

# L<sup>A</sup>T<sub>E</sub>X class and style files for my own local use

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This file started to look like this in about 2016-04-01

## 1 XeLaTeX stuff

Normalize any residual Unicode combining accents, and write out error messages, if any:

XeLaTeX internals

```
1 \XeTeXinputnormalization=1
2 \tracinglostchars=1
3 \tracingonline=1
4 \XeTeXgenerateactualtext=1
```

## 2 Used at different times

Commented out.

hyperref

```
pdfx 5%\usepackage[final=true]{hyperref}
      6%\usepackage[a-1b]{pdfx} % get an archival PDF
```

## 3 Multilingual macros

from: [Stackexchange](#).

etex Not used

```
7%\usepackage{etex}
8%\reserveinserts{28}
9%\usepackage{xcolor}
```

polyglossia Set up various fonts and languages.

```
10 \usepackage{polyglossia}
11 %% work around a bug in polyglossia
12 %% from https://github.com/reutenauer/polyglossia/issues/626
13 \%makeatletter
14 \%ExplSyntaxOn
15 \%pretocmd\xpg@set@alias@values{%
16 %   \prop_if_exist:cF { xpg@alias@keyvals@#1@#4 }
17 %   { \prop_new:c {xpg@alias@keyvals@#1@#4} }
18 %}{-}{-}
19 \%ExplSyntaxOff
```

```

20%\makeatother
21%% end of workaround
22
23\defaultfontfeatures{%
24  Mapping=tex-text,
25  %Color=red,
26  Numbers=OldStyle,
27}
28
29\setmainlanguage[variant=british]{english}

Main document font:
30% \setmainfont[AutoFakeBold=1.5]{EB Garamond 12}
31\setmainfont[BoldFont = * Bold] % t1pretest 2019
32% (See https://tug.org/pipermail/tex-live/2019-March/043211.html)
33% {Linux Libertine 0} % lovely, but use Libertinus
34% {fbb} % also lovely - Bembo, but no underdot
35% {Tinos} % a croscore font; good diacritics
36{TeX Gyre Pagella}
37% {IndUni-P}
38% {Lucida Sans Unicode}
39% {Libertinus Serif} % something funny with overlapping chars in bold 2019-05

```

## 4 Packages that Polyglossia now auto-loads

polyglossia automatically loads: fixltx2e, etex, xunicode, fontspec. But we still need metalogo for the definitions of logos like `\XeLaTeX`.

```

40\usepackage{metalog}
41% \usepackage{xunicode} % get unicode encoding in PDF even when using
42% \= etc. Not needed at present.

```

Getting properly-hyphenated Sanskrit:

```

43\setotherlanguage{sanskrit} % for transliterated Sanskrit
44\newfontfamily\sanskritfont
45 [Script=Latin]
46% [Script=Devanagari]
47% {Linux Libertine 0} %Transliteration only in this font
48{TeX Gyre Pagella} %Transliteration only in this font
49% {IndUni-P} %Transliteration only in this font
50% {Brill} %Transliteration only in this font
51% {Sanskrit 2003} % Roman and Devanagari

```

Define `\sansk{}` which is the same as `\emph{}`, except that it causes appropriate hyphenation for Sanskrit words. Use `\sansk{}` for Sanskrit and

\emph{ } for English.

```
52 \newcommand{\sansk}[1]{\emph{\textsanskrit{#1}}}  
53 \let\iast=\sansk %better name for it  
54 \let\rsan=\sansk
```

Now define the Devanagari font: input using standard IAST transliteration

```
55 \newfontfamily\devanagarifont  
56 [Script=Devanagari,  
57 % FakeStretch=1.05,  
58 Mapping=RomDev, %prefer slightly to iast  
59 ]  
60 % {Sahadeva}  
61 % {Sanskrit 2003}  
62 {Tiro Devanagari Sanskrit}  
  
63 % \newcommand{\dev}[1]{\textdevanagari{#1}} % test this 2018-10  
64 \newcommand{\dev}[1]{\textsanskrit{\devanagarifont #1}} % test this 2020-01  
65 \let\dsan=\devanagarifont  
66 \let\dn=\devanagarifont  
67  
68 \setotherlanguage{bengali}  
69 \newfontfamily\bengalifont  
70 [Script=Bengali]  
71 % {Sahadeva}  
72 % {Noto Serif Bengali}  
73 {Tiro Bangla}
```

Use: \textbengali{ }

And other languages

```
74 \setotherlanguage{german}  
75 \setotherlanguage{french}
```

will call appropriate hyphenation.

Chinese, Japanese, Korean

```
76 \newfontfamily\cjkgfont{Noto Sans CJK SC} %  
77 % [Script=CJK,Mapping=tex-text,Scale=MatchLowercase]  
78 % {IPAexMincho}  
79 % {TakaoPGothic}  
80 \let\cjk\cjkgfont
```

<https://tex.stackexchange.com/questions/376420/>

[include-chinese-characters-into-article-in-xelatex](#)

Classical Greek:

```
81 \setotherlanguage{greek}
```

```

82 \newfontfamily\greekfont[Script=Greek,Mapping=tex-text]{GFS Didot}
83 % {GFS Porson}
84 % {GFS Philostratos}

```

End of polyglossia stuff.

## 5 Sanskrit hyphenation

hyphenations A cumulative hyphenation exception file, `sanskrit-hyphenations.tex`, adds numerous hand-tuned hyphenation points to the default Polyglossia hyphenation rules for Sanskrit. This file needs to be `\input` after the start of the document. Normally, we'd do this with `\AtBeginDocument`, but for obscure reasons, that doesn't work. So we have to add the `\input` statement by hand at the start of every document, immediately after `\begin{document}`.

```

85 % \AtBeginDocument{\input{sanskrit-hyphenations.tex}} % this doesn't work :- (

```

## 6 Misc.

```

csquotes
graphicx 86 \usepackage[style=british]{csquotes} % error in log if not included
          87 \usepackage{graphicx}

```

## 7 Marginal note hacks

Not used:

```

88 % \usepackage{marginfix}
      simple marginal query, now superseded:
89 % \newcommand{\q}[1]{%
90 %     \marginpar{%
91 %         \rlap{%
92 %             \fbox{\vtop{\hsize 0.2\textwidth\raggedright\tiny#1}}}}
93 %     %}

```

Actually, `todonotes` makes nicer marginal comments:

```

todonotes
94 \usepackage{colorinlistoftodos,
95 %     disable,
96 textsize=tiny,
97 obeyDraft,

```

```

98 textwidth=.11\textwidth,
99 loadshadowlibrary,
100 shadow,
101 backgroundcolor=yellow
102 ]{todonotes}
103     \setuptodonotes{fancyline}
104
105 % Now renew the \q command to use \todo:
106 \newcommand{\q}[1]{\todo{#1}}
107 % \AtEndDocument{\newpage\listoftodos } %print the todo list
108 % at the end,
109 % when in draft mode

```

## 8 Stacked diacritics

\diatop \diatop, by Christina Thiele, used for r underdot overbar (ṛ, F6, 246) See *TeXniques: Conference Proceedings* 1987, no.5, p.11. (<https://tug.org/texniques/>)

```

110 \def\diatop[#1|#2]{\leavevmode{\setbox1=\hbox{#1}}\setbox2=\hbox{#2}}}%
111     \dimen0=\ifdim\wd1>\wd2\wd1\else\wd2\fi%
112     \dimen1=\ht2\advance\dimen1by-1ex%
113     \setbox1=\hbox to1\dimen0{\hss#1\hss}%
114     \rlap{\raise1\dimen1\box1}%
115     \hbox to1\dimen0{\hss#2\hss}}}%

```

E.g. of use: \diatop[\'ō] gives u macron acute

## 9 Private abbreviations

```

\AD
etc. 116 \newcommand{\AD}{\textsc{ce}{}}
117 \newcommand{\BC}{\textsc{bce}{}}
118 \newcommand{\BCE}{\textsc{bce}{}}
119 \newcommand{\CE}{\textsc{ce}{}}
120 \providecommand{\Cs}{\emph{Caraka\-\saṃ\-\hitā}}
121 \providecommand{\Ss}{\emph{Suśruta\-\saṃ\-\hitā}}
122 \let\CS\Cs
123 \let\SS\Ss
124 \providecommand{\AH}{\emph{Aṣṭāṅga\-\hrdaya\-\saṃ\-\hitā}}
125 % \newcommand{\saneng}[2]{#2 (\sansk{#1})} % now in
126 % xelatex-indexing-xindex.sty
127 \newcommand{\PYS}{PYŚ} % {Pātañjala\-\yoga\-\śāstra}
128 \newcommand{\YSV}{\sansk{Yogasūtravivaraṇa}}

```

```
129 \newcommand{\sutra}[1]{\textbf{\large #1}\par}
```

## 10 Nice hanging-indent footnotes

`\hangfootnotes` LaTeX Companion, p.73. Not used.

```
130 % \def\hangfootnotes{%
131 % \renewcommand{\@makefnmark}[1]{\setlength{\parindent}{0pt}%
132 % \begin{list}{}{\setlength{\labelwidth}{1.5em}%
133 % \setlength{\leftmargin}{\labelwidth}%
134 % \setlength{\labelsep}{3pt}\setlength{\itemsep}{0pt}%
135 % \setlength{\parsep}{0pt}\setlength{\topsep}{0pt}%
136 % \footnotesize\item[\hfill\@makefnmark]##1%
137 % \end{list}}}%
138 %}
```

But the above is broken by bigfoot (too much vertical space)

Footnotes with hanging indents adapted from <http://www.ceus-now.com/raggedright-in-footnotes-with-hanging-indent/>

```
139 \newcommand\hangfootnotes{%
140 \long\def\@makefnmark##1{\leftskip=1.8em\hskip-1.8em\hb@xt@1.8em
141 {\@thefnmark\hss}##1}}
```

## 11 Normal LaTeX settings now

```
142 \setcounter{secnumdepth}{0}
```

`enumitem`

```
143 \usepackage[inline]{enumitem} % supersedes mdwlist: does it globally
144 \setlist{itemsep=.5em,
145 %labelindent=\parindent,
146 %leftmargin=*,
147 }
```

```
148 % \usepackage{makeidx} % leave this to xelatex-indexing.sty
```

`multicol (env.)`

`longtable (env.)` 149 \usepackage{multicol}

`array (env.)` 150 % \multicolsep = 12pt plus 4pt minus 3pt % default

```
151 \multicolsep = 1pt plus .25ex % like the starred environments
```

```
152 \usepackage{longtable}
```

```
153 \usepackage{array}
```

```
154 % \usepackage{index} % multiple indexes. Doesn't play well with Beamer
```

```
155 \widowpenalty 4000
```



```

156 \clubpenalty 300
157 \brokenpenalty 5000
158 \interfootnotelinepenalty 10 % lets notes break more easily
159 \vfuzz2pt % Don't report over-full v-boxes if over-edge is small
160 \hfuzz2pt % Don't report over-full h-boxes if over-edge is small
161 \emergencystretch .1\textwidth

162 \hyphenation{dharam-pal wuj-as-tyk never-the-less nutri-tive
163 asoka kerala Aristotle Alex-ander Majno manu-script manu-scripts}

```

Command to draw a box where the pictures will go:

```

164 \newcommand{\pretendpicture}
165 { {\centering \fbox{\vrule width0pt height 2.5in depth0pt
166 \vrule width 4in height0pt depth0pt }\par }}

```

use as follows:

```

\begin{figure}[htp]
\begin{center}
\pretendpicture
\end{center}
\caption{}
\label{fig: }
\end{figure}

```

## 12 From article.cls

This isn't used.

```

167% \typeout{Wujastyk: NB: Modified maketitle command, flush
168% left and no array for authors.}

169% \providecommand\@maketitle{%
170% \newpage
171% \null
172% \vskip 2em%
173%% \begin{center}%
174% \let \footnote \thanks
175% \noindent{\LARGE \@title \par}%
176% \vskip 1.5em%
177% \noindent {\large
178% \lineskip .5em%
179%% \noindent
180%% \begin{tabular}[t]{l} %DW
181% \@author
182%% \end{tabular}\par %DW

```

```

183%    }%
184%    \vskip 1em%
185%    \noindent {\large \@date}%
186%%    \end{center}%
187%    \par
188%    \vskip 3em} %DW was 1.5em

```

sloka See <http://cs.wlu.edu/~necaise/refs/latex2e/env-list.4.html> Not used:

```

189% \newenvironment{sloka} % based on {verse}, from book.cls
190%     {\let\\\@centercr
191%     \list{}\itemsep \z@
192%         \topsep .1\baselineskip
193%         \parsep .25\baselineskip
194%         \itemindent -1.5em%
195%         \listparindent\itemindent
196%         \rightmargin \z@
197%         \leftmargin 3pc % = CUP's \SFB@indent
198%         \advance\leftmargin 1.5em}%
199%     \item\itshape\relax}
200%     {\endlist}

```

Here's another version from book.cls, based on the quote environment

```

201 \newenvironment{sloka}
202 {\list{}\rightmargin\leftmargin}%
203 \item\itshape\relax}
204 {\endlist}

```

\PreliminaryNote Preliminary numberless "footnote" for abbreviations, grant references, and other general initial statements.

```

205 \newcommand{\PreliminaryNote}[1]{%
206 {\def\thefootnote{\relax }%
207 \footnotetext{\hspace*{-2.3em} %only if not using \hangfootnotes
208 #1}}}

209 \newcommand{\doublespacing}{%
210 \renewcommand{\baselinestretch}{1.5}
211 \addtolength{\footnotesep}{0.5\footnotesep}}

```

The following not used.

```

212% \usepackage{ccllicenses}
213% \let\DWolddate\date
214% \renewcommand{\date}[1]{\DWolddate{#1\\ \cc \ccby \ccnc \ccsa }}

```

## 13 BibLaTeX

BibLaTeX Load the BibLaTeX package and the oxyear style, and set the various options.

```
215 \usepackage[%
216 backend=biber,
217 %style=authoryear-icomp,
218 % Make idem and ibidem behave appropriately:
219 \url{https://tex.stackexchange.com/questions/61717/biblatex-strictly-identical-footnote-c
220 % (and see \newbibmacro*{cite:ibid} below).
221 %ibidpage,
222 %idemtracker=false,
223 %style=authoryear,
224 %uniquename=false,
225 % oxref:
226 style=oxyear,
227 dashed=true,
228 % end oxref
229 %bibstyle=publist,
230 %marginyear=true,
231 %style=verbose-trad1,
232 %
233 % I finally worked out how to sort cites by year and bibliography by name
234 %
235 \url{https://cikitsa.blogspot.ca/2017/07/biblatex-citations-and-bibliography.html}
236 sorting=ynt, %ynt for the citations in date order; nyt otherwise
237 sortcites=true,
238 %sortlocale=en-GB,
239 backref=false,
240 date=comp,
241 datecirca=true,
242 dateuncertain=true,
243 bibencoding=auto,
244 hyperref=auto,
245 isbn=true,
246 doi=true,
247 language=auto,
248 natbib=true,
249 texencoding=auto,
250 url=true,
251 urldate=short,
252 usetranslator=true,
253 useprefix=true,% van Nooten
254 giveninits=false, % Give first names in the bibliography. See
255 \url{https://github.com/alex-ball/biblatex-oxref/issues/17#issuecomment-843383550}
```

```

256 %maxnames=1, % before "et al."
257 %uniquelist=false,
258 %refsection=section,
259 ]{biblatex}
260
261 \ExecuteBibliographyOptions[% for biblatex-oxyear
262 article,
263 book,
264 mvbook,
265 mvcollection,
266 inbook,
267 incollection,
268 inreference,
269 collection,
270 reference,
271 mvreference]{useeditor=true,
272   usetranslator=true,
273 %   uniquename=full
274 }

```

compyear Patch so that date-abbreviations aren't just one digit. Kindly supplied by Alex Ball, <https://github.com/alex-ball/biblatex-oxref/issues/19>

```

275 \renewcommand{\blx@ox@compyear}[2]{%
276   \def\num@one{#1}%
277   \def\num@two{#2}%
278   \StrLen{\num@one}[\num@one@len]%
279   \StrLen{\num@two}[\num@two@len]%
280   \ifboolexpr{
281     test {\ifnumequal{\num@one@len}{\num@two@len}}
282     and
283     test {\ifnumless{\num@one}{\num@two}}
284   }{%
285     \StrCompare{\num@one}{\num@two}[\Result]%
286     \ifnum\num@two@len>3%
287     \IfStrEq{\Result}{2}{\def\Result{1}}{}%
288     \fi
289     %% Extend the legal date compression behaviour to all entries
290     \IfStrEq{\Result}{4}{\def\Result{3}}{}%
291     %% End of changes
292     \StrGobbleLeft{0\num@two}{\Result}%
293   }{\num@two}}

```

bookeditor I don't use this, now. patch of Sept 2019  
<https://mail.google.com/mail/u/0/#inbox/>

```

FMfcgxwDrHpMnGSkkqjMqHwCCdJqBLkC
294 %\makeatletter
295 %\xpatchbibmacro{bookeditor}{\global\undef\bbx@lasthash}{\}{\}{%
296 %    \wlog{INFO: oxyyear fix no longer needed!}}
297 %\makeatother

assignrefcontextentries I finally discovered how to sort citations by year and bibliography entries
by name (and see sorting, above).
https://cikitsa.blogspot.ca/2017/07/
biblatex-citations-and-bibliography.html
298 \AtBeginDocument{\assignrefcontextentries[]{*}}
But this isn't working 2021-05 :- (

comma Following sections 3.10 and 4.7.5 of the BibLATEX manual, put the comma
inside the quotation marks of the title.
299 \DefineBibliographyExtras{british}{\DeclareQuotePunctuation{.,}}

printbibliography To avoid saying \newrefcontext[sorting=nyt] before
\printbibliography in every document redefine \printbibliography
(from biblatex.sty):
300 \renewrobustcmd*{\printbibliography}{%
301 \newrefcontext[sorting=nyt] % added this line
302 \begingroup
303 \delimcontext{bib}%
304 \edef\on@line{\on@line}%
305 \@ifnextchar[%]
306 {\blx@printbibliography}
307 {\blx@printbibliography[]}}

volcite no "p." or "pp." in, for example, \volcite:
308 \DefineBibliographyStrings{english}{%
309 page = {},
310 pages = {},
311 volume = {},
312 }

addbibresource This isn't used, because we load different bibliographies in different docu-
ments.
313 % \addbibresource
314 %% [datatype=bibtex]
315 % {biblio4-utf8.bib}

```

urls biblatex documentation 4.11.2 and macros from biblatex.def Enable hot  
URLs for PDFs at Archive.org and Academia.edu

```
316 \newif\ifBibHiddenURLs
317 %
318 \ifBibHiddenURLs
319   \relax
320 \else
321 %
322 \DeclareFieldFormat{url}{%
323   \ifhyperref
324     {\textsc{url: }}\href{#1}{#1}} % added a newline to help with long URLs in PDFs
325   {\textsc{url: }}\nolinkurl{#1}} %DW bug here
326 %
327 % Buddhist Digital Resource Center:
328 \DeclareFieldFormat{eprint:tbrc}{%
329   \textsc{TBRC}\space
330   \ifhyperref
331     {\href{https://www.tbrc.org/\#!rid=#1}{\nolinkurl{#1}}}
332     {\nolinkurl{#1}}}
333 %
334 \DeclareFieldFormat{eprint:ark}{%
335   \textsc{ark:}\space
336   \ifhyperref
337     {\href{https://n2t.net/#1}{\nolinkurl{#1}}}
338     {\nolinkurl{#1}}}
339 %
340 \DeclareFieldFormat{eprint:archive}{%
341 %   Internet Archive\addcolon\space
342   \ifhyperref
343 %     {\href{http://archive.org/details/#1}{\nolinkurl{#1}}}
344 %     {\href{http://archive.org/details/#1}{\small Internet Archive}}}
345 %     {\nolinkurl{#1}}}
346 \DeclareFieldAlias{eprint:archive.org}{eprint:archive}
347 \DeclareFieldAlias{eprint:Archive.org}{eprint:archive}
348
349 \DeclareFieldFormat{eprint:academia}{%
350 %   Academia.edu\addcolon\space
351   \ifhyperref
352     {\href{http://www.academia.edu/#1}{\small Academia.edu}}}
353     {\nolinkurl{#1}}}
354 \DeclareFieldAlias{eprint:academia.edu}{eprint:academia}
355
356 \DeclareFieldFormat{eprint:dli}{%
357 %   DLI\addcolon\space
```

```

358 \ifhyperref
359 {\href{http://www.dli.gov.in/cgi-bin/DBscripts/allmetainfo.cgi?barcode=#1/}{\small
360 Digital Library of India}}
361 {\nolinkurl{#1}}}
362 \DeclareFieldAlias{eprint:DLI}{eprint:dli}
363 \DeclareFieldFormat{eprint:jstor}{%
364 \ifhyperref
365 {\href{http://www.jstor.org/stable/#1}{\small JSTOR}}}
366 {\nolinkurl{#1}}}
367
368 \DeclareFieldFormat{eprint:google}{%
369 \ifhyperref
370 {\href{http://books.google.com/books?id=#1}{\small Google books}}}
371 {\nolinkurl{#1}}}
372 %
373 \DeclareFieldFormat{doi}{%
374 \textsc{doi}\addcolon\space
375 \ifhyperref
376 {\href{https://doi.org/#1}{\nolinkurl{#1}}}
377 {\nolinkurl{#1}}}
378 %
379 \fi
380 \BibHiddenURLsfalse

```

citealias Not used. Better done in individual documents.

```

381 %\defcitealias{meul-hist}{HIML}
382 %\defcitealias{ncc}{NCC}
383 %\defcitealias{bisw-bibl}{BSIMC}

```

note To make Bib<sub>La</sub>T<sub>E</sub>X notes print last, like addendums  
from [http://tex.stackexchange.com/questions/138913/  
how-to-move-the-field-note-at-the-end-of-the-reference](http://tex.stackexchange.com/questions/138913/how-to-move-the-field-note-at-the-end-of-the-reference)

```

384 \DeclareSourcemap{
385 \maps[datatype=bibtex]{
386 \map{
387 \step[fieldsource=note, final]
388 \step[fieldset=addendum, origfieldval, final]
389 \step[fieldset=note, null]
390 }
391 }
392 }

```

DeclareFieldFormat Tweaks to make the citation form:- Author date: page

```

393 \DeclareFieldFormat{postnote}{#1}

```

```

394 \renewcommand{\postnotedelim}{:\,}
395 \renewcommand{\nameyear delim}{ }

clearfield Suppress shorthands: http://tex.stackexchange.com/questions/57041/
    Once again, I don't use this at present.
396 % \AtEveryCitekey{\clearfield{shorthand}}

csquotes
397 \usepackage{csquotes}
398 \setquotestyle{american} % american = double quotes

DeclareLabeldate BibLaTEX hacks to get pubstate (?forthcoming? etc.) behaving as it should
BibLaTEX manual 4.5.10
399 \DeclareLabeldate{%
400   \field{date}
401   \field{year}
402   \field{pubstate}
403   \field{eventdate}
404   \field{origdate}
405   \field{urldate}
406   \literal{nodate}
407 }

shorthandwidth Some magic from "moewe" at https://tex.stackexchange.com/questions/442749/biblatex-have-hyperref-links-point-to-the-shorthand-list that
makes hyperlinks work from citations to a list of abbreviations.
408 \DeclareFieldFormat{shorthandwidth}{%
409   \bibhypertarget{shorthand:\thefield{entrykey}}
410   {#1}}
411
412 \DeclareFieldFormat{bibhyperref}{%
413   \iffieldundef{shorthand}
414   {\bibhyperref{#1}}
415   {\bibhyperlink{shorthand:\thefield{entrykey}}{#1}}}

penalties Penalty settings to make URLs format better. From xurl documentation.
    Currently not used.
416 %\usepackage{xurl}
417 %\setcounter{biburllcpenalty}{1}
418 %\setcounter{biburlucpenalty}{1}
419 %\setcounter{biburlnumpenalty}{1}
420 %% but BibLaTEX has this built in to it.

```



literal Create a new data type in bibtex, @literal, which just prints the content of the title field.

Thanks to emilianoehyans at <https://forums.zotero.org/discussion/110863/biblatex-both-langid-and-language-are-needed>

```
421 \DeclareBibliographyDriver{literal}{%
422     \newunit\newblock
423     \printfield{title}%
424     \finentry}
```

DeclareSourcemap It turns out that it's the langid field that controls language-switching in bibliography entries, not language. Since I've always used language, this code will just write the content of the language field to the langid field, on the fly.

```
425 \DeclareSourcemap{
426     \maps[datatype=bibtex]{
427         \map{
428             \step[fieldsource=language,fieldtarget=langid]
429         }
430     }
431 }
```

That's all, folks!

## 14 Glossaries

Official documentation of LaTeX glossaries is found in the TeXlive distribution:

- glossaries.pdf
- glossaries-extra.pdf
- bib2gls.pdf
- glossariesbegin.pdf

See

- <https://ctan.org/pkg/glossaries>
- <https://ctan.org/pkg/glossaries-extra>
- <https://ctan.org/pkg/bib2gls>

The Glossaries packages are complex and the documentation is voluminous and written from the point of view of an insider programmer. See also <https://en.wikibooks.org/wiki/LaTeX/Glossary>

I cannot pretend to understand the package overall, but the code below works.

A shorter and earlier description of this package – with pictures! – is available at <https://cikitsa.blogspot.com/2022/11/making-index-of-plant-names.html>

### 14.1 Glossaries of plants and animals

This package initializes two glossaries, plants and animals. These glossaries draw their content from the databases `plants.bib` and `animals.bib`, using the `bib2gls` feature of Glossaries. These two databases are in simple bibtex format. One entry, for example, reads,

```
@Entry{māmsī,
citationkey = {māmsī},
description = {Nardostachys grandiflora, DC. See
               \volcite{1}[\#1691]{NK}},
name        = {spikenard},
}
```

Note the use of Bib<sub>La</sub>T<sub>E</sub>X citations in the `description` field. You will have loaded the `biblatex` package earlier for this to work.

Also, note that the separate field `"citationkey = {māṃsī}"`, is not necessary (as far as I know). The citation key is the word after `@Entry{` and before the comma. I use [JabRef](#) to manage my databases and it adds the `citationkey =` by itself. It does no harm.

The citation keys in the databases, e.g., `māṃsī`, is used as the argument of the macro `\gls{}` in your document. It may contain diacritical marks. For example, you write `"The plant is \gls{māṃsī}"` and your out put PDF will print `"The plant is spikenard"`. The macro `\gls` has looked up `"māṃsī"` in `plants.bib` and replaced it with the name `"spikenard"`. At the same time, the entry `"spikenard"` is written to the glossary at the end of your document, giving the name `"māṃsī"` and then the contents of the `description` field from `plants.bib`.

## 14.2 Singular, plural, capitalized

The command `\glspl{}` produces the plural (`"spikenards"`). The command `\Gls{}` capitalizes the output (`"Spikenard"`). `\Glspl{}` ... (`"Spikenards"`). If the plural isn't composed with suffix `s`, you can add a field `"plural ="` to the `plants.bib` database giving the plural form. (So, with `plural=mongeese`, `\Glspl{nakula}` prints `"Mongeese"`.)

The glossaries at the end of your document are produced by the commands

- `\printunsrtglossary[type=plants]`
- `\printunsrtglossary[type=animals]`

`glossaries-extra.sty`

```
432 \usepackage[record={only}, % see bib2gls manual, option summary
433 nostyles,                  % don't load things you don't need
434 style=bookindex,          % load this style
435 stylemods=bookindex,      % load the updates for this style
436 postpunc={\,:\ },        % after description, before page numbers
437 automake,                 % run bib2gls automatically; bib2gls manual
438 section]{glossaries-extra}
```

## 14.3 Define two glossaries

`\newglossary` Give names to the database types and to the default headings that will print when the glossaries are printed. Filename extensions etc. are handled

silently.

```
439 \newglossary*{plants}{Flora}
440 \newglossary*{animals}{Fauna}
```

## 15 Format of the glossary entries

This controls the format of the text printed in the glossaries.  
See glossaries-extra.pdf manual, section 8.7.1, p.443

`\glstrbookindexname`

```
441 \renewcommand*{\glstrbookindexname}[1]{%
442   \glossentryname{#1}%
443   \space (\emph{\the\glslabeltok{#1}})%
444   \ifglshasdesc{#1}{\space \glossentrydesc{#1}\glspostdescription}{}%
445 }
```

Get rid of that pesky pre-comma. (glossaries-extra.pdf manual, section 8.7.1, p.446):

```
446 \renewcommand*\glstrbookindexprelocation[1]{\empty }
```

### 15.1 Glossary preamble

`\setglossarypreamble` Tell the reader that a colon (postpunc above) is what separates the glossary text from the page numbers. It can be a bit visually confusing.  
(glossaries-extra.pdf manual, section 8.7.1, p.443):

```
447 %\renewcommand{\glossaryname}{Materia Medica} % can do that later
448 \setglossarypreamble{\emph{\footnotesize
449   Numbers after the final colon refer to
450   pages in this book.}\bigskip}
```

## 16 Load up the databases

Instructions to bib2gls, telling it the location of the databases and what type of data is in each.

The `type=` parameter tells bib2gls what kind of data is in this database. So you can use the same `\gls{}` command whether you are referring to a plant or an animal. bib2gls will look through both databases and send the plant identities to the plants glossary and the animals to the animals glossary.

I don't understand why the `field-aliases` parameter is necessary, but it seems to be.

## 16.1 Plants

`\GlsXtrLoadResources`

```
451 \GlsXtrLoadResources[
452 src={~/Dropbox/localtexmf/bibtex/bib/plants},
453 type=plants,
454 %selection=all, % select this if you want all the contents of the database
455 field-aliases={identifier=citationkey},
456 sort={en-GB},
457 ]
```

## 16.2 Animals

```
458 \GlsXtrLoadResources[
459 src={~/Dropbox/localtexmf/bibtex/bib/animals},
460 type=animals,
461 %selection=all, % select this if you want all the contents of the database
462 field-aliases={identifier=citationkey},
463 sort={en-GB},
464 ]
```

## 17 Print the glossaries

As mentioned above, produce the actual glossaries with

```
\printunsrtglossary • \printunsrtglossary[type=plants]
                     • \printunsrtglossary[type=animals]
                     at the end of your document.
```

That's all folks!

## Index

Numbers written in *italic* refer to the page where the corresponding entry is described; numbers underlined refer to the code line of the definition; numbers in *roman* refer to the code lines where the entry is used.

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