Paris-thesis packages bundle

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Abstract

The `Paristhesis` bundle is a kind of YATHT[1], that adds a new element to the almost countless variants that can be found on CTAN or elsewhere on the Internet[2]. Unlike many alternative solutions, it deeply rely on the standard `book` class and neither `KOMA-script` nor MEMOIR. It provides a number of tools that either help to conform to the French typographical rules and customs, or facilitate specific tasks for French doctoral theses, taking into account that most French universities do not provide binding rules on the format of the thesis, with the notable exception of cover pages

Contents

Introduction

This bundle contains eight packages, that have been carefully made compatible as a whole, and can be loaded or not, depending on the end user's choice[3]. They are also assumed to

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[1] YATHT=Yet another (PhD) thesis template

[2] Not to mention all the templates, most of them very obsolete, that are lying around in the laboratories.

[3] All of them however heavily rely on the packages `etoolbox` and `kvoptions`.

work whether or not one use `hyperref` and/or `babel`[4]. It also include a skeleton that can be used as a "template", based on the standard class `book`, and likely work only with it.

As it contains a large set of packages, that mostly work only with the standard `book` class, this bundle would deserve the creation of a class, that could be done in the future if users request it. However, it seemed preferable to the author to keep it in the form of separate packages in order to preserve the modularity.

Alternatives

Most thesis template found on CTAN (more than 110) are not recommended (if not strongly discouraged). However two alternatives could be considered :

- Template and package bundle `yathesis` on CTAN
- Template and package bundle by Matthias-Pospiech,
  at URL `https://www.matthiaspospiech.de/latex/templates/thesis/`.

1   The five packages `preamb-***`

The description below lists only the packages directly loaded, but not their dependencies.
The star ⋆ denotes packages conditionally loaded depending on options selected.
The ✎ means that the corresponding setting can be overridden after package loading.

1.1   Package `preamb-util`

This package loads many utilities packages, and is essential for the others to work properly.

Packages loaded
The list of packages loaded by `preamb-util` is shown on table 1.

Table 1: Packages loaded by `preamb-util`

Name	Use
– `etoolbox`	% Many advanced functions using ε-tex
– `kvoptions`	% Handle key=value options
– `datetime2`	% Hour and time formating and computation
– `eso-pic`	% Place elements in the background at arbitrary position
– `afterpage`	% Place items/command at the top of the next page
– `silence`	% Suppress some packages warnings
– `xstring`	% String parsing and manipulation
– `afterpackage`	% Load a package when another is loaded
– `ltxcmds`	% Provide latex 2ε kernel commands
– `pdftexcmds`	% Provide direct access to pdftex primitives
– `setspace`	% If you need `\onehalfspacing` or `\doublespacing`

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[4]Only the `french` and `english` babel's options have been tested.

Options

None

1.2 Package `preamb-graph`

This package aims to ease the placement of graphics and their captions. If does not load any part of `PGF` in order to not overload the compilation for users which do not use them.

Packages loaded

The list of packages loaded by `preamb-graph` is shown on table 2.

Table 2: Packages loaded by `preamb-graph`

`ab:pack-graph`

Name	Use
– `graphicx`	% The swiss-army knife for graphics inclusion
– `xcolor`	% Color definitions with options svgnames, table, hyperref, pdftex
– `pdfpages`	% Inclusion of selected pages of another PDF file
– `subcaption`	% Load `caption` and define `\subcaption` & environment `subfigure`
– `placeins`	% Defines the `\FloatBarrier` command.

Options

floatbarrier: *empty* or section or any option recognized by `placeins` package.
Default:*empty* (`\FloatBarrier` is available but not automatically used).

Settings

- Defines French figure caption with `\captionsetup`. ✎
- Increase the `\***fraction` ratios to ease the float placement. ✎

1.3 Package `preamb-math`

Packages loaded

Name	Use
– `mathtools` ⋆	% loads `amsmath`
– `amssymb, bm, bbm`	% loads `amsfonts` with bold math and blackboard
– `icomma`	% comma as decimal separator (for French)
– `upgreek`	% greek upright letters for μm and β–decay)

Options

ams:	Loads `amsmath` package (via `mathtools`).	(default: false)
showonlyrefs:	`mathtools`'s non-numbering of non-referenced equations.	(default: false)
slantedgreekcaps:	Slant the Greek capital letters[5].	(default: false)
boldmath	Ensure that math is bold in bold titles	(default: false)

1.4 Package `preamb-titles`

`s:titles`

The options in this package control the formating of sectionning commands, the main goal being to set titles to `sffamily` (sans-serif font).

Packages loaded

The following packages are loaded only if the corresponding option is set.

– **Name**	% **Use**
– `titlesec` ⋆	% Titles customization.
– `minitoc` ⋆	% Provides small table of contents for each chapter.
– `slantsc` ⋆	% For slanted small caps in running header.

Options

titles:	To alter the titles with the package `titlesec`'s `\titleformat` or with `etoolbox`'s `\patchcmd`. (default: `patchcmd`) - `false` Does not change titles format - `titlesec` Modify titles by using `titlesec` package - `patchcmd` Modify titles by using `patchcmd` package	
romanchap:	Numbering of chapters with roman uppercase	(default: false)
alphsubsub:	Numbering of subsubsections with **a)**, **b)**...	(default: false)
minitoc:	Loads package and prepare a minitoc per chapters	(default: false)
headings:	To alter the running headings.	(default: empty)
	- *empty* or option not set : does nothing. - `small` keeps the uppercased version bit reduces the font size. - `slansc` remove uppercase and use slanted small caps. - `smallsfbold` remove uppercase and use small bold sans-serif.	

Settings

- Set `\pagestyle` to headings (the default for the standard `book` class).✎
- With `minitoc` Assumes that counter `\tocdepth` has been set *before* package loading and set `minitoc`'s depth to `\tocdepth`+2.✎
- Set the numbering by chapter for `equation`, `figure`, `table`.✎

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[5]The slanted version is like `\Gamma`→ Γ but the upright version remains available with `\varGamma`→ Γ.

Version compilée le 2022-01-18, à 17:39:40

1.5   Package `preamb-work`

This package loads or implement several tools that can be useful during the time you are writing your thesis. It must be commented out for the final version, or better, use the final option, either for the package or for the document class, in order to disable it's features (including not loading any package, an disabling all thee related commands).

Packages loaded

Name	Use
– `lipsum, blintext`⋆	% generate dummy text
– `showkeys` ⋆	% display in margin the (normally hidden) \labelkeys
– `changebar` ⋆	% add bar in margin to mark changed parts

Options

final: Disable all the "work in progress" features   (default: false)

Settings

- Set `blindtext` options to get an extended version when using its command `\Blinddocument`. ✎
- Setup `showkeys` to show only \labels and not \refs nor \cites. ✎
- Automatically append compilation date time in the bottom margin of each even page.

Example:

> Version compilée le 2021-05-27, à 12:21:21

2   Package `citebackref`

This very small package helps to include back references in the bibliography. It handles the different case wether or not `hyperref` and/or `babel` is used. It must be loaded after `babel` and before `hyperref`. It's output is in the `babel`'s default language (default to English) and features hyperlinks if relevant.

Package loaded

– **Name**	% **Use**
– `backref` ⋆	% Handle back references in cases where `hyperref` is not loaded

Options

None

3   Package `versionswitch`

3.1   Context and aim

The French regulation requires that thesis are presented in two versions:

- The so-called "diffusion" version, which must be strictly compliant with the copyright rules and therefore free of any third-party content for which the explicit authorization of the authors and the rights holder has not been obtained.

- The so-called "archival" (en French «archivage»), which may contain such elements, but is necessarily restricted for distribution and reproduction.

As the maintenance of two different versions of the same document, differing only by the fact that one is expurgated of some elements (mostly figures), is a tedious and error-prone task, it is interesting to have only one source file and to be able to switch easily from one mode to the other.

3.2 Usage

This simplification is the purpose of the `versionswitch` package, which defines a dedicated environment, named `copyrighted`, in which the elements to be deleted must be enclosed.

- When the documents is compiled normally, or with the `\documentclass`'s options archiv, the complete "archival" version is produced.
- Oppositely, if one uses the option diffus (or the equivalent diffusion), the content of each copyrighted environment is replaced by a box of exactly the same size, ensuring that the surrounding part of the document is typeset in exactly the same way.

The option diffusion is somehow similar to the draft option, with important differences:

- The overfull mark is not printed.
- Only some specific figures (or texts) are replaced by a box.
- This box not only contains the name of the file but also the full bibliographic reference, including an hyper-link to the original work, if `hyperref` is loaded and the bib record contains the link.

The bibliographic reference can be provided in two versions of the `copyrighted` environment.
First version

```
\begin{copyrighted}[option]{bibkey}
\begin{figure}[tbph]
...
\end{figure}
\end{copyrighted}
```

where bibkey is the BibTeX key of the corresponding reference (the corresponding `\cite` is also added in the figure `\caption`). This reference (the `\bibitem`) is extracted from the reference list as provided by BibTeX, by the mean of the `bibentry` package. This `bibentry` package is tightly linked with the `natbib` package, by the same author, which is very convenient to improve the formating of the `\cite` in the text. Therefore, it is necessary to load the `natbib` package *prior* to the `versionswitch` package. The `bibentry` it self is loaded by `versionswitch`, and *should in no way* be loaded independently, as it would clash with `hyperref` or the `citebackref` package[6]
The optional argument option can be set to `diffus` in order to locally emulate the "diffusion" mode, even if the global document mode is "archival" mode.
Second version

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[6]Hence the prescribed order of packages loading is : `babel,natbib,preamb-graph,versionswitch`, and possibly, `citebackref,hyperref`.

```
\begin{copyrighted}[option]{bibkey}[fullbibref]
\begin{figure}[tbph]
...
\end{figure}
\end{copyrighted}
```

In this version the bibkey is used only to provide the link to the bibliography, but the `bibentry` is not used. The second optional argument fullbibref must then provide the formatted content that will be put into the box.

3.3 Examples

Several examples are provided in the file `app-versionswitch.tex` included in the template.

4 Package `thcover`

This packages creates front- and back-cover pages (1 & 4) according to the style prescribed by the university[7]. It also embeds the (user provided) metadata in the PDF file and can optionally create a PDF/A file.

Please refer to its own separate documentation.

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[7]At time of writing (2022-01-18) the cover pages are implemented for the main universities in Paris: Sorbonne Université (SU), Paris Sciences et Lettres (PSL), Université de Paris (UP) and Université Paris-Saclay (UPSaclay). Hence the name of the bundle. It's extension would be rather straightforward

A   Where to put the packages?

The standard answer to this very common question is "where TEX can find it" which is anything but informative! A poor-man solution could be "put all the files in the working directory", but this would be very cumbersome! A more useful answer is "in your 'home' TDS directory".

A.1   TDS Directories

A "TDS directory" (TDS means "TeX Directory Structure") is a directory tree which conforms with the standard structure that any a TEX distribution should conform to[8]. The main (or ROOT, or system wide) TDS directory is usually named "`texmf`" (`mf` stands or METAFONT, a companion program of TEX), except for MiKteX (on Windows computers) where it is the `C:\programs\miktex` directory. In fact the TDS directory is split in various places, depending on the OS. As list of typical locations is https://miktex.org/kb/texmf-roots.

The 'home' TDS directory is specifically intended to store custom packages installed "by hand". It is usually in the user profile directory. If it already exist, and is known by TEX, one gets its location by the command (in console): `kpsewhich -var-value=TEXMFHOME`.

If the answer is empty, create it at any place in your home directory. If it already exist, you can use it directly. In both cases you should respect the TDS structure. This means specifically that the three directories found in the `textmf` in this archive must be copied in the TDS Home directory.

Then you have to instruct TEX about the location of the various files, depending on the OS and the distribution. This can be performed in various ways.

A.2   Using User Home TDS Directory

Unix On Unix-like OS, the TDS Home directory is by default set to `~/texmf` where `~` represents the path to the per user home directory. This can be verified with `kpsewhich -var-value=TEXMFHOME` or `tlmgr conf | grep TEXMFHOME`. If this directory does not yet exist, create it. Once the files copied in this TDS compliant folder, the corresponding filenames database is created/updated with the command `texhash ~/texmf`.

MacOS On Apple computers, the standard distribution is also TeXLive, so the strategy explained above for Unix, is also valid, except that the default TDS Home directory is `~/Library/texmf`, and that the command `texhash` is not necessarily in the `$PATH`.

**MiKTeX** (Windows) you can either use the GUI 'MiKTeX Console'[9], or do it in command line.

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[8]More about TDS at https://tug.org/tds/tds.html.

[9]Launch it from the Start menu, or from a terminal using the command `mpm`

GUI In `mpm`, if you are asked to, select the 'User mode' and not the 'Administrator mode', then go to the 'Settings' panel and select the 'Directories' tab. Check the presence ofthe selected Home directory, or add it to the list, and then 'Refresh file names database'.

Command line Check the status of your directory with `initexmf -verbose -report` or `kpsewhich -var-value=TEXMFHOME`. If not listed, add it with `initexmf -verbose -user-roots=<path>`. Finally, refresh the filenames database with `initexmf -verbose -update-fndb`.
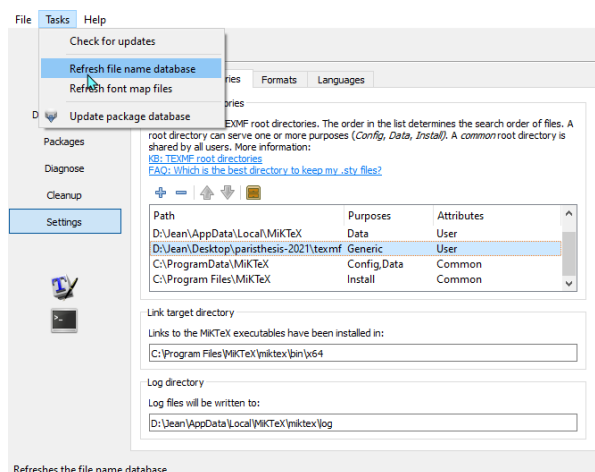
A.3   Two alternatives

Links (use with care) If you have a 'local' TDS directory and the rights to write in it, you can use a symbolic link, in order to avoid to copy the whole set of files[10]. In this case, create, for each folder in the bundle's `texmf` directory, a symbolic link too it in the local TDS directory.

For Windows (with NTFS file system, i.e. v. 7–10), you can use as a local TDS directory the `%USERPROFILE%\AppData\Local\MiKTeX` and the command to create the link (aka 'junction') is `mklink /j <sourcepath> <targetpath>` where `<sourcepath>` is the absolute path to the folder containing the set of files (any of the subfolders of the `texmf` in the archive), and `<targetpath>` the name of a **non-existing** sub-path of the local TDS directory.

For Unix-like computers, including MacOS, the folder location is read as said above, and the links are created by `ln -v -sf <sourcepath> <targetpath>`, with the same meaning of `<sourcepath>` and `<targetpath>`, and the same restriction that `<targetpath>` does not already exist. Note that `sudo` may be needed to write to `TEXMFLOCAL`...

Environment variables The old fashioned way relies on environment variables (not set by modern TeX distributions), and among them `TEXINPUTS`. The folder defined by this variable is searched after the current working directory but before any `TEXMFHOME` or `TEXMFLOCAL`. To check it, type console `echo %TEXINPUTS%` (Windows) or `printenv TEXINPUTS` (Linux & MacOS). To set it, use `set TEXINPUTS=%USERPROFILE%/<path>//` (Windows), or `export TEXINPUTS='~/<path>//'` (Linux & MacOS). In theses commands, the `<path>` is the path of your personal `texmf` tree (e.g. `mylocaltexmf`), relative to your home directory (`%USERPROFILE%` or `~`). Notice that `<path>` **should** be followed by a double slash (`//`) to ask TeX to search non only in this folder but also in all subdirectories. This setting can be temporary if inserted in the script which launches the compilation, or made permanent...

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[10]The only advantage of this approach is that the maintenance of the package is more easer if you have to update it, or your TeX distribution

B   Frequently asked questions

1. The option french of babel changes the labels of `itemize` of • to —
   to change this, we have three methods to choose from:

   (a) Add in the *preamble* : `\frenchsetup{ItemLabels=textbullet}`

   (b) Add in the preamble: `\frenchsetup{StandardItemLabels=true}`

   (c) Load the package enumitem and add in the preamble, for example
   `\setlist[itemize,1]{label=textbullet}`.
   Note that the latter option is more powerful because you can also customize the
   label for each kind and level of lists in the preamble, or list by list in the text.

2. At the first page of `\mainmatter`, the numbering is reset to 1 by the (im-
   plicit) command `\pagenumbering{arabic}`.   This it is convenient for a pa-
   per document, but rather annoying for a document used in electronic form
   (as the logical page number no longer matches the printed one).   To fix
   this, empty this command by adding *just before* `\mainmatter`, the command
   `\renewcommand*\pagenumbering[1]{}`, or at least remove the page counter reset with
   `\renewcommand*\pagenumbering[1]{\renewcommand\thepage{\csuse{#1}{page}}}`

3. The front pages are numbered in Roman numerals (lowercase). To change this put *just
   after* `\frontmatter` the command `\renewcommand\thepage{\arabic{page}}`.

4. By default the table of contents and bibliography (and any `\listof<something>` and
   index) are not included in the `toc`. To change this, the easiest way is to load the package
   tocbibind (with possible options to exclude some contents) but more sophisticated
   option methods are also available, with `\addcontentsline`.

5. With standard or custom packages, the error message "options clash" may occurs, if
   the list of options is not strictly equivalent (i.e. identical except for the order) to a
   a previous request.   In such case, provided the concerned options are not opposed,
   the solution can be to add, just after (or even just before) the `\documentclass` line,
   the command `\PassOptionsToPackage{<options>}{<package>}`, where `<options>` is
   a comma separated list of options.