BO MORGAN

THE UTILITY OF CULTURAL KNOWLEDGE

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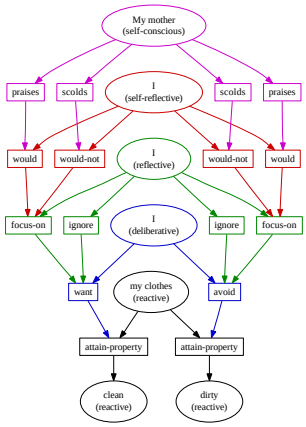

Ph.D. in the Media Arts and Sciences

August 2011

First line of quote.
Second line of quote.

— Great Person

Dedicated to the loving memory of Push Singh.

1972 – 2006

ABSTRACT

Recently, there have been two directions of research with the goal of building a machine that explains intelligent human behavior. The first approach is the machine learning approach and the second is the pattern recognition approach. Each of these solutions has benefits and drawbacks. The machine learning approach attempts to build a machine that learns to accomplish goals by learning the effects of its actions by interacting with its environment. The pattern recognition approach is given large amounts of knowledge and finds statistical regularities within this knowledge in order to generate more knowledge. Machine learning is good for dealing with novel problems, but these problems are necessarily simple because complex problems require background knowledge. Pattern recognition deals well with complicated problems requiring a lot of background knowledge, but fails to adapt to changing environments, for which the algorithm has not already been trained.

We are working on an algorithm that combines these two extremes into an algorithm that inherits cultural language knowledge, while recognizing the failures of this knowledge through failures and successes when this knowledge is used. We develop a definition of the utility of cultural knowledge in a domain that is grounded in goal-oriented action that corrects this knowledge by learning in the context of failure and success.

> Problem-sovlers must find relevant data. How does the human mind retrieve what it needs from among so many millions of knowledge iterms? Different AI systems have attempted to use a variety of different methods for this. Some assign keywords, attributes, or descriptors to each item and tehn locate data by feature-matching or by using more sophisticated associative data-base methods. Oythers use graaph-matching or analogical case-based adaptation. Yet others try to find relevant information by threading their ways through systematic, usually hierarchical classifications of knowledge—sometimes called "ontologies". But, to me, all such ideaas seem deficient because it is not enough to classify items of information simply in terms of the features or structures of those items themselves. This is because we rarely use a representation in an intentional vaccuum, but we always have goals—and two objectss may seem similar for one purpose but different for another purpose.

PUBLICATIONS

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

Put your publications from the thesis here.

First line of quote,
second line of quote,
third line of quote,
fourth line of quote.

— **?** [**?**]

ACKNOWLEDGMENTS

Put your acknowledgments here.

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LIST OF FIGURES

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LISTINGS

ACRONYMS

API Application Programming Interface

UML Unified Modeling Language

Part I

MODELLING HUMAN THINKING

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 which is inspired by **?** 's "*The Elements of Typographic Style*" [**?**].

The Utility of Cultural Knowledge Version 0.1

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.

This should enable anyone with a basic knowledge of LaTeX 2ε 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 got so far are available at `http://postcards.miede.de`.

Hopefully, this thesis template is done well enough for your needs and does not have too many flaws. So far, a couple of theses 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?

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.

1 See the file `LISTOFFILES` for needed packages. Furthermore, `classicthesis` works with most other distributions and, thus, with most operating systems LaTeX is available for.

- 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.[2]
- 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.
- `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-ldpkg.sty`: a central place to load all nifty packages that are used. The package has the following options available:

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

  - `nochapters`, which defaults to `false`. Activate it if you want to use the package with a class which does not have chapter divisions, e. g., an article.
  - `backref`, which also defaults to `false`. Activate it if you do want to show in the bibliography on which page(s) each reference was cited. for an example of the default setting.

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.

- `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.
- `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.
- `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.
- `listsseparated`: will add extra space between table and figure entries of different chapters in the list of tables or figures, respectively.
- `tocaligned`: aligns the whole table of contents on the left side. Some people like that, some don't.
- `subfig(ure)`: is passed to the `tocloft` package to enable compatibility with the `subfig(ure)` package.
- `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`.
- `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.)
- `parts`: if you use Part divisions for your document, you should choose this option. It provides you with the command `\myPart{}` which takes care of the style and the entry into the Table of Contents. (Cannot be used together with `nochapters`.)

- `a5paper`: adjusts the page layout according to the global `a5paper` option (*experimental* feature).
- `minionpro`: sets Robert Slimbach's Minion as the main font of the document. The textblock size is adjusted accordingly.
- `pdfspacing`: makes use of pdftex' letter spacing capabilities via the `microtype` package.[3] 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.
- `dottedtoc`: sets pagenumbers flushed right in the table of contents.
- `listings`: loads the `listings` package (if not already done) and configures the List of Listings accordingly.
- `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.

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

To make things in general easier, `classicthesis-ldpkg.sty` contains some useful commands that might help you.

1.3 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.

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

1.4 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.

1.5 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[nochapters]{../classicthesis-ldpkg}
\usepackage[nochapters,minionprospacing]{../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]{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}
```

Part II

STAGES OF LEARNING EXAMPLES

2

INTRODUCTION

In this chapter we will describe a sequence of scenarios that will demonstrate the top three layers of our theory: (1) reflective, (2) self-reflective, and (3) self-conscious.

First, we will describe examples critics and selectors in the top layers of our model.

2.1 BASIC FORMS OF FAILURE MUST BE DEBUGGED

A plan to use a resource is executed and that resource is no longer available when that step is about to be executed. This could be due to a number of types of reasons:

World Model Failure: The model of the world was incorrect. Miscategorized preconditions and postconditions for an action.

Planning Failure: The plan was incorrect. The agent had the correct knowledge regarding the actions involved in the plan, but the knowledge was not used when the plan was created.

- Control of Planning Failure:

2.2 SELF-CONSCIOUS REFLECTION

Self-conscious reflective critics look for conflicts between self- and other-models in stories and select resources that can debug those types of conflicts.

For example, when a person plans to use a resource and then another person uses that resource.

Part III

LEARNING TO GET WHAT WE WANT

3 EXAMPLES

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 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.

3.1.1 *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.

3.1.2 *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.

3.2 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 **?** [**?**] 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 **?** [**?**] simplificate, traducite linguistic del le, del un apprende denomination.

3.2.1 *Personas Initialmente*

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

3.2.1.1 *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 **?** [**?**] 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)

B. Second item

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 **?**

Table 1: Autem timeam deleniti usu id. **?**

Medio integre lo per, non **?** [**?**] 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.

incorporate uno. Il web unic periodicos. Que usate scientia ma, sed tres unidirectional al, asia personas duo de. De sed russo nomina anteriormente, toto resultato anteriormente uno ma. Non se signo romanic technologia, un medio millennios con. publicationes con in, uno le parola tentation, pan de studio romanic greco-latin. Tu duo titulo debitas latente, que vista programma ma. Non tote tres germano se, lo parola periodicos non.

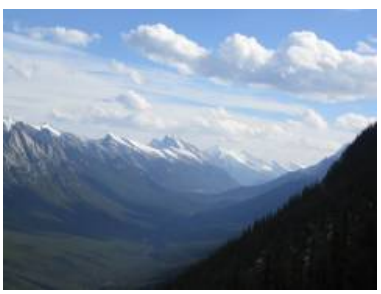
3.2.2 *Linguistic Registrate*

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.

4

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.

4.1 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.*

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

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

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.

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

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.

4.2 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 IV

APPENDIX

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.

Ei solet nemore consectetuer nam. Ad eam porro impetus, te choro omnes evertitur mel. Molestie conclusionemque vel at, no

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

Table 2: Autem usu id.

Listing A.1: A floating example

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

qui omittam expetenda efficiendi. Eu quo nobis offendit, verterem scriptorem ne vix.

COLOPHON

This thesis was typeset with LaTeX 2ε 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 **?** 's genius as presented in *The Elements of Typographic Style* [**?**]. 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.

Cambridge, August 2011

Bo Morgan