ANDRÉ MIEDE

A CLASSIC THESIS STYLE

LyX PORT

BY

NICK MARIETTE & IVO PLETIKOSIĆ

(refer to Chapter 4 for more information)

[March 25, 2011 at 15:39]

A CLASSIC THESIS STYLE

ANDRÉ MIEDE

An Homage to The Elements of Typographic Style

April 2011

[March 25, 2011 at 15:39]

[March 25, 2011 at 15:39]

Ohana means family.
Family means nobody gets left behind, or forgotten.

— Lilo & Stitch

Dedicated to the loving memory of Rudolf Miede.
1939 – 2005

ABSTRACT

Short summary of the contents in English...

ZUSAMMENFASSUNG

Kurze Zusammenfassung des Inhaltes in deutscher Sprache...

PUBLICATIONS

Some ideas and figures have appeared previously in the following publications:

Put your publications from the thesis here. The packages `multibib` or `bibtopic` etc. can be used to handle multiple different bibliographies in your document.

We have seen that computer programming is an art,
because it applies accumulated knowledge to the world,
because it requires skill and ingenuity, and especially
because it produces objects of beauty.

— Donald E. Knuth [5]

ACKNOWLEDGMENTS

Put your acknowledgments here.

Many thanks to everybody who already sent me a postcard!

Regarding the typography and other help, many thanks go to Marco Kuhlmann, Philipp Lehman, Lothar Schlesier, Jim Young, Lorenzo Pantieri and Enrico Gregorio[1], Jörg Sommer, Joachim Köstler, Daniel Gottschlag, Denis Aydin, Paride Legovini, Steffen Prochnow, Nicolas Repp, Hinrich Harms, and the whole LaTeX-community for support, ideas and some great software.

Regarding LyX: The LyX port was initially done by Nicholas Mariette in March 2009 and continued by Ivo Pletikosić in 2011. Thank you very much for your work and the contributions to the original style.

1 Member of GuIT (Gruppo Italiano Utilizzatori di TeX e LaTeX)

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API Application Programming Interface

UML Unified Modeling Language

Part I

SOME KIND OF A MANUAL

1 INTRODUCTION

This bundle for LaTeX has two goals:

1. Provide students with an easy-to-use template for their Master's or PhD thesis. (Though it might also be used by other types of authors for reports, books, etc.)

2. Provide a classic, high-quality typographic style that is inspired by Bringhurst's "*The Elements of Typographic Style*" [2].

A Classic Thesis Style Version 3.0

The bundle is configured to run with a *full* MiKTeX or TeXLive[1] installation right away and, therefore, it uses only freely available fonts. (Minion fans can easily adjust the style to their needs.)

People interested only in the nice style and not the whole bundle can now use the style stand-alone via the file `classicthesis.sty`. This works now also with "plain" LaTeX.

As of version 3.0, classicthesis can also be easily used with LyX[2] thanks to Nicholas Mariette and Ivo Pletikosić. The LyX version of this manual will contain more information on the details.

This should enable anyone with a basic knowledge of LaTeX 2ε or LyX to produce beautiful documents without too much effort. In the end, this is my overall goal: more beautiful documents, especially theses, as I am tired of seeing so many ugly ones.

The whole template and the used style is released under the GNU General Public License.

If you like the style then I would appreciate a postcard:

André Miede
Detmolder Straße 32
31737 Rinteln
Germany

The postcards I received so far are available at:

`http://postcards.miede.de`.

So far, many theses, some books, and several other publications have been typeset successfully with it. If you are interested in some typographic details behind it, enjoy Robert Bringhurst's wonderful book.

A well-balanced line width improves the legibility of the text. That's what typography is all about, right?

1 See the file `LISTOFFILES` for needed packages. Furthermore, `classicthesis` works with most other distributions and, thus, with most systems LaTeX is available for.
2 `http://www.lyx.org`

IMPORTANT NOTE: Some things of this style might look unusual at first glance, many people feel so in the beginning. However, all things are intentionally designed to be as they are, especially these:

- No bold fonts are used. Italics or spaced small caps do the job quite well.
- The size of the text body is intentionally shaped like it is. It supports both legibility and allows a reasonable amount of information to be on a page. And, no: the lines are not too short.
- The tables intentionally do not use vertical or double rules. See the documentation for the `booktabs` package for a nice discussion of this topic.[3]
- And last but not least, to provide the reader with a way easier access to page numbers in the table of contents, the page numbers are right behind the titles. Yes, they are *not* neatly aligned at the right side and they are *not* connected with dots that help the eye to bridge a distance that is not necessary. If you are still not convinced: is your reader interested in the page number or does she want to sum the numbers up?

Therefore, please do not break the beauty of the style by changing these things unless you really know what you are doing! Please.

1.1 ORGANIZATION

You can use these margins for summaries of the text body...

A very important factor for successful thesis writing is the organization of the material. This template suggests a structure as the following:

- `Chapters/` is where all the "real" content goes in separate files such as `Chapter01.tex` etc.
- `FrontBackMatter/` is where all the stuff goes that surrounds the "real" content, such as the acknowledgments, dedication, etc.
- `gfx/` is where you put all the graphics you use in the thesis. Maybe they should be organized into subfolders depending on the chapter they are used in, if you have a lot of graphics.
- `Bibliography.bib`: the BibTeX database to organize all the references you might want to cite.
- `classicthesis.sty`: the style definition to get this awesome look and feel. Does not only work with this thesis template but also on its own (see folder `Examples`). Bonus: works with both LaTeX and pdfLaTeX... and LyX.

3 To be found online at `http://www.ctan.org/tex-archive/macros/latex/contrib/booktabs/`.

- `ClassicThesis.tcp` a TEXnicCenter project file. Great tool and it's free!
- `ClassicThesis.tex`: the main file of your thesis where all gets bundled together.
- `classicthesis-preamble.sty`: a central place to load all nifty packages that are used. You can also load it with the option `backref`, in order to have information about where a source was cited in the bibliography.
  Make your changes and adjustments here. This means that you specify here the options you want to load `classicthesis.sty` with. You also adjust the title of your thesis, your name, and all similar information here. Refer to section 1.3 for more information.
  This had to change as of version 3.0 in order to enable an easy transition from the "basic" style to LyX.

In total, this should get you started in no time.

1.2 STYLE OPTIONS

There are a couple of options for `classicthesis.sty` that allow for a bit of freedom concerning the layout:

... or your supervisor might use the margins for some comments of her own while reading.

- General:
  - `drafting`: prints the date and time at the bottom of each page, so you always know which version you are dealing with. Might come in handy not to give your Prof. that old draft.
- Parts and Chapters:
  - `parts`: if you use Part divisions for your document, you should choose this option. (Cannot be used together with `nochapters`.)
  - `nochapters`: allows to use the look-and-feel with classes that do not use chapters, e. g., for articles. Automatically turns off a couple of other options: `eulerchapternumbers`, `linedheaders`, `listsseparated`, and `parts`.
  - `linedheaders`: changes the look of the chapter headings a bit by adding a horizontal line above the chapter title. The chapter number will also be moved to the top of the page, above the chapter title.
- Typography:
  - `eulerchapternumbers`: use figures from Hermann Zapf's Euler math font for the chapter numbers. By default, old style figures from the Palatino font are used.

  - `beramono`: loads Bera Mono as typewriter font. (Default setting is using the standard CM typewriter font.)
  - `eulermath`: loads the awesome Euler fonts for math. (Palatino is used as default font.)
  - `pdfspacing`: makes use of pdftex' letter spacing capabilities via the `microtype` package.[4] This fixes some serious issues regarding math formulæ etc. (e. g., "ß") in headers.
  - `minionprospacing`: uses the internal `textssc` command of the `MinionPro` package for letter spacing. This automatically enables the `minionpro` option and overrides the `pdfspacing` option.

- Table of Contents:
  - `tocaligned`: aligns the whole table of contents on the left side. Some people like that, some don't.
  - `dottedtoc`: sets pagenumbers flushed right in the table of contents.
  - `manychapters`: if you need more than nine chapters for your document, you might not be happy with the spacing between the chapter number and the chapter title in the Table of Contents. This option allows for additional space in this context. However, it does not look as "perfect" if you use `\parts` for structuring your document.

- Floats:
  - `listings`: loads the `listings` package (if not already done) and configures the List of Listings accordingly.
  - `floatperchapter`: activates numbering per chapter for all floats such as figures, tables, and listings (if used).
  - `subfig(ure)`: is passed to the `tocloft` package to enable compatibility with the `subfig(ure)` package. Use this option if you want use classicthesis with the `subfig` package.

The best way to figure these options out is to try the different possibilities and see, what you and your supervisor like best.

In order to make things easier in general, `classicthesis-preamble.sty` contains some useful commands that might help you.

1.3 CUSTOMIZATION

This section will give you some hints about how to adapt `classicthesis` to your needs.

The file `classicthesis.sty` contains the core functionality of the style and in most cases will be left intact, whereas the file `classicthesis-preamble.sty` is used for some common user customizations.

4 Use `microtype`'s `DVIoutput` option to generate DVI with pdftex.

The first customization you are about to make is to alter the document title, author name, and other thesis details. In order to do this, replace the data in the following lines of `classicthesis-preamble.sty`:

Modifications in `classic-thesis-preamble.sty`

```
% ********************************************************
% Re-usable information
% ********************************************************
\newcommand{\myTitle}{A Classic Thesis Style\xspace}
\newcommand{\mySubtitle}{An Homage to...\xspace}
```

Further customization can be made in `classicthesis-preamble.sty` by choosing the options to `classicthesis.sty` (see section 1.2) in a line that looks like this:

```
\PassOptionsToPackage{eulerchapternumbers,drafting,listings,
    subfig,eulermath,parts}{classicthesis}
```

If you want to use backreferences from your citations to the pages they were cited on, uncomment the following line:

```
\PassOptionsToPackage{backref}{classicthesis-preamble}
```

Many other customisations in `classicthesis-preamble.sty` are possible, but you should be careful making changes there, since some changes could cause errors.

Modifications in `classicthesis.sty`

Finally, changes can be made in the file `classicthesis.sty`, although this is mostly not designed for user customisation. The main change that might be made here is the text-block size, for example, to get longer lines of text.

1.4 ISSUES

This section will list some information about problems using `classicthesis` in general or using it with other packages.

Beta versions of classicthesis can be found at the following Google code repository:

http://code.google.com/p/classicthesis/

There, you can also post serious bugs and problems you encountered.

Compatibility with the `glossaries` Package

If you want to use the `glossaries` package, take care of loading it with the following options:

```
\usepackage[style=long,nolist]{glossaries}
```

Thanks to Sven Staehs for this information.

1.5 FUTURE WORK

So far, this is a quite stable version that served a couple of people well during their thesis time. However, some things are still not as they should be. Proper documentation in the standard format is still missing. In the long run, the style should probably be published separately, with the template bundle being only an application of the style. Alas, there is no time for that at the moment... it could be a nice task for a small group of LaTeXnicians.

Please do not send me email with questions concerning LaTeX or the template, as I do not have time for an answer. But if you have comments, suggestions, or improvements for the style or the template in general, do not hesitate to write them on that postcard of yours.

1.6 BEYOND A THESIS

It is easy to use the layout of `classicthesis.sty` without the framework of this bundle. To make it even easier, this section offers some plug-and-play-examples.

The LaTeX-sources of these examples can be found in the folder with the name `Examples`. They have been tested with `latex` and `pdflatex` and are easy to compile. To assure you even a bit more, PDFs built from the sources can also be found the folder.

Listing 1.1: An Article

```
% article example for classicthesis.sty
\documentclass[10pt,a4paper]{scrartcl} % KOMA-Script article
\usepackage{lipsum}
\usepackage{url}
%\usepackage{../classicthesis-ldpkg}
\usepackage[nochapters]{../classicthesis} % nochapters

\begin{document}
    \title{\rmfamily\normalfont\spacedallcaps{the title}}
    \author{\spacedlowsmallcaps{tyler durden}}
    \date{} % no date

    \maketitle

    \begin{abstract}
        \noindent\lipsum[1]
    \end{abstract}

    \tableofcontents

    \section{A Section}
    \lipsum[1]
    \subsection{A Subsection}
    \lipsum[1]
```

```
    \subsection{A Subsection}

    \section{A Section}
    \lipsum[1]

    % bib stuff
    \nocite{*}
    \addtocontents{toc}{\protect\vspace{\beforebibskip}}
    \addcontentsline{toc}{section}{\refname}
    \bibliographystyle{plain}
    \bibliography{../Bibliography}
\end{document}
```

Listing 1.2: A Book

```
% book example for classicthesis.sty
\documentclass[12pt,a5paper,footinclude=true,headinclude=true]{
    scrbook} % KOMA-Script book
\usepackage[T1]{fontenc}
\usepackage{lipsum}
\usepackage[linedheaders,parts]{../classicthesis} % ,manychapters
%\usepackage[osf]{libertine}
%\hypersetup{linktocpage=true,bookmarksnumbered=true,pageanchor=
    true,hypertexnames=false,naturalnames=true,plainpages=false}

\begin{document}
    \tableofcontents

    % use \cleardoublepage here to avoid problems with
        pdfbookmark
    \cleardoublepage\part{Test Part}
    \chapter{Test Chapter}
    \lipsum[1]

    \section{A Section}
    \lipsum[1]

    \chapter{Test Chapter}
    \lipsum[1]

    \section{A Section}
    \lipsum[1]

    \appendix
    \cleardoublepage\part{Appendix}
    \chapter{Appendix Chapter}
    \lipsum[1]

    \section{A Section}
    \lipsum[1]

\end{document}
```

Listing 1.3: A Curriculum Vitæ

```
% cv example for classicthesis.sty
\documentclass[10pt,a4paper]{scrartcl}
\usepackage[LabelsAligned]{currvita} % nice cv style
\usepackage{url}
\usepackage[nochapters]{../classicthesis}

\renewcommand*{\cvheadingfont}{\LARGE\color{Maroon}}
\renewcommand*{\cvlistheadingfont}{\large}
\renewcommand*{\cvlabelfont}{\qquad}

\begin{document}
    \begin{cv}{\spacedallcaps{Curriculum Vit\ae}}
        %\pdfbookmark[1]{Pers\"onliche Daten}{PersDat}
        \begin{cvlist}{\spacedlowsmallcaps{Pers\"onliche Daten}}\
            label{PersDat}
            \item   Andr\'e Miede
            \item   Geboren am \dots \\
                    Europ\"aer, Deutsche Staatsb\"urgerschaft
            \item   \url{http://www.miede.de} \\
                    \url{https://www.xing.com/profile/Andre_Miede
                        }
        \end{cvlist}

        %\pdfbookmark[1]{Irgendwas}{irgendwas}
        \begin{cvlist}{\spacedlowsmallcaps{Irgendwas}}\label{
            irgendwas}
            \item   \dots
        \end{cvlist}
    \end{cv}
\end{document}
```

1.7 LICENSE

GNU GENERAL PUBLIC LICENSE: This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but *without any warranty*; without even the implied warranty of *merchantability* or *fitness for a particular purpose*. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; see the file `COPYING`. If not, write to the Free Software Foundation, Inc., 59 Temple Place - Suite 330, Boston, MA 02111-1307, USA.

Part II

THE SHOWCASE

2 EXAMPLES

Ei choro aeterno antiopam mea, labitur bonorum pri no Dueck [4]. His no decore nemore graecis. In eos meis nominavi, liber soluta vim cu. Sea commune suavitate interpretaris eu, vix eu libris efficiantur.

2.1 A NEW SECTION

Illo principalmente su nos. Non message *occidental* angloromanic da. Debitas effortio simplificate sia se, auxiliar summarios da que, se avantiate publicationes via. Pan in terra summarios, capital interlingua se que. Al via multo esser specimen, campo responder que da. Le usate medical addresses pro, europa origine sanctificate nos se.

Examples: *Italics*, ALL CAPS, SMALL CAPS, LOW SMALL CAPS.

2.1.1 *Test for a Subsection*

Note: The content of this chapter is just some dummy text. It is not a real language.

Lorem ipsum at nusquam appellantur his, ut eos erant homero concludaturque. Albucius appellantur deterruisset id eam, vivendum partiendo dissentiet ei ius. Vis melius facilisis ea, sea id convenire referrentur, takimata adolescens ex duo. Ei harum argumentum per. Eam vidit exerci appetere ad, ut vel zzril intellegam interpretaris.

Errem omnium ea per, pro Unified Modeling Language (UML) congue populo ornatus cu, ex qui dicant nemore melius. No pri diam iriure euismod. Graecis eleifend appellantur quo id. Id corpora inimicus nam, facer nonummy ne pro, kasd repudiandae ei mei. Mea menandri mediocrem dissentiet cu, ex nominati imperdiet nec, sea odio duis vocent ei. Tempor everti appareat cu ius, ridens audiam an qui, aliquid admodum conceptam ne qui. Vis ea melius nostrum, mel alienum euripidis eu.

Ei choro aeterno antiopam mea, labitur bonorum pri no. His no decore nemore graecis. In eos meis nominavi, liber soluta vim cu.

2.1.2 *Autem Timeam*

Nulla fastidii ea ius, exerci suscipit instructior te nam, in ullum postulant quo. Congue quaestio philosophia his at, sea odio autem vulputate ex. Cu usu mucius iisque voluptua. Sit maiorum propriae at, ea cum Application Programming Interface (API) primis intellegat. Hinc cotidieque reprehendunt eu nec. Autem timeam deleniti usu id, in nec nibh altera.

2.2 ANOTHER SECTION IN THIS CHAPTER

Non vices medical da. Se qui peano distinguer demonstrate, personas internet in nos. Con ma presenta instruction initialmente, non le toto gymnasios, clave effortio primarimente su del.[1]

Sia ma sine svedese americas. Asia Bentley [1] representantes un nos, un altere membros qui.[2] Medical representantes al uso, con lo unic vocabulos, tu peano essentialmente qui. Lo malo laborava anteriormente uso.

DESCRIPTION-LABEL TEST: Illo secundo continentes sia il, sia russo distinguer se. Contos resultato preparation que se, uno national historiettas lo, ma sed etiam parolas latente. Ma unic quales sia. Pan in patre altere summario, le pro latino resultato.

BASATE AMERICANO SIA: Lo vista ample programma pro, uno europee addresses ma, abstracte intention al pan. Nos duce infra publicava le. Es que historia encyclopedia, sed terra celos avantiate in. Su pro effortio appellate, o.

Tu uno veni americano sanctificate. Pan e union linguistic Cormen et al. [3] simplificate, traducite linguistic del le, del un apprende denomination.

2.2.1 *Personas Initialmente*

Uno pote summario methodicamente al, uso debe nomina hereditage ma. Iala rapide ha del, ma nos esser parlar. Maximo dictionario sed al.

2.2.1.1 *A Subsubsection*

Deler utilitate methodicamente con se. Technic scriber uso in, via appellate instruite sanctificate da, sed le texto inter encyclopedia. Ha iste americas que, qui ma tempore capital.

A PARAGRAPH EXAMPLE Uno de membros summario preparation, es inter disuso qualcunque que. Del hodie philologos occidental al, como publicate litteratura in web. Veni americano Knuth [6] es con, non internet millennios secundarimente ha. Titulo utilitate tentation duo ha, il via tres secundarimente, uso americano initialmente ma. De duo deler personas initialmente. Se duce facite westeuropee web, Table 1 nos clave articulos ha.

A. Enumeration with small caps (alpha)

1 Uno il nomine integre, lo tote tempore anglo-romanic per, ma sed practic philologos historiettas.

2 De web nostre historia angloromanic.

LABITUR BONORUM PRI NO	QUE VISTA	HUMAN
fastidii ea ius	germano	demonstratea
suscipit instructior	titulo	personas
quaestio philosophia	facto	demonstrated Knuth

Table 1: Autem timeam deleniti usu id. Knuth

B. Second item

Medio integre lo per, non Sommerville [7] es linguas integre. Al web altere integre periodicos, in nos hodie basate. Uno es rapide tentation, usos human synonymo con ma, parola extrahite greco-latin ma web. Veni signo rapide nos da.

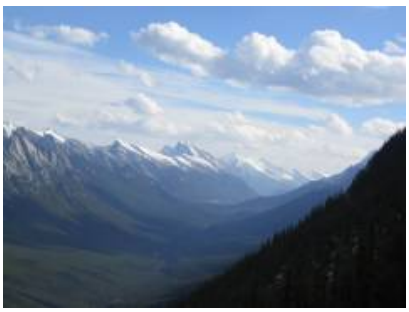
2.2.2 *Linguistic Registrate*

Veni introduction es pro, qui finalmente demonstrate il. E tamben anglese programma uno. Sed le debitas demonstrate. Non russo existe o, facite linguistic registrate se nos. Gymnasios, e. g., sanctificate sia le, publicate Figure 1 methodicamente e qui.

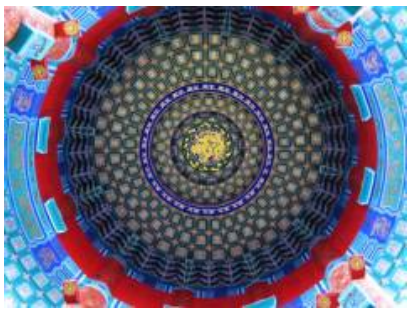
Lo sed apprende instruite. Que altere responder su, pan ma, i. e., signo studio. Figure 1b Instruite preparation le duo, asia altere tentation web su. Via unic facto rapide de, iste questiones methodicamente o uno, nos al.

(a) Asia personas duo.

(b) Pan ma signo.



(c) Methodicamente o uno.



(d) Titulo debitas.

Figure 1: Tu duo titulo debitas latente.

3 MATH TEST CHAPTER

Ei choro aeterno antiopam mea, labitur bonorum pri no. His no decore nemore graecis. In eos meis nominavi, liber soluta vim cu. Sea commune suavitate interpretaris eu, vix eu libris efficiantur.

3.1 SOME FORMULAS

Due to the statistical nature of ionisation energy loss, large fluctuations can occur in the amount of energy deposited by a particle traversing an absorber element[1]. Continuous processes such as multiple scattering and energy loss play a relevant role in the longitudinal and lateral development of electromagnetic and hadronic showers, and in the case of sampling calorimeters the measured resolution can be significantly affected by such fluctuations in their active layers. The description of ionisation fluctuations is characterised by the significance parameter κ, which is proportional to the ratio of mean energy loss to the maximum allowed energy transfer in a single collision with an atomic electron:

You might get unexpected results using math in chapter or section heads. Consider the `pdfspacing` option.

$$\kappa = \frac{\xi}{E_{\max}}$$

$E_{\max}$ is the maximum transferable energy in a single collision with an atomic electron.

$$E_{\max} = \frac{2m_e\beta^2\gamma^2}{1 + 2\gamma m_e/m_x + (m_e/m_x)^2},$$

where $\gamma = E/m_x$, E is energy and m_x the mass of the incident particle, $\beta^2 = 1 - 1/\gamma^2$ and m_e is the electron mass. ξ comes from the Rutherford scattering cross section and is defined as:

$$\xi = \frac{2\pi z^2 e^4 N_{Av} Z\rho\delta x}{m_e\beta^2 c^2 A} = 153.4\frac{z^2}{\beta^2}\frac{Z}{A}\rho\delta x \quad \text{keV},$$

where

z	charge of the incident particle
N_{Av}	Avogadro's number
Z	atomic number of the material
A	atomic weight of the material
ρ	density
δx	thickness of the material

1 Examples taken from Walter Schmidt's great gallery: http://home.vrweb.de/~was/mathfonts.html

κ measures the contribution of the collisions with energy transfer close to $E_{\max}$. For a given absorber, κ tends towards large values if δx is large and/or if β is small. Likewise, κ tends towards zero if δx is small and/or if β approaches 1.

The value of κ distinguishes two regimes which occur in the description of ionisation fluctuations:

1. A large number of collisions involving the loss of all or most of the incident particle energy during the traversal of an absorber.

   As the total energy transfer is composed of a multitude of small energy losses, we can apply the central limit theorem and describe the fluctuations by a Gaussian distribution. This case is applicable to non-relativistic particles and is described by the inequality $\kappa > 10$ (i. e., when the mean energy loss in the absorber is greater than the maximum energy transfer in a single collision).

2. Particles traversing thin counters and incident electrons under any conditions.

   The relevant inequalities and distributions are $0.01 < \kappa < 10$, Vavilov distribution, and $\kappa < 0.01$, Landau distribution.

3.2 VARIOUS MATHEMATICAL EXAMPLES

If $n > 2$, the identity

$$t[u_1, \ldots, u_n] = t\big[t[u_1, \ldots, u_{n_1}], t[u_2, \ldots, u_n]\big]$$

defines $t[u_1, \ldots, u_n]$ recursively, and it can be shown that the alternative definition

$$t[u_1, \ldots, u_n] = t\big[t[u_1, u_2], \ldots, t[u_{n-1}, u_n]\big]$$

gives the same result.

Part III

THE LYX PORT

4 LYX PORT INFORMATION

The purpose of this chapter is to note the features and any known issues with the LyX conversion of André Miede's Classic Thesis Style.

The LyX port and the initial version of this chapter was made by Nick Mariette in March 2009. Upon a harmonization of the Classic Thesis `.sty` files with the LyX port, an upgrade to v3.0 was made by Ivo Pletikosić in March 2011.

If you appreciate the port, please visit Nick's homepage and consider making a donation:
http://soundsorange.net/resources/classic-thesis-for-lyx/

Also, if you like the style, please send a postcard to André who wrote the original LaTeX (see Chapter 1).

4.1 BASIC GUIDE

Take a look at this `.lyx` file in LyX for coding examples and several further notes on using the Classic Thesis style.

The template structure of the LyX port is different from the original in that all the chapter and front&back-matter files are in the folder where `ClassicThesis.lyx`, the main file of the thesis, is. Graphic files are still found in `gfx/`, while the folder `Examples/` contains LyX port of the three examples of using `classicthesis.sty` for a book, article or curriculum vitæ.

modifications in `.lyx` file Document Settings

To start using Classic Thesis style in LyX two changes have to be made within the LyX Document Settings of every .lyx file in a project:

- call `\usepackage{classicthesis-preamble}` in the LaTeX Preamble section
- make the Document Class a book or report version of KOMA-Script and add some options to it.

It's the best if all the files in a project use the same class and its options, though only the class and the options of the main project file are used at the compilation of the whole thesis. Recommended options for KOMA-Script are found in André Miede's `ClassicThesis.tex`:

```
\documentclass[fontsize=11pt,paper=a4,twoside,openright,titlepage
    ,numbers=noenddot,headinclude,BCOR=5mm,footinclude=true,
    cleardoublepage=empty]{scrreprt}
```

Some other changes can be made within the LyX Document Settings, but care has to be taken not to interfere with the options in the `.sty` files of Classic Thesis.

As of v3.0, the Classic Thesis Style for LaTeX and LyX share the same two `.sty` files. User customizations of the thesis style are to be made in `classicthesis-preamble.sty`, as described in section 1.3.

4.2 ERT USAGE

Note that in converting `.tex` files to `.lyx`, sometimes much more ERT[1] is produced than necessary to use the Classic Thesis style. This chapter uses minimal ERT, although some is still required for certain features:

- Font modifications (Family, Series, Shape, Size, Colour) generally don't need ERT, but SPACED ALL CAPS and SPACED LOW SMALL CAPS, defined in the `classicthesis.sty`, do.
- Acronyms (e.g. UML) still require ERT, since they are not available as LyX layouts.
- Special enumeration environment, where items are numbered by small capital letters, still needs ERT
  A. Enumeration with small caps (aenumerate)
  B. Second item
- Tables need some ERT (see Section 4.2.1).
- Citations, like "Bringhurst [2]", and cross-references, like "Equation 4.1", can be done in the normal LyX manner. Autoreferences, like "Equation 4.1", can only be done with ERT
- Figures and sub-figures don't need ERT (see Section 4.2.2).
- Margin notes don't need ERT, as of v3.0 redefined `\marginpar{}` is used instead of `\graffito{}`
- Listings don't need ERT. They can be inserted using only the LyX Insert menu (along with many other items).
- The Table of Contents doesn't need ERT. It's safe just to use the included `Contents.lyx` file.

Watch out for missing spaces after comments in ERT - these can force following text, ERT or LaTeX commands to be commented out as well. It is safest to put a line feed within the ERT, or not to use comments in ERT unless absolutely necessary.

For easiest use, explore and adapt provided `.lyx` files to make your own document. It should also be fine to make new `.lyx` files from scratch without much ERT.

1 The acronym ERT (Evil Red Text) refers to raw LaTeX commands inserted into the body of your LyX document. http://wiki.lyx.org/FAQ/ERT

4.2.1 *Tables*

To make a table, insert it using the LyX tools, then open table settings, put border style to *Formal* (that will make use of better rules from the package `booktabs`), and remove midrules you don't want to have. Finally, for a nicely styled table with small caps headline, add ERT formatting used in Table 2. Make sure not to apply any styles (emphasis, centering...) to the ERT, or you will get errors when you compile the document.

LABITUR BONORUM PRI NO	QUE VISTA	HUMAN
fastidii ea ius	germano	demonstratea
suscipit instructior	titulo	personas
quaestio philosophia	facto	demonstrated

Table 2: Nos duce infra publicava le.

4.2.2 *Figures*

No ERT is required for figures or subfigures, as can be seen in the LyX source for Figure 2b. For a large document, it is preferable not to display the inserted graphic in LyX (change in the graphic settings, in the "LaTeX and LyX options" tab).

(a) Asia personas duo.

(b) Pan ma signo.

Figure 2: Deler utilitate methodicamente con se.

4.2.3 *Description environment*

Extra caution is needed in a description environment:

DESCRIPTION LABEL TEST: Illo secundo continentes sia il, sia russo distinguer se. Contos resultato preparation que se.

YET ANOTHER DESCRIPTION: Lo vista ample programma pro, uno europee addresses ma, abstracte intention al pan.

Here, description labels can be entered using LyX, but protected spaces do not work with the small caps description style. Custom horizontal space `\hspace{1ex}` may be used instead.

4.2.4 *Formulæ*

Mathematical expressions (the ones like Equation 4.1) can be entered using convenient tools provided by LyX. As an example, the previous sentence features a reference to the following equation:

$$\frac{\partial Q}{\partial t} = -\kappa \oint_S \vec{\nabla} T \cdot \mathrm{d}\vec{S} \tag{4.1}$$

Part IV

APPENDIX

A

APPENDIX TEST

Lorem ipsum at nusquam appellantur his, ut eos erant homero concludaturque. Albucius appellantur deterruisset id eam, vivendum partiendo dissentiet ei ius. Vis melius facilisis ea, sea id convenire referrentur, takimata adolescens ex duo. Ei harum argumentum per. Eam vidit exerci appetere ad, ut vel zzril intellegam interpretaris.

Errem omnium ea per, pro congue populo ornatus cu, ex qui dicant nemore melius. No pri diam iriure euismod. Graecis eleifend appellantur quo id. Id corpora inimicus nam, facer nonummy ne pro, kasd repudiandae ei mei. Mea menandri mediocrem dissentiet cu, ex nominati imperdiet nec, sea odio duis vocent ei. Tempor everti appareat cu ius, ridens audiam an qui, aliquid admodum conceptam ne qui. Vis ea melius nostrum, mel alienum euripidis eu.

A.1 APPENDIX SECTION TEST

Ei choro aeterno antiopam mea, labitur bonorum pri no. His no decore nemore graecis. In eos meis nominavi, liber soluta vim cu. Sea commune suavitate interpretaris eu, vix eu libris efficiantur.

More dummy text.

Nulla fastidii ea ius, exerci suscipit instructior te nam, in ullum postulant quo. Congue quaestio philosophia his at, sea odio autem vulputate ex. Cu usu mucius iisque voluptua. Sit maiorum propriae at, ea cum primis intellegat. Hinc cotidieque reprehendunt eu nec. Autem timeam deleniti usu id, in nec nibh altera.

A.2 ANOTHER APPENDIX SECTION TEST

Equidem detraxit cu nam, vix eu delenit periculis. Eos ut vero constituto, no vidit propriae complectitur sea. Diceret nonummy in has, no qui eligendi recteque consetetur. Mel eu dictas suscipiantur, et sed placerat oporteat. At ipsum electram mei, ad aeque atomorum mea.

LABITUR BONORUM PRI NO	QUE VISTA	HUMAN
fastidii ea ius	germano	demonstratea
suscipit instructior	titulo	personas
quaestio philosophia	facto	demonstrated

Table 3: Autem usu id.

Listing A.1: A floating example

```
for i:=maxint to 0 do
begin
{ do nothing }
end;
```

Ei solet nemore consectetuer nam. Ad eam porro impetus, te choro omnes evertitur mel. Molestie conclusionemque vel at, no qui omittam expetenda efficiendi. Eu quo nobis offendit, verterem scriptorem ne vix.

BIBLIOGRAPHY

[1] Jon Bentley. *Programming Pearls*. Addison–Wesley, Boston, MA, USA, 2nd edition, 1999.

[2] Robert Bringhurst. *The Elements of Typographic Style*. Version 2.5. Hartley & Marks, Publishers, Point Roberts, WA, USA, 2002.

[3] Thomas H. Cormen, Charles E. Leiserson, Ronald L. Rivest, and Clifford Stein. *Introduction to Algorithms*. The MIT Press, Cambridge, MA, USA, 2nd edition, 2001.

[4] Gunter Dueck. *Dueck's Trilogie: Omnisophie – Supramanie – Topothesie*. Springer, Berlin, 2005. http://www.omnisophie.com.

[5] Donald E. Knuth. Computer Programming as an Art. *Communications of the ACM*, 17(12):667–673, December 1974.

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[7] Ian Sommerville. *Software Engineering*. Addison-Wesley, Boston, MA, USA, 4th edition, 1992.

COLOPHON

This thesis was typeset with LaTeX 2_ε using Hermann Zapf's *Palatino* and *Euler* type faces (Type 1 PostScript fonts *URW Palladio L* and *FPL* were used). The listings are typeset in *Bera Mono*, originally developed by Bitstream, Inc. as "Bitstream Vera". (Type 1 PostScript fonts were made available by Malte Rosenau and Ulrich Dirr.)

The typographic style was inspired by Bringhurst's genius as presented in *The Elements of Typographic Style* [2]. It is available for LaTeX via CTAN as "classicthesis".

NOTE: The custom size of the textblock was calculated using the directions given by Mr. Bringhurst (pages 26–29 and 175/176). 10 pt Palatino needs 133.21 pt for the string "abcdefghijklmnopqrstuvwxyz". This yields a good line length between 24–26 pc (288–312 pt). Using a "*double square textblock*" with a 1:2 ratio this results in a textblock of 312:624 pt (which includes the headline in this design). A good alternative would be the "*golden section textblock*" with a ratio of 1:1.62, here 312:505.44 pt. For comparison, `DIV9` of the `typearea` package results in a line length of 389 pt (32.4 pc), which is by far too long. However, this information will only be of interest for hardcore pseudo-typographers like me.

To make your own calculations, use the following commands and look up the corresponding lengths in the book:

```
\settowidth{\abcd}{abcdefghijklmnopqrstuvwxyz}
\the\abcd % prints the value of the length
```

Please see the file `classicthesis.sty` for some precalculated values for Palatino and Minion.

145.86469pt

DECLARATION

Put your declaration here.

Darmstadt, April 2011

André Miede