by UCI – see [www.tlg.uci.edu](http://www.tlg.uci.edu) – where you may find the latest versions of the **TLG Beta Code Manual** and the **TLG Beta Code Quick Reference Guide**.

Unicode consortium ([www.unicode.org](http://www.unicode.org)) publications pertaining to the codification of characters used in Hellenic literature, scientific and musical texts.

The OpenOffice/Libreoffice suite in its various editions ([www.openoffice.org](http://www.openoffice.org) - [apache.org](http://apache.org), [www.libreoffice.org](http://www.libreoffice.org), [www.neooffice.org](http://www.neooffice.org)) includes a word processor that you can use to load, process and create new polytonic texts.

Greek Font Society: [www.greekfontsociety.gr](http://www.greekfontsociety.gr)

## COPYRIGHT

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