

# L<sup>A</sup>T<sub>E</sub>X Style For *No Starch Press* \*

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## Abstract

This package provides class for typesetting books for No Starch Press,  
<http://www.nostarch.com>

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# 1 Introduction

This is the “official” L<sup>A</sup>T<sub>E</sub>X style for *No Starch Press*, <http://www.nostarch.com>. The class is intended to typeset books for this publisher—both hard copies and electronic books.

The suite provides main class, `nostarch.cls`, hyperref interface `nshyper.sty` and MakeIndex style `nostarch.ist`.

The initial version of this class was written in 2008. Since then a number of changes was made for in-house processing by the *No Starch* team, with special thanks to Alex Freed. In 2023 these changes were incorporated back to the publicly released version.

## 2 User’s Guide

### 2.1 Installation

The installation of the class follows the usual practice [1] for L<sup>A</sup>T<sub>E</sub>X packages:

1. Run `latex` on `nostarch.ins`. This will produce the following files: L<sup>A</sup>T<sub>E</sub>X class `nostarch.cls`, L<sup>A</sup>T<sub>E</sub>X style `nshyper.sty` and MakeIndex style `nostarch.ist`.
2. Put the files `nostarch.cls`, `nshyper.sty` and `nostarch.ist` to the places where L<sup>A</sup>T<sub>E</sub>X and MakeIndex can find them (see [1] or the documentation for your T<sub>E</sub>X system).
3. Update the database of file names. Again, see [1] or the documentation for your T<sub>E</sub>X system for the system-specific details.
4. The file `nostarch.pdf` provides the documentation for the package (this is the file you are probably reading now).

As an alternative to items 2 and 3 you can just put the files in the working directory where your `.tex` file is.

To typeset the books in the distinctive *No Starch Press* style you will need the fonts used by them. Unfortunately these fonts (New Baskerville, Futura, The Sans Mono Condensed and Dogma) are not free. You have the following options:

1. Typeset your book using only free fonts (the option `nocfonts` discussed below).
2. Buy the fonts and install them.
3. Arrange with *No Starch Press* for the use of these fonts for your book.

The details of the installation are discussed below in Section 2.2.

### 2.2 Fonts installation

If you wish to try `nostarch` class without bothering to typeset camera-ready copy, you may use the option `nocfonts` for *no commercial fonts*, and the class will use only the free fonts available in T<sub>E</sub>X distributions.

If you work with *No Starch Press* on your book, you might be provided with the fonts. Today *No Starch Press* typically uses `xelatex` and expects the fonts in

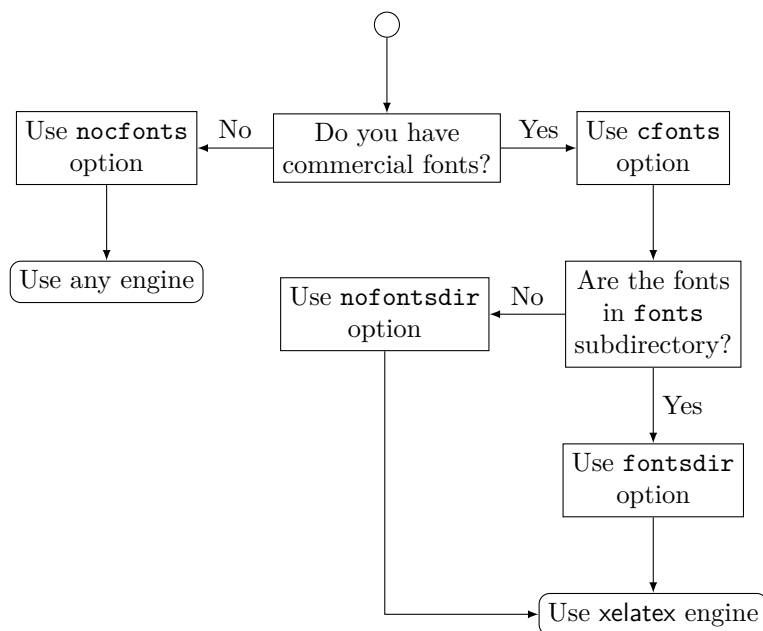


Figure 1: Flowchart for font-related options

True Type format. If this is the case, use the option `cfonts`. *No Starch Press* recommends the authors to put the font files in the subdirectory `fonts` of their main directory. This is where `nostarch` expects them. This is also the layout of directories in the *No Starch Press Overleaf* templates. However, if you prefer to put the fonts in another directory, searchable by `xelatex`, use the option `nofontsdir` in the invocation.

These options are summarized in Figure 1.

## 2.3 Invocation

To use the class, put in the preamble of your document

```
\documentclass[options]{nostarch}
```

*options* As discussed above, *No Starch Press* uses a number of commercial fonts to typeset their books. The option `cfonts` (default) tells `LATEX` that you do have these commercial fonts. On the other hand, the option `nocfonts` instructs `LATEX` to use freely available fonts for typesetting. Of course in this case the result will not look like a *No Starch Press* Book.

*options* If you use commercial fonts *and* `xelatex`, the latter usually expects them in the subdirectory `fonts` of the main directory (see Section 2.2). The options `fontsdir` (default) sets up this behavior. Use the option `nofontsdir` to tell `xelatex` to search standard font directories insted.

Figure 1 may help to choose the right options.

## 2.4 Use of hyperref Package

The books typeset by *No Starch Press* can be sold either as traditional printed and bound hard copies, or as PDF files. If you, the author, envisage the second possibility, you may want additional possibilities provided by `hyperref` package [2], like “clickable” entries in the table of context and index, etc. The provided package `nshyper.sty` adds the functionality of `hyperref` to the class. This package is highly recommended for the books that are going to be distributed in an electronic form.

To use the package, just add the line `\uspackage{nshyper}` to your preamble. This package should be loaded last since it redefines internals of many other packages. Note that a direct call of `hyperref` by `\usepackage{hyperref}` will not work since `nshyper` patches `hyperref` to work with our class.

## 2.5 Front Matter

`\frontmatter` A book can be divided into three parts: front matter, main matter and back matter. Front matter starts with the command `\frontmatter`. Normally this is the first command in the class. Front matter contains half page, title page, copyright page, brief contents, detailed contents, foreword(s) and other stuff which is traditionally typeset on roman-numbered pages. The commands in main matter can be divided into *declarations* and *directives*. Declarations do not typeset anything. Rather, they up parameters for the typesetting. Directives use them to typeset the stuff.

### 2.5.1 Front Matter Declarations

`\title` There are five declarations defined by `nostarch.cls`: `\title`, `\subtitle`, `\author`, `\nostarchlogo` and `\nostarchlocation`. The macro `\title`, like the standard L<sup>A</sup>T<sub>E</sub>X `\title`, sets the title of the book, for example `\title{The book about everything}`.

`\subtitle` The macro `\subtitle` takes one argument and sets up the subtitle of your book, for example `\subtitle{A Guide For Perplexed}`.

`\author` The command `\author` has just one argument, which is the list of authors, separated by commas and (for the last author) the word “and”. Do not use the command `\and` defined in the standard L<sup>A</sup>T<sub>E</sub>X. For example, `\author{Ralph Alpher, Hans Bethe and George Gamow}`.

`\nostarchlogo` Due to copyright reasons the logo of *No Starch Press* is not distributed with the package. You should get the logo as a graphics file from the publishers and put in the directory where L<sup>A</sup>T<sub>E</sub>X can find it (for example, the directory with the other sources of your book). The command `\nostarchlogo` has one argument: the name of the file, for example, `\nostarchlogo{biglogo.pdf}`. The file will be automatically scaled to the proper size.

`\nostarchlocation` *No Starch Press* books are usually published in San Francisco. If you need to change this setting, use `\nostarchlocation` declaration, for example, `\nostarchlocation{San Francisco; London; Tokyo}`.

### 2.5.2 Front Matter Directives

`\makehalftitle` The command `\makehalftitle` creates *half title page*. This is normally the first page of the book.

`\maketitle` The command `\maketitle` creates *title page*. It uses logo and full title of the

book.

`copyrightpage` The copyright page is the *verso* of the title page. It has information about copyright, edition history, the credits of the people who helped you to make the book, CIP information, etc. The exact contents of the copyright page differ from book to book. Therefore the class does not try to create this page automatically, and rather sets up the typographic style for arbitrary contents. For this purpose the environment `copyrightpage` is used. So just put the information provided by the publisher between `\begin{copyrightpage}` and `\end{copyrightpage}`. Use `\textbf{\sffamily title}` for the title of the book on the copyright line.

`cipblock` One of important parts of the copyright page is *CIP block*. It contains catalogue data for your book (CIP means Cataloguing in Publication, by the way). Again, the contents of this field will be provided by the publishers; you just need to put them inside `cipblock` environment, i.e. between `\begin{cipblock}` and `\end{cipblock}`. To make your life easier, this block is typeset verbatim, so line ends and spaces are typeset as is.

`dedicationpage` Dedications, if any, are included in the special dedication page, for which a special environment `dedicationpage` is provided.

`\brieftableofcontents` The standard L<sup>A</sup>T<sub>E</sub>X provides just one table of contents. This class uses two  
`\tableofcontents` tables: brief contents and contents in detail. They are correspondingly typeset by the commands `\brieftableofcontents` and `\tableofcontents`.

`\sectionnumberwidth` In most books by *No Starch Press* sections and subsections are unnumbered.  
`\subsectionnumberwidth` However, sometimes the books use numbered sections or subsections. In these cases you may want to adjust the widths left for section and subsection numbers in the detailed table of contents. They are set by `\sectionnumberwidth` and `\subsectionnumberwidth`, and can be changed with the usual `\setlength` command.

Forewords and similar front matter materials are unnumbered chapters:  
`\chapter*[Foreword by R. E.~Viewer]{Foreword}`.

Front matter with its formal parts like copyright page, CIP information, etc., can be daunting, especially for novice authors. Feel free to use the sample enclosed and ask the publisher for advice.

## 2.6 Main Matter

`\mainmatter` The command `\mainmatter` finishes the front matter and starts the main matter of the book. The main matter is divided into chapters, sections, subsections, etc. They are discussed below.

### 2.6.1 Parts, Chapters and Sections

`\chapter` *No Starch Press* books have chapters, sections, subsections and subsubsections.

`\section` The chapters are usually numbered, but sections and below are not. The

`\subsection` commands for them are the same as in the standard L<sup>A</sup>T<sub>E</sub>X: `\chapter[short title]{long title}`, `\section[short title]{long title}`, etc. For example:

```
\section[Building Lego Fire Track]{How To Build A Lego Fire Track
And Why It Is Fun}
```

The “starred” forms `\chapter*`, `\section*` etc. are used when the corresponding division has no number (like unnumbered chapters in the front matter). Since our

sections, subsections and subsusbssections are unnumbered anyway, this form has meaning only for chapters (but can be used for other divisions as well).

`\chapterart` *No Starch Press* books use “circular art” for chapter openings (except for unnumbered chapters in the front matter). The command `\chapterart` should be issued immediately after `\chapter` command and before the first paragraph. Its argument is the artwork used for the current chapter: `\chapterart{<LATEX commands>}`. In the simplest case it is just inclusion of an external graphics file, for example:

```
\chapterart{\includegraphics[width=1.264in]{firetrack.jpg}}
```

Actually, this simplest case is so ubiquitous, that there is a special command `\chapterartfile{<filename>}` for it, so the previous example can be simplified as

```
\chapterartfile{firetrack.jpg}
```

However, you can use instead any L<sup>A</sup>T<sub>E</sub>X commands to produce the artwork. Remember that it must be 1.264" × 1.222".

The first paragraph after chapter start is typeset in larger size font than the body font. If this paragraph is too long, you may need to manually change the font size back in the middle of it. The simplest way to do this is the combination `\par\noindent\normalfont` in a strategic place.

`\part` Sometimes larger books are separated into parts. The command `\part{<Title>}` is used to typeset parts.

## 2.6.2 Environments

`itemize` The class offers standard `itemize`, `enumerate` and `description` environment.  
`enumerate` There are also special environments reserved for asides. The `aside` environment has a mandatory argument: aside name. It typesets its contents in italics with the name in bold on the marginh:

```
aside the name in bold on the marginh:
note
warning \begin{aside}{Reminder}
        Do not forget to plug off the computer before doing any
        modifications!
        \end{aside}
```

The environments `note` and `warning` are similar, but have pre-defined names NOTE and WARNING, e.g

```
\begin{note}
    Do not forget to plug off the computer before doing any
    modifications!
\end{note}
\begin{warning}
    Do not forget to plug off the computer before doing any
    modifications!
\end{warning}
```

### 2.6.3 Tables and Figures

There are several things to keep in mind when using tables and figures with the class.

The tables and figures are not centered. Neither are their captions. The captions for figures go *below* the figures, the captions for tables go *above* the tabular data.

`\NextCaptionWidth` The captions of tables and figures are automatically typeset with the same width as the table or figure. Sometimes, however,  $\text{\LaTeX}$  makes a mistake in the calculation. In this case the macro `\NextCaptionWidth{<length>}` overrides this calculation and sets the width of the caption for the next figure or table to `{<length>}`, for example

```
\NextCaptionWidth{2in}
\begin{figure}
...
\caption{...}
\end{figure}
```

Typesetting tables, unfortunately, is rarely done right, and standard  $\text{\LaTeX}$  is not an exception. The authors are urged to read the introduction to `booktabs` package [3]. To summarize,

1. Never ever use vertical rules.
2. Never ever use double rules.
3. Use only `\toprule`, `\midrule` and `\bottomrule` for tables.

`\tbfont` *No Starch Press* uses special fonts for table body and table header. Since there `\thfont` are too many tabular-like environments (`tabular`, `tabbing`, `longtable`, ...) we `tabular` do not redefine them switch on these fonts automatically, but rather provide two font switching commands. The command `\tbfont` should be used *before* tabular environment, and the command `\thfont` should be used in all header cells. Also, usually the table entries are flushed left, so you might want to put `@{}` before the first column declaration in `\begin{tabular}` to suppress the padding on the left. Here is an example of a properly done table layout:

```
\begin{table}
\caption{Starch Content of Foods}
\label{tab:starch}
\tbfont
\begin{tabular}{@{}lr}
\toprule
\thfont Product & \thfont Starch Content, \% \\
\midrule
Bran (wheat) & 23.0\\
Brown rice (raw) & 80.0\\
Brown bread (average) & 41.3\\
White bread (average) & 46.7\\
\bottomrule
\end{tabular}
\end{table}
```



## 2.6.4 Code Fragments

The class provides two facilities for including code fragments in the books.

**Code** For short unformatted code fragments the `fancyvrb` package [4] facilities are recommended. This package is automatically automatically loaded by the class. Long code fragments should be separated by rules; the class defines verbatim-like `Code` environment, which does exactly this:

```
\begin{Code}
main() {
    printf("Hello, World\n");
}
\end{Code}
```

See the documentation of [4] about many features of this package.

For longer code fragments the `listings` package [5] is more appropriate. It is also automatically loaded. This package provides a number of useful features, well describe in its manual. We will briefly mention several of them, which might be of interest for the authors of *No Starch Press*:

1. Automatic code formatting according to the rules of the chosen program language (for example, `\lstset{language=C}` or `\lstset{language=Lisp}`).
2. A rich set of different frames: ruled code with `frame=lines`, boxed code with `frame=single` etc.
3. An option to add captions to the listings (the class automatically formats the captions according to the style of *No Starch Press*).
4. An option to make a listing floating.
5. An option to automatically number code lines.
6. An option to add list of listings (with the command `\lstlistoflistings`).

To make the code in `\verb` commands and verbatim-like environments be typeset with the `listings` package, you may want to set `fancyvrb=true` in the preamble of your document.

It should be noted that the authors are recommended *not* to use `\texttt` or `\tt` for inline code fragments. The proper way to add inline code is `\verb` or `\lstinline` from the `listings` package. The difference is obvious, for example, in quote characters.

## 2.7 Boxes

**nspbox** (*env.*) You may put some information into *boxes*. Boxes have a *heading* and a *text*. The environment `nspbox` can be used to typeset them, for example:

```
\begin{nspbox}{This is a heading}
This is a text for the box.
\end{nspbox}
```

## 2.8 Back Matter

`\backmatter` Back matter includes bibliography, index, update page, colophon and other material. It starts with the command `\backmatter`.

### 2.8.1 Bibliography

*No Starch Press* at present has no special style for bibliography, so the authors have a relative freedom to choose one. However, it would be a good idea to use the `natbib` package [6]. This class should work with `natbib`.

No support for per chapter bibliography lists is provided by the package.

### 2.8.2 Index

The books published by *No Starch Press* usually have index. This package provides special style file `nostarch.ist` for index formatting.

`\makeindex` To create index:

`\printindex`

1. Put in the preamble of your document the command `\makeindex`.
2. In the body of your document use `\index` commands as described in [7].
3. Put in the Back Matter the command `\printindex` at the place you want the index to be printed.
4. After a `latex` run `makeindex` with the style `nostarch.ist`. In a Unix system the corresponding command is

```
makeindex -s nostarch.ist mydocument
```

or, in a more verbose way

```
makeindex -s nostarch.ist -o mydocument.ind mydocument.idx
```

(here we assume that your main file is `mydocument.tex`).

Refer to the documentation of your  $\text{\TeX}$  system for the way to run `makeindex` on your computer.

### 2.8.3 Updates and Colophon

`\updatespage` *No Starch Press* books usually have updates page, which lists the Web address for updates, errata, etc. The command `\updatespage` starts such page. You are free to choose any text there. Note that if you use the package `nshypher` 2.4, then the command `\url{<URL>}` becomes a hyperlink in the electronic edition.

`\colophon` The last part of Back Matter is usually a *colophon* which describes how the book was printed and typeset. The command `\colophon` starts this part and prints some standard information about your fonts and  $\text{\LaTeX}$  package. You may want to add some information after this command.

## 3 Implementation

### 3.1 Identification

We start with the declaration who we are. Most `.dtx` files put driver code in a separate driver file `.drv`. We roll this code into the main file, and use the pseudo-guard `<gobble>` for it.

```
1 <class>\NeedsTeXFormat{LaTeX2e}
2 <*gobble>
3 \ProvidesFile{nostarch.dtx}
4 </gobble>
5 <class>\ProvidesClass{nostarch}
6 <nshyper>\ProvidesPackage{nshyper}
7 <*list>
8 [2023/06/18 v2.3 Typesetting books for No Starch Press]
9 </list>
```

And the driver code:

```
10 <*gobble>
11 \documentclass{ltxdoc}
12 \usepackage{array}
13 \usepackage{url,amsfonts,tikz}
14 \usepackage[breaklinks,colorlinks,linkcolor=black,citecolor=black,
15 pagecolor=black,urlcolor=black,hyperindex=false]{hyperref}
16 \usetikzlibrary{positioning}
17 \PageIndex
18 \CodelineIndex
19 \RecordChanges
20 \EnableCrossrefs
21 \begin{document}
22   \DocInput{nostarch.dtx}
23 \end{document}
24 </gobble>
25 <*class>
```

### 3.2 Options

`\ifnostarch@cfonts` First, let us decide whether we have non-free fonts:

```
26 \newif\ifnostarch@cfonts
27 \nostarch@cfontstrue
28 \DeclareOption{cfonts}{\nostarch@cfontstrue}
29 \DeclareOption{nocfontsf}{\nostarch@cfontsfalse}
```

`\ifnostarch@fontsdirectory` We also need to check whether we want to use *No Starch* in house `fonts` directory

```
30 \newif\ifnostarch@fontsdirectory
31 \nostarch@fontsdirectorytrue
32 \DeclareOption{fontsdirectory}{\nostarch@fontsdirectorytrue}
33 \DeclareOption{nofontsdirectory}{\nostarch@fontsdirectoryfalse}
```

The size-changing options produce a warning:

```
34 \long\def\nostarch@size@warning#1{%
35   \ClassWarning{nostarch}{Size-changing option #1 will not be
36     honored}}%
```

```

37 \DeclareOption{8pt}{\nostarch@size@warning{\CurrentOption}}%
38 \DeclareOption{9pt}{\nostarch@size@warning{\CurrentOption}}%
39 \DeclareOption{10pt}{\nostarch@size@warning{\CurrentOption}}%
40 \DeclareOption{11pt}{\nostarch@size@warning{\CurrentOption}}%
41 \DeclareOption{12pt}{\nostarch@size@warning{\CurrentOption}}%

```

All other options are passed to book:

```

42 \DeclareOption*{\PassOptionsToClass{\CurrentOption}{book}}

```

Now we read the configuration file

```

43 \InputIfFileExists{nostarch.cfg}{%
44   \ClassInfo{nostarch}{%
45     Loading configuration file nostarch.cfg}}{%
46   \ClassInfo{nostarch}{%
47     Configuration file nostarch.cfg is not found}}

```

And process the options:

```

48 \ProcessOptions\relax

```

### 3.3 Loading Class and Packages

We start with the base class

```

49 \LoadClass[10pt]{book}

```

A bunch of packages:

```

50 \RequirePackage[table]{xcolor}
51 \RequirePackage{iftex, ifpdf, longtable,
52   fancyhdr, fancyvrb, booktabs, graphicx,
53   listings, caption, makeidx, upquote, pifont,
54   textcomp, xcolor, lmodern, nameref, float, amssymb, etoolbox,
55   setspace, marginnote, url, subfigure}
56 \RequirePackage[framemethod=TikZ]{mdframed}
57 \RequirePackage{soul}
58 \RequirePackage[T1]{fontenc}
59 \RequirePackage{ragged2e}

```

We do not want the option document with ragged2e: this calls footmisc, while we want our own footnotes:

```

60 \RequirePackage{ragged2e}
61 \setlength\RaggedRightParindent{\parindent}
62 \RaggedRight

```

`\@nschapterpreamble` This is the preamble to bibliography and index commands used when nshyper is loaded. Normally it is empty.

```

63 \def\@nschapterpreamble{}

```

### 3.4 Fonts

`\nostarch@fontspath` The path to load fonts

```

64 \ifnostarch@fontsdire
65   \def\nostarch@fontspath#1{Path=fonts/#1/,}
66 \else
67   \def\nostarch@fontspath#1{Path,}
68 \fi

```

If we have commercial fonts, we load them.

```

69 \ifnostarch@cfnts
70 \ifpdfTeX
71   \ClassWarning{nostarch}{Commercial fonts usually require xelatex engine}
72   \RequirePackage{nbaskerv}%
73   \RequirePackage{futuraans}%
74   \RequirePackage[scaled=0.85]{thsmc}%
75   \RequirePackage{dogma}%
76   \newcommand{\dogma}{\fontfamily{fdg}\selectfont}%
77 \else %XeTeX or LuaTeX
78   \RequirePackage{fontspec}
79   \newfontface\dogma[
80     \nostarch@fontspath{dogma}
81     UprightFont=dogma01.ttf,
82     Ligatures=TeX
83   ]{dogma} % Font used for chapter titles
84
85   \newfontface\timesnewroman[
86     \nostarch@fontspath{tnr}
87     UprightFont=times.ttf,
88     BoldFont=timesbd.ttf,
89     ItalicFont=timesi.ttf,
90     BoldItalicFont=timesbi.ttf,
91     Ligatures=TeX
92   ]{timesnewroman}
93
94   \newfontface\futuraabook[
95     \nostarch@fontspath{futuraans}
96     UprightFont=FuturaB37.ttf,
97     BoldFont=FuturaH79.ttf,
98     ItalicFont=FuturaB008.ttf,
99     BoldItalicFont=FuturaCB063.ttf,
100    Ligatures=TeX
101  ]{futuraabook}
102
103  \newfontface\futuraheavy[
104    \nostarch@fontspath{futuraans}
105    UprightFont=FuturaH79.ttf,
106    Ligatures=TeX
107  ]{futuraheavy}
108
109  \newfontface\futuraaboldc[
110    \nostarch@fontspath{futuraans}
111    UprightFont=futuraCB18.ttf,
112    Ligatures=TeX
113  ]{futuraaboldc}
114
115  \newfontface\futuraaboldcoblique[
116    \nostarch@fontspath{futuraans}
117    UprightFont=FuturaCB063.ttf,
118    Ligatures=TeX
119  ]{futuraaboldcoblique}
120
121  \newfontface\futuraablique[

```

```

122 \nostarch@fontspath{futuraans}
123 UprightFont=FutuB008.ttf,
124 Ligatures=TeX
125 ]{futuraoblique}
126
127 \setmainfont{nbaskerv}[
128 \nostarch@fontspath{nbaskerv}
129 UprightFont=NewBaskervilleEF-Roman.ttf,
130 BoldFont=NewBaskervilleEF-Bold.ttf,
131 ItalicFont=NewBaskervilleEF-RomanIta.ttf,
132 BoldItalicFont=NewBaskervilleEF-BoldIta.ttf,
133 Ligatures=TeX]
134
135 \setmonofont[Scale=0.85,
136 \nostarch@fontspath{thsmc}
137 UprightFont=ThSMCP25.ttf,
138 BoldFont=ThSMCB02.ttf,
139 ItalicFont=ThSMCI29.ttf,
140 BoldItalicFont=TSMCBI56.ttf]{thsmc}
141
142 \setsansfont[
143 \nostarch@fontspath{futuraans}
144 UprightFont=futura.ttf,
145 BoldFont=FuturaB41.ttf,
146 ItalicFont=FutuB008.ttf,
147 BoldItalicFont=FutCB063.ttf,
148 Ligatures=TeX
149 ]{futuraans}
150
151 \fi

```

Otherwise we just use sans serif font for dogma.

```

152 \else
153 \newcommand{\dgdefault}{\sfdefault}%
154 \fi

```

A number of commands to provide font defaults in case we use non-commercial fonts

```

155 \providecommand{\dogma}{\fontfamily{dgdefault}\selectfont}
156 \providecommand{\futuraboldc}{\fontfamily{\sfdefault}\fontseries{bc}%
157 \selectfont}
158 \providecommand{\futuraboldcoblique}{\fontfamily{\sfdefault}\fontseries{bc}%
159 \itshape\selectfont}
160 \providecommand{\futuraheavy}{\fontfamily{\sfdefault}\fontseries{hq}%
161 \selectfont}
162 \providecommand{\futurabook}{\fontfamily{\sfdefault}\fontseries{k}%
163 \selectfont}

```

And switch to normal size—just in case

```
164 \normalsize
```

Special commands for number balls

\wingding The number ball

```
165 \newcommand{\wingding}[1]{\ding{\the\numexpr #1 + 181 \relax}}
```

`\codewingding` The number ball inside code

```
166 \newcommand{\codewingding}[1]{\vbox{\llap{\wingding{#1}\hskip 0.5em}}}
```

`\menuarrow`

```
167 \newcommand\menuarrow{\raisebox{.2ex}{\small $\blacktriangleright$}}
```

`\bettertilde` A tilde uses for some texts

```
168 \newcommand{\bettertilde}{\raisebox{-1ex}{\textasciitilde}}
```

`\slashslash` The special slash

```
169 \newcommand{\slashslash}{%
170   \raisebox{.53ex}{%
171     \scalebox{.5}{%
172       \rotatebox[origin=c]{18}{\mathbf{/}}}%
173   }%
174 }%
175 }
```

`\neq` A better  $\neq$

```
176 \renewcommand{\neq}{\mathrel
177   {%
178     \vphantom{=}%
179     \ooalign{\kern.05em\smash{\slashslash}\hidewidth\cr$=\cr}%
180   }%
181 }
182
```

`\keycap` Taken from: <https://tex.stackexchange.com/questions/55664/fake-small-caps-with-xetex-for-225078>

```
183 \newcommand\keycap[1]{\fauxschelper#1 \relax\relax}
184 \def\fauxschelper#1 #2\relax{%
185   \fauxschelphelp#1\relax\relax%
186   \if\relax#2\relax\else\ \fauxschelper#2\relax\fi%
187 }
188 \def\Hscale{.83}\def\Vscale{.72}\def\Cscale{1.00}
189 \def\fauxschelphelp#1#2\relax{%
190   \ifnum`#1>`\ifnum`#1<`\{\scalebox{\Hscale}{\Vscale}{\uppercase{#1}}\else%
191     \scalebox{\Cscale}[1]{#1}\fi\else\scalebox{\Cscale}[1]{#1}\fi%
192   \ifx\relax#2\relax\else\fauxschelphelp#2\relax\fi}
```

### 3.5 Page Dimensions and Paragraphing

`\paperheight` The trim size:

```
\paperwidth 193 \setlength{\paperheight}{9.25in}
194 \setlength{\paperwidth}{7in}
```

`\pdfpaperheight` If we deal with pdftex, we can use this information more creatively. This was  
`\pdfpaperwidth` inspired by memoir [8].

```
\pdfvorigin 195 \ifpdf\relax
\pdfhorigin 196 \pdfpageheight=\paperheight
197 \pdfpagewidth=\paperwidth
198 \pdfvorigin=1in
199 \pdfhorigin=1in
200 \fi
```

`\topmargin` The top margin is 0.625". We use fake headers of 12pt:

```

201 \setlength\topmargin{0.625in}
202 \addtolength\topmargin{-1in}
203 \addtolength\topmargin{-12pt}

```

`\textheight` This is the height of the text including footnotes, but excluding running head and foot.

```

204 \setlength\textheight{8in}
205 \addtolength\textheight{-0.207in}

```

Now we take care of the first line height:

```

206 \addtolength\textheight{\topskip}

```

`\evensidemargin` The margins on even and odd pages are 0.687"+0.833" (margin par width) +

`\oddsidemargin` 0.167" (margin par gap):

```

207 \setlength\evensidemargin{0.687in}
208 \addtolength\evensidemargin{-1in}
209 \addtolength\evensidemargin{0.833in}
210 \addtolength\evensidemargin{0.167in}
211 \setlength\oddsidemargin\evensidemargin

```

`\textwidth` The type area is 5.625", but this includes side gap:

```

212 \setlength\textwidth{5.625in}
213 \addtolength\textwidth{-0.833in}
214 \addtolength\textwidth{-0.167in}

```

`\parindent` The paragraph indentation is 0.25":

```

215 \setlength\parindent{0.25in}

```

`\headheight` We do not have headers in these books. Fancyhdr sets `headheight` to 12pt, so we

`\headsep` compensate it above in `\topmargin`

```

216 \setlength\headheight{12pt}
217 \setlength\headsep{0pt}

```

`\footskip` The footer is 8.792" from top

```

218 \setlength\footskip{9in}
219 \addtolength\footskip{-\textheight}
220 \addtolength\footskip{0.067in}
221 \addtolength\footskip{\baselineskip}
222 \addtolength\footskip{-1in}

```

`\widowpenalty` We forbid widows and clubs. To prevent too extended pages we use `\raggedbottom`:

`\clubpenalty`

```

223 \widowpenalty=10000
224 \clubpenalty=10000
225 \raggedbottom

```

`\sochapter` Some spacing commands.

```

\sochapter 226 \sodef\sochapter{.150em}{.5em}{1em}
\sotitle 227 \sodef\sotitle{.125em}{.5em}{1em}
\sobox 228 \sodef\sobox{.075em}{.5em}{1em}
\sonote 229 \sodef\sonote{.200em}{.5em}{1em}

```



### 3.6 Headers and Footers

`\headrulewidth` We do not want decorative rules:

```
\footrulewidth 230 \renewcommand{\headrulewidth}{0pt}
                231 \renewcommand{\footrulewidth}{0pt}
```

We do not have headers:

```
232 \pagestyle{fancy}
233 \lhead{}
234 \rhead{}
235 \chead{}
```

The right footer is stuck  $0.833'' + 0.167'' = 1''$  to the right

```
236 \fancyhfoffset[L]{1in}
```

On even pages we put page number and chapter title in footer.

```
237 \fancyfoot[R0]{\sffamily \fontsize{6pt}{6pt}%
238   \fontseries{lq}\selectfont\rightmark%
239   \hspace{2em} \futuraaboldc \fontsize{9pt}{6pt}\selectfont\thepage}
240 \fancyfoot[L0]{}
241 \fancyfoot[C0]{}%
```

On even pages we put page number and chapter number in footer:

```
242 \fancyfoot[LE]{\futuraaboldc \fontsize{9pt}{6pt}%
243   \selectfont\thepage}
244   \fontseries{lq}\sffamily \fontsize{6pt}{6pt}\selectfont%
245   \hspace{2em}\leftmark}
246 \fancyfoot[RE]{}
247 \fancyfoot[CE]{}%
```

### 3.7 Front Matter

`\subtitle` We use subtitle of the book...

```
248 \newcommand{\subtitle}[1]{\gdef\@subtitle{#1}}
```

`\@subtitle` ...With empty default:

```
249 \def\@subtitle{}
```

`\nostarchlogo` The logotype of the publisher:

```
250 \newcommand{\nostarchlogo}[1]{\gdef\@nostarchlogo{#1}}
```

`\@nostarchlogo` The default it empty:

```
251 \def\@nostarchlogo{}
```

`\nostarchlocation` Similarly for location:

```
252 \newcommand{\nostarchlocation}[1]{\gdef\@nostarchlocation{#1}}
```

`\@nostarchlocation` The default is SF:

```
253 \def\@nostarchlocation{San Francisco}
```

`\makehalftitle` Now we are ready to typeset the half title page. It is flushed right, cannot be to the left of the page center and must be 0.25'' indented from the right:

```
254 \def\makehalftitle{%
255   \clearpage
```

```

256 {\pagestyle{empty}\cleardoublepage}%
257 \thispagestyle{empty}%
258 \null%\vskip1.025in%
259 \leavevmode\noindent\hspace{1.66in}%
260 \begin{minipage}[t]{2.5625in}%
261 \flushright
262 \sffamily\bfseries\fontsize{12\p@}{13\p@}\selectfont
263 \MakeUppercase{\@title}%
264 \end{minipage}}

```

maketitle Now the main title page:

```

265 \def\maketitle{%
266 \bgroup
267 \clearpage
268 {\pagestyle{empty}\cleardoublepage}%
269 \thispagestyle{empty}%
270 \bgroup
271 \list{}{\leftmargin-1in\rightmargin\z@\labelwidth\z@%
272 \labelsep\z@\listparindent\z@\parsep\z@\itemsep\z@%
273 \topsep\z@\partopsep\z@}%
274 \item\relax
275 \centering
276 \null\vskip0.855in%
277 {\dogma \fontsize{36\p@}{37\p@}\selectfont
278 \MakeUppercase{\sotitle{\@title}}\par}%
279 \if\@subtitle\@empty\relax\else
280 {\null\vskip25\p@%
281 \dogma \fontsize{24\p@}{25\p@}\selectfont
282 \@subtitle\par}%
283 \fi
284 \vspace{2.15in}%
285 \vspace{-\baselineskip}%
286 {\futuraheavy\fontsize{18\p@}{22\p@}\selectfont
287 by \@author\par}%
288 \vspace{12\p@}%
289 \vspace{\baselineskip}%
290 \if\@nostarchlogo\@empty\relax\else
291 \includegraphics[height=1.08in]{\@nostarchlogo}\par
292 \fi
293 \vspace{12\p@}%
294 \normalfont\@nostarchlocation\par
295 \endlist
296 \egroup
297 \clearpage\egroup}

```

copyrightpage This is the page copyright data:

```

298 \newenvironment{copyrightpage}{%
299 \clearpage
300 \bgroup
301 \list{}{\leftmargin-1in\rightmargin\z@\labelwidth\z@%
302 \labelsep\z@\listparindent\z@\parsep8\p@\itemsep\z@%
303 \topsep\z@\partopsep\z@}%
304 \item\relax
305 \thispagestyle{empty}%

```

```

306 \normalfont\fontsize{8\p@}{10\p@}\selectfont}{%
307 \endlist
308 \egroup
309 \clearpage}

```

`cipblock` CIP block is supposed to be in typewriter font. So we use verbatim:

```

310 \newenvironment{cipblock}{%
311 \leavevmode\par\normalfont\fontsize{8\p@}{10\p@}\selectfont
312 \textit{Library of Congress Cataloging-in-Publication Data}\par%
313 \ttfamily\@vobeyspaces\obeylines
314 \parindent\z@\parfillskip\@flushglue\parskip\z@skip}{\par\vskip8pt\relax}

```

`dedicationpage` Dedication is centered:

```

315 \newenvironment{dedicationpage}{%
316 \clearpage
317 \bgroup
318 \list{}{\leftmargin-1in\rightmargin\z@\labelwidth\z@%
319 \labelsep\z@\listparindent\z@\parsep8\p@\itemsep\z@%
320 \topsep\z@\partopsep\z@}%
321 \item\relax
322 \thispagestyle{empty}%
323 \null\vskip1.175in%
324 \centering\normalfont}{%
325 \endlist
326 \egroup
327 \clearpage}

```

### 3.8 Tables of Contents

Standard L<sup>A</sup>T<sub>E</sub>X has just one table of contents. We have two. The table of brief contents will have the extension `tbl`, while the standard table of contents will have the standard extension `toc`.

`\briefcontentsname` The name for brief contents

```

328 \def\brieftocname{Brief Contents}

```

`\contentsname` Same with `\contentsname`

```

329 \def\contentsname{Contents in Detail}%

```

Special treatment if `babel` is used:

```

330 \AtBeginDocument{\@ifpackageloaded{babel}{%
331 \addtocaptionsenglish{%
332 \renewcommand{\contentsname}%
333 {Contents in Detail}}{}}

```

`\apptoc` Changing chapter names in appendix

```

334 \newcommand{\apptoc}{\renewcommand{\chaptername}{Appendix}}

```

`\brieftableofcontents` This is the new macro:

```

335 \newcommand\brieftableofcontents{%
336 \clearpage
337 {\pagestyle{empty}\cleardoublepage}%
338 \bgroup

```

```

339 \thispagestyle{empty}%
340 \markboth{\briefcontentsname}{\briefcontentsname}%
341 \null\vskip0.925in%
342 \list{}{\leftmargin-1.0in\rightmargin0.4in\labelwidth\z@%
343   \labelsep\z@\listparindent\z@\parsep\z@\itemsep\z@%
344   \topsep\z@\partopsep\z@}%
345 \item\relax
346   {\centering
347     \dogma\fontsize{16\p@}{18\p@}\selectfont
348     \MakeUppercase{\sochapter{Brief Contents}}\par}\vskip40pt%
349 \@starttoc{tbc}%
350 \endlist
351 \egroup}

```

`\tableofcontents` This is the new macro:

```

352 \renewcommand\tableofcontents{%
353   \clearpage
354   {\pagestyle{empty}\cleardoublepage}%
355   \bgroup
356   \thispagestyle{empty}%
357   \markboth{\contentsname}{\contentsname}%
358   \null\vskip0.175in%
359   \list{}{\leftmargin-1.0in\rightmargin0.6in\labelwidth\z@%
360     \labelsep\z@\listparindent\z@\parsep\z@\itemsep\z@%
361     \topsep\z@\partopsep\z@}%
362   \item\relax
363     {\centering
364       \dogma\fontsize{16\p@}{18\p@}\selectfont
365       \MakeUppercase{\sochapter{Contents in Detail}}\par}\vskip18pt%
366   \@starttoc{toc}%
367   \endlist
368   \egroup}

```

`\@dotsep` Standard L<sup>A</sup>T<sub>E</sub>X provides 4.5 for the distance between dots. We will make this tighter:

```

369 \renewcommand\@dotsep{1.5}

```

`\l@part` This is how we typeset parts in the table of contents

```

370 \renewcommand*\l@part[2]{%
371   \ifnum \c@tocdepth >-2\relax
372     \addpenalty{-\@highpenalty}%
373     \addvspace{28\p@}%
374     \begingroup
375       \parindent \z@ \rightskip \@pnumwidth
376       \parfillskip -\@pnumwidth
377       {\leavevmode
378         \sffamily\bfseries\fontsize{12\p@}{14\p@}\selectfont
379         #1}\par
380       \nobreak
381       \global\@nobreaktrue
382       \everypar{\global\@nobreakfalse\everypar{}}}%
383     \endgroup
384   \fi}

```

`\l@chapter` This is how we typeset chapters in the table of contents

```
385 \renewcommand*\l@chapter[2]{%
386   \ifnum \c@tocdepth >\m@ne
387     \addpenalty{-\@highpenalty}%
388     \vskip 20\p@
389     \setlength\@tempdima{1.5em}%
390     \begingroup
391       \parindent \z@ \rightskip \@pnumwidth
392       \parfillskip -\@pnumwidth
393       \leavevmode
394       \sffamily \bfseries \fontsize{10\p@}{12\p@}\selectfont{#1}%
395       \nobreak\hfil \nobreak\hb@xt@\@pnumwidth{\hss #2}\par
396       \vskip4\p@\penalty\@highpenalty
397     \endgroup
398   \fi}
```

`\sectionnumberwidth` The number width for sections. Normally the width of 99.99

```
399 \newlength{\sectionnumberwidth}
400 \settowidth{\sectionnumberwidth}{%
401   \futura-book\fontsize{9\p@}{11\p@}\selectfont
402   99.99}
```

`\boldsectionnumberwidth` The number width for bold sections. Normally the width of 99.99

```
403 \newlength{\boldsectionnumberwidth}
404 \settowidth{\boldsectionnumberwidth}{%
405   \futuraheavy\fontsize{9\p@}{11\p@}\selectfont
406   99.99}
```

`\subsectionnumberwidth` The number width for subsections. Normally the width of 99.99.99

```
407 \newlength{\subsectionnumberwidth}
408 \settowidth{\subsectionnumberwidth}{%
409   \futura-book\fontsize{9\p@}{11\p@}\selectfont
410   99.99.99}
```

`\l@section` This is how we typeset sections in the table of contents

```
411 \renewcommand{\l@section}[2]{\@dottedtocline{1}{\z@}{%
412   \sectionnumberwidth}{%
413   \futura-book\fontsize{9\p@}{11\p@}\selectfont#1}{%
414   \futura-book\fontsize{9\p@}{11\p@}\selectfont#2}}
```

`\l@subsection` This is how we typeset subsections in the table of contents

```
415 \renewcommand{\l@subsection}[2]{\@dottedtocline{2}{0.5in}%
416   {\subsectionnumberwidth}{%
417   \futura-book\fontsize{9\p@}{11\p@}\selectfont#1}{%
418   \futura-book\fontsize{9\p@}{11\p@}\selectfont#2}}
```

`\l@boldsection` This is how we typeset bold sections in the table of contents

```
419 \newcommand*\l@boldsection[2]{\bfseries\@dottedtocline{1}{\z@}{%
420   \boldsectionnumberwidth}{%
421   \futuraheavy\fontsize{9\p@}{11\p@}\selectfont#1}{%
422   \futuraheavy\fontsize{9\p@}{11\p@}\selectfont#2}}}
```

`\l@bpart` There is a special formatting of parts in the brief table of contents:

```

423 \newcommand*\l@bpart[2]{%
424   \ifnum \c@tocdepth >-2\relax
425     \addpenalty{-\@highpenalty}%
426     \addvspace{14\p@}%
427     \begingroup
428       \parindent \z@ \rightskip \@pnumwidth
429       \parfillskip -\@pnumwidth
430       {\leavevmode
431         \futuraheavy\fontsize{9\p@}{14\p@}\selectfont
432         #1}\par\vskip7\p@%
433       \nobreak
434       \global\@nobreaktrue
435       \everypar{\global\@nobreakfalse\everypar{}}%
436     \endgroup
437   \fi}

```

`\@pnumwidth`

```

438 \renewcommand{\@pnumwidth}{17pt}

```

`\l@bchapter` There is a special formatting of chapters in the brief table of contents:

```

439 \newcommand*\l@bchapter[2]{%
440   \ifnum \c@tocdepth >\m@ne
441     \addpenalty{-\@highpenalty}%
442     \setlength\@tempdima{1.5em}%
443     \begingroup
444       \parindent \z@ \rightskip \@pnumwidth
445       \parfillskip -\@pnumwidth
446       \leavevmode
447       \futuraheavy\fontsize{9\p@}{14\p@}\selectfont
448       #1\nobreak\leaders\hbox{$\m@th
449         \mkern \@dotsep mu\hbox{.}\mkern \@dotsep
450         mu$}\hfill
451       \nobreak\hb@xt@\@pnumwidth{\hss #2}\par
452       \penalty\@highpenalty
453     \endgroup
454   \fi}

```

### 3.9 Main Matter

`\mainmatter` We redefine `\mainmatter` to take care of that blank verso page...

```

455 \renewcommand\mainmatter{%
456   \clearpage
457   {\thispagestyle{empty}\cleardoublepage}%
458   \@mainmattertrue
459   \pagenumbering{arabic}}

```

### 3.10 Back Matter

`\backmatter` We redefine `\backmatter` to take care of that blank verso page...

```

460 \renewcommand\backmatter{%
461   \clearpage
462   {\thispagestyle{empty}\cleardoublepage}%

```

```
463 \mainmatterfalse}
```

### 3.11 Sectioning

We do not number sections and below:

```
464 \setcounter{secnumdepth}{0}
```

`\sectionmark` Our section commands do not mark:

```
465 \def\sectionmark#1{%
```

Chapters, unlike the ones in [9], have *two* obligatory arguments. The second argument is the command to fill the “circular graphics”. Otherwise we follow the design in [9]. One problem, however: we *cannot* use `\secdef` because we have three arguments, not two.

`\if@firstpara` We introduce a macro to get special typesetting for the first paragraph after a part or a chapter begins:

```
466 \newif\if@firstpara
467 \@firstparafalse
```

`\turnoffbigpara` And the code to manually turn it off

```
468 \newcommand{\turnoffbigpara}{\@firstparafalse}
```

`\@chapterart` We also keep track of the current artwork for chapter start:

```
469 \def\@chapterart{}
```

`\secdef` The standard L<sup>A</sup>T<sub>E</sub>X `secdef` assumes that starred commands have no optional argument. This is not right for us:

```
470 \def\secdef#1#2{\@ifstar{\@dblarg{#2}}{\@dblarg{#1}}}
```

`\part` Our parts differ from the ones in standard L<sup>A</sup>T<sub>E</sub>X since we use empty pagestyle rather than plain in part pages. The trick with `\cleardoublepage` is from [10]

```
471 \renewcommand\part{%
472   \clearpage
473   {\pagestyle{empty}\cleardoublepage}%
474   \everypar{}%
475   \markboth{}{}%
476   \def\@chapterart{}%
477   \thispagestyle{empty}%
478   \null\vskip0.715in%
479   \secdef\@part\@spart}
```

`\@part` This code is used when we have a numbered part.

```
480 \def\@part[#1]#2{%
481   \ifnum \c@secnumdepth >-2\relax
482     \refstepcounter{part}%
483     \addcontentsline{toc}{part}{\MakeUppercase{\partname}}
484     \thepart\protect\linebreak\penalty\@highpenalty\MakeUppercase{#1}}%
485     \addcontentsline{toc}{part}{\MakeUppercase{\partname~\thepart: \futuraheavy #1}}%
486   \else
487     \addcontentsline{toc}{part}{\MakeUppercase{#1}}%
488     \addcontentsline{toc}{part}{\MakeUppercase{\futuraheavy #1}}%
```

```

489 \fi
490 {\centering
491 \interlinepenalty \@M
492 \normalfont
493 \ifnum \c@secnumdepth >-2\relax
494 \futura boldc\fontsize{80pt}{80pt}\selectfont
495 \MakeUppercase{\partname\nobreakspace\thepart}%
496 \par
497 \vskip 0.45in%
498 \fi
499 \dogma \fontsize{16pt}{16pt}\selectfont
500 \MakeUppercase{\sochapter{#2}}\par}%
501 \@endpart}

```

`\@spart` This is used for starred parts (probably not something we are going to encounter...)

```

502 \def\@spart[#1]#2{%
503 \addcontentsline{toc}{part}{\MakeUppercase{#1}}%
504 \addcontentsline{tbc}{bpart}{\MakeUppercase{#1}}%
505 {\centering
506 \dogma \fontsize{16pt}{16pt}\selectfont
507 \MakeUppercase{\sochapter{#2}}\par}%
508 \@endpart}

```

`\@endpart` When part is finished, we change the settings of the first paragraph:

```

509 \def\@endpart{%
510 \@afterindentfalse
511 \vskip49\p@%
512 \@firstparatrue
513 \@afterheading}

```

`\chapter` First, we suppress floats, set up empty page style and delete indentation after the chapter. Then we check whether the chapter is starred:

```

514 \def\chapter{%
515 \clearpage
516 {\pagestyle{empty}\cleardoublepage}%
517 \everypar{}%
518 \thispagestyle{empty}%
519 \global\@topnum\z@
520 \@afterindentfalse
521 \gdef\@chapterart{}%
522 \secdef\@chapter\@schapter}

```

`\@chapter` The actual work is done by `\@chapter` macro.

```

523 \def\@chapter[#1]#2{%
524 \vspace*{0.622in}
525 \ifnum \c@secnumdepth > \m@ne
526 \refstepcounter{chapter}%
527 \typeout{Chapter:\thepage\space\@currentlabel}%
528 \markboth{\@chapapp~\thepage}{#1}%
529 \typeout{\@chapapp\space\thepage}%
530 \addcontentsline{toc}{chapter}{\thepage}%
531 \protect\linebreak\penalty\@highpenalty
532 \MakeUppercase{#1}}%
533 \addcontentsline{tbc}{bchapter}{%

```



```

534 \chaptername~\thechapter:~#1}%
535 {\centering
536 \futuraboldc\fontsize{120pt}{120pt}
537 \selectfont
538 \thechapter\par\nobreak\vskip27pt}%
539 \else
540 \addcontentsline{toc}{chapter}{%
541 \MakeUppercase{#1}}%
542 \addcontentsline{toc}{chapter}{#1}%
543 \markboth{#1}{#1}%
544 \fi
545 {\centering
546 \dogma\fontsize{16pt}{18pt}\selectfont
547 \MakeUppercase{\sochapter{#2}}\par\nobreak\vskip25pt\relax%
548 \@firstparatrue
549 \@afterheading}%

```

`\@schapter` This is used when we have a starred chapter:

```

550 \def\@schapter[#1]#2{%
551 \vspace*{2.747in}
552 {\centering
553 \phantomsection
554 \addcontentsline{toc}{chapter}{%
555 \MakeUppercase{#1}}%
556 \addcontentsline{toc}{chapter}{#1}%
557 \markboth{#1}{#1}%
558 {\fontsize{16pt}{18pt}\selectfont
559 \MakeUppercase{\dogma \sochapter{#2}}\par}\nobreak\vskip25pt\relax%
560 \@firstparatrue
561 \@afterheading}%

```

`\@afterheading` We cannot use the standard `\@afterheading` since we want to put the first paragraph in larger font and put there the artwork. So we take `\@afterheading` code and patch it:

```

562 \def\@afterheading{%
563 \@nobreaktrue
564 \everypar{%
565 \if@nobreak
566 \@nobreakfalse
567 \clubpenalty \@M
568 \setbox\z@\lastbox
569 \else
570 \clubpenalty \@clubpenalty
571 \everypar{}%
572 \fi
573 \if@firstpara

```

The first paragraph has a special font and artwork in the beginning:

```

574 \rule{\z@}{49\p@}%
575 \ifx\@chapterart\empty%
576 \else
577 \makebox[0pt][r]{\raisebox{-0.5in}[0pt][0pt]{%
578 \chapterart\hspace{0.21in}}}%
579 \parshape=5

```

```

580      0.963in 3.622in
581      0.913in 3.672in
582      0.813in 3.772in
583      0.563in 4.022in
584      0in \textwidth
585      \fi
586      \fontsize{14pt}{16.5pt}\selectfont%
587      \parskip=3pt
588      \else
589        \parskip=0pt
590        \normalsize\selectfont
591      \fi
592      \@firstparafalse}}%

```

\chapterwithquote

```

593 \def\chapterwithquote{%
594   \clearpage
595   {\pagestyle{empty}\cleardoublepage}%
596   \everypar{}%
597   \thispagestyle{empty}%
598   \global\@topnum\z@
599   \@afterindentfalse
600   \gdef\@chapterart{}%
601   \secdef\@chapterwithquote\@schapter}

```

\@chapterwithquote

```

602 \def\@chapterwithquote[#1]#2#3#4{%
603   \vspace*{0.622in}
604   \ifnum \c@secnumdepth > \m@ne
605     \refstepcounter{chapter}%
606     \typeout{Chapter:\thechapter\space\@currentlabel}%
607     \markboth{\@chapapp~\thechapter}{#1}%
608     \typeout{\@chapapp\space\thechapter.}%
609     \addcontentsline{toc}{chapter}{\thechapter%
610       \protect\linebreak\penalty\@highpenalty
611       \MakeUppercase{#1}}%
612     \addcontentsline{toc}{chapter}{%
613       \chaptername~\thechapter:~#1}%
614     {\centering
615       \futura\font{120pt}{120pt}
616       \selectfont
617       \thechapter\par\nobreak\vskip27pt}%
618     \else
619       \addcontentsline{toc}{chapter}{%
620         \MakeUppercase{#1}}%
621       \addcontentsline{toc}{chapter}{#1}%
622       \markboth{#1}{#1}%
623       \fi
624     {\centering
625       \dogma\font{16pt}{18pt}\selectfont
626       \MakeUppercase{\sochapter{#2}}\par\vspace{.1in}\normalfont\font{9pt}{11pt}\selectfont
627       \@firstpartrue
628       \@afterheading}%

```

`\chapterart` This creates the chapterart:

```
629 \newcommand{\chapterart}[1]{\gdef\@chapterart{#1}}%
```

`\chapterartfile` The simplified version of `\chapterart`:

```
630 \newcommand{\chapterartfile}[1]{\gdef\@chapterart{%
631     \includegraphics[width=1.264in]{#1}}}%

\section Sections correspond to HeadA in our specs. We use \everypar{} in case section
starts just after chapter start.

632 \renewcommand{\section}{\everypar{}}%
633 \@startsection{section}{1}{-0.75in}{16pt}{6pt}{%
634     \sffamily \bfseries \fontsize{12pt}{16pt}\selectfont}}%

\subsection Subsections correspond to HeadB in our specs:

635 \renewcommand{\subsection}{\everypar{}}%
636 \@startsection{subsection}{2}{0pt}{14pt}{4pt}{%
637     \futura boldc oblique
638     \fontsize{12pt}{17pt}\selectfont}}%

\subsubsection Subsubsections correspond to HeadC in our specs:

639 \renewcommand{\subsubsection}{\everypar{}}%
640 \@startsection{subsubsection}{3}{0pt}{10pt}{2pt}{%
641     \futura boldc \fontsize{10pt}{14pt}%
642     \selectfont}}%
```

We do not redefine levels below, leaving the options from [9] in place.

### 3.12 Lists

This follows design of [9] with the values from our specifications:

`\leftmargin` The host of `\leftmargin` commands:

```
\leftmarginini 643 \setlength{\leftmargin}{0.25in}
\leftmarginiii 644 \setlength{\leftmarginii}{0.25in}
\leftmarginiiii 645 \setlength{\leftmarginii}{0.25in}
\leftmarginiv   646 \setlength{\leftmarginiii}{0.25in}
                647 \setlength{\leftmarginiv}{0.25in}

\rightmargin Right margin is always zero:

648 \setlength{\rightmargin}{0pt}

\@listi This is the default list on the first level
\@listI 649 \def\@listi{\leftmargin\leftmargini
650     \labelwidth\leftmargini\relax
651     \advance\labelwidth-\labelsep\relax
652     \parsep0\p@\relax
653     \topsep6\p@\relax
654     \itemsep4\p@\relax}
655 \let\@listI\@listi
```

```

\@listii And the lists for the next levels:
\@listiii 656 \def\@listii{\leftmargin\leftmarginii
\@listiv 657 \labelwidth\leftmarginii
\@listv 658 \advance\labelwidth-\labelsep
\@listvi 659 \parsep0\p@\relax
660 \topsep0\p@\relax
661 \itemsep0\p@\relax}
662 \def\@listiii{\leftmargin\leftmarginiii
663 \labelwidth\leftmarginiii
664 \advance\labelwidth-\labelsep
665 \parsep0\p@\relax
666 \topsep0\p@\relax
667 \itemsep0\p@\relax}
668 \def\@listiv{\leftmargin\leftmarginiv
669 \labelwidth\leftmarginiv
670 \advance\labelwidth-\labelsep
671 \parsep0\p@\relax
672 \topsep0\p@\relax
673 \itemsep0\p@\relax}
674 \def\@listv{\leftmargin\leftmarginv
675 \labelwidth\leftmarginv
676 \advance\labelwidth-\labelsep
677 \parsep0\p@\relax
678 \topsep0\p@\relax
679 \itemsep0\p@\relax}
680 \def\@listvi{\leftmargin\leftmarginvi
681 \labelwidth\leftmarginvi
682 \advance\labelwidth-\labelsep
683 \parsep0\p@\relax
684 \topsep0\p@\relax
685 \itemsep0\p@\relax}

itemize We make bullets flushleft:
686 \def\itemize{%
687 \ifnum \@itemdepth >\thr@@\toodeep\else
688 \advance\@itemdepth\@ne
689 \edef\@itemitem{labelitem\romannumeral\the\@itemdepth}%
690 \expandafter
691 \list
692 \csname\@itemitem\endcsname
693 {\def\makelabel##1{##1}}%
694 \fi}

enumerate We make numbering flushleft:
695 \def\enumerate{%
696 \ifnum \@enumdepth >\thr@@\toodeep\else
697 \advance\@enumdepth\@ne
698 \edef\@enumctr{enum\romannumeral\the\@enumdepth}%
699 \expandafter
700 \list
701 \csname label\@enumctr\endcsname
702 {\usecounter\@enumctr\def\makelabel##1{##1}}%
703 \fi}

```

description

```
704 \renewenvironment{description}{%
705   {\list{}{\labelwidth=0pt \leftmargin=18pt
706     \let\makelabel\descriptionlabel}}
707   {\endlist}}
```

quotation In quotation environment the paragraphs are indented. We use 9pt Roman for quotations:

```
708 \renewenvironment{quotation}{%
709   \list{}{\listparindent\parindent\relax
710     \itemindent\listparindent\relax
711     \rightmargin0.5in\relax
712     \leftmargin0.5in\relax}%
713   \item\fontsize{9pt}{11pt}\selectfont}{\endlist}
```

quote Quote is for short quotations without indentations:

```
714 \renewenvironment{quote}{%
715   \list{}{\listparindent0pt\relax
716     \itemindent\listparindent\relax
717     \rightmargin0.5in\relax
718     \leftmargin0.5in\relax}%
719   \item\fontsize{9pt}{11pt}\selectfont}{\endlist}
```

\aside An environment for asides. Italics with the name (the mandatory arg) on the margin

```
720 \newenvironment{aside}[1]{%
721   \list{\makebox[0pt][r]{\dogma \fontsize{7.5pt}{12pt}
722     \colorbox{black}{\textcolor{white}{\sonote{#1}}}\hspace{2em}}}{\listparindent0pt\relax
723     \topsep9\p@\relax
724     \itemindent0\p@\relax
725     \rightmargin0\p@\relax
726     \leftmargin0\p@\relax
727     \labelwidth0\p@\relax
728     \labelsep0\p@}%
729   \item\itshape}{\vspace{-3pt}\endlist}
```

\note Note is in italics with the word “NOTE” on the margin:

```
730 \newenvironment{note}{\begin{aside}{NOTE}}{\end{aside}}
```

\warning Warning is in italics with the word “WARNING” on the margin:

```
731 \newenvironment{warning}{\begin{aside}{WARNING}}{\end{aside}}
```

plainlist

### 3.13 Footnotes

\footnoterule We want one inch by 0.25 footnote rule:

```
732 \renewcommand\footnoterule{%
733   \kern6\p@
734   \hrule height 0.25pt depth 0pt width 1in
735   \kern2\p@}
```

`\@footnotetext` We want 4pt between footnotes. Unfortunately the standard functions introduces `\@finalstrut`, which we do not need here...

```

736 \long\def\@footnotetext#1{\insert\footins{%
737     \reset@font\footnotesize
738     \interlinepenalty\interfootnotelinepenalty
739     \splittopskip\footnotesep
740     \splitmaxdepth \dp\strutbox \floatingpenalty \@MM
741     \hsize\columnwidth \@parboxrestore
742     \protected@edef\@currentlabel{%
743         \csname p@footnote\endcsname\@thefnmark
744     }%
745     \color@begingroup
746     \@makefnmark{%
747         \rule{z@{13.5pt}}\ignorespaces#1}%
748     \color@endgroup}}%
```

`\footins` We make some space between footnotes:

```

749 \setlength{\skip\footins}{20\p@ \@plus 4\p@ \@minus 0\p@}
```

`\@makefnmark` We do not indent the footnotes:

```

750 % \renewcommand\@makefnmark[1]{%
751 %     \parindent 0\p@%
752 %     \RaggedRightParindent0\p@%
753 %     \noindent
754 %     \@makefnmark\space#1}
755 \renewcommand\@makefnmark[1]{%
756 \@thefnmark.~#1}
```

### 3.14 Tables, Figures and Listings

`\thefigure` We want dash instead of dot between chapter number and figure number:

```

757 \renewcommand \thefigure
758     {\ifnum \c@chapter>z@ \thechapter-\fi \@arabic\c@figure}
```

`\thetable` We want dash instead of dot between chapter number and table number:

```

759 \renewcommand \thetable
760     {\ifnum \c@chapter>z@ \thechapter-\fi \@arabic\c@table}
```

`\thelistings` And the same for listings. Note that listings package uses `\AtBeginDocument`, so we need to postpone this

```

761 \AtBeginDocument{%
762     \renewcommand \thelstlisting
763     {\ifnum \c@chapter>z@ \thechapter-\fi \@arabic\c@lstlisting}%
764 }
```

Default listings settings

```

765 \lstset{
766     frame = lines,
767     showstringspaces=false,
768     tabsize=4,
769     title=\lstname,
770     numbers = none,
```

```

771     caption={},
772     literate={\ }{{\ }}1{"}{\textquotedbl}1,
773     escapeinside={(\@){@}},
774     captionpos=b,
775     basicstyle=\ttfamily,
776     columns=fullflexible,
777     moredelim=[is][\bfseries]{***}{***},
778     moredelim=[is][\itshape]{___}{___},
779     moredelim=[is][\bfseries\itshape]{&&&}{&&&},
780     aboveskip=8pt,
781 }

```

codewide

```

782 \lstnewenvironment
783   {codewide}[1] []
784   {
785     \renewcommand{\codewinding}[1]
786     {\ding{\the\numexpr ##1 + 181 \relax}}
787     \captionsetup[lstlisting]{font=nostarchfigfont,singlelinecheck=off,
788     aboveskip=4pt, belowskip=-12pt, margin=-70pt}
789     \lstset{
790       frame = lines,
791       showstringspaces=false,
792       tabsize=4,
793       title=\lstname,
794       numbers = none,
795       literate={\ }{{\ }}1{"}{\textquotedbl}1,
796       escapeinside={(\@){@}},
797       captionpos=b,
798       caption={},
799       basicstyle=\ttfamily,
800       columns=fullflexible,
801       moredelim=[is][\bfseries]{***}{***},
802       moredelim=[is][\itshape]{___}{___},
803       moredelim=[is][\bfseries\itshape]{&&&}{&&&},
804       xleftmargin=-70pt,
805       aboveskip=8pt,
806       #1
807     }}
808   {
809     \renewcommand{\codewinding}[1]
810     {\vbox{\llap{\wingding{#1}\hskip 0.5em}}}
811     \captionsetup[lstlisting]{font=nostarchfigfont,singlelinecheck=off,
812     aboveskip=4pt, belowskip=0pt, margin=0pt}}

```

Setting up longtables

```

813 \def\LTleft{\z@}
814 \def\LTRight{\fill}

```

`\nostarch@overridecaptionwidth` Whether the user wants to override automatically selected caption width

```

815 \newif\ifnostarch@overridecaptionwidth
816 \nostarch@overridecaptionwidthfalse

```

`\nostarch@captionwidth` The width of the caption. Either set by the user or measured

```
817 \newlength\nostarch@captionwidth
```

`\NextCaptionWidth` A user-level command to set the caption width

```
818 \newcommand\NextCaptionWidth[1]{%
819   \global\nostarch@overridecaptionwidthtrue
820   \global\setlength{\nostarch@captionwidth}{#1}%
821 }
```

`\nostarch@measurecaptionwidth` We set `\nostarch@captionwidth` to the width of the last box unless the flag `\ifnostarch@overridecaptionwidth` is set. At the end we set the flag to false.

```
822 \newcommand\nostarch@measurecaptionwidth{%
823   \ifnostarch@overridecaptionwidth\else
824     \par
825     \setbox\@tempboxa\lastbox
826     \setbox\@tempboxa=\hbox{\unhbox\@tempboxa}%
827     \global\setlength{\nostarch@captionwidth}{\wd\@tempboxa}%
828     \box\@tempboxa\par
829   \fi
830   \global\nostarch@overridecaptionwidthfalse
831 }
```

We measure the width at the begin of the figure caption. Note that the `csAtBeginCaption` hook is too late for us.

```
832 \AtBeginDocument{%
833 \pretocmd{\caption}{\def\@tempa{figure}}%
834 \ifx\@tempa\@capttype\relax
835   \nostarch@measurecaptionwidth
836 \fi}{-}{-}}
```

We declare the caption format for figures and tables

```
837 \DeclareCaptionFormat*{nostarchfigtblformat}{%
838   \parbox{\nostarch@captionwidth}{#1#2#3}}
```

Tables are more complex, because captions are *before* the tables. Therefore we need to write the width into aux file and read it from there. Most of the ideas here are stolen from *longtable* code.

`\nostarch@tbl@warn` Whether to ask the user for rerun due to changed widths

```
839 \def\nostarch@tbl@warn{}
840 \AtEndDocument{\nostarch@tbl@warn}
```

`\c@nostarch@tbl` We write the table width into the macro `\nostarch@tbl@N`, where *N* is the roman representation of the table number

```
841 \newcounter{nostarch@tbl}
```

`\nostarch@read@tbl@width` At the beginning of table environment we read the latest value of the width for the given table and set the caption size

```
842 \newcommand\nostarch@read@tbl@width{%
843   \stepcounter{nostarch@tbl}%
844   \expandafter\ifx\csname nostarch@tbl@\romannumeral\c@nostarch@tbl\endcsname\relax
845     \edef\@tempa{\the\textwidth}%
846   \else
847     \edef\@tempa{\csname nostarch@tbl@\romannumeral\c@nostarch@tbl\endcsname}%
848   \fi
```



```

849 \expandafter\setlength\expandafter\nostarch@captionwidth\expandafter{\@tempa}%
850 }
851 \AtBeginEnvironment{table}{\nostarch@read@tbl@width}

```

`\nostarch@save@tbl@width` At the end of the table environment we measure the width of the last box and write it in the aux file.

```

852 \newcommand\nostarch@save@tbl@width{%
853   \nostarch@measurecaptionwidth
854   \if@filesw
855     \immediate\write\@auxout{%
856       \gdef\expandafter\noexpand\csname nostarch@tbl@\romannumeral\c@nostarch@tbl\endcsname
857       {\the\nostarch@captionwidth}}%
858   \fi
859   \expandafter\ifx\csname nostarch@tbl@\romannumeral\c@nostarch@tbl\endcsname\relax
860     \edef\@tempa{\the\textwidth}%
861   \else
862     \edef\@tempa{\csname nostarch@tbl@\romannumeral\c@nostarch@tbl\endcsname}%
863   \fi
864   \expandafter\ifdim\@tempa=\nostarch@captionwidth\else
865     \gdef\nostarch@tbl@warn{\ClassWarningNoLine{nostarch}
866       {Table widths have changed. Rerun LaTeX.}}
867   \fi
868 }
869 \pretocmd{\endtable}{\nostarch@save@tbl@width}{-}{-}

```

The H specifier from the float package redefines the end of the float, so we need to patch it too

```

870 \pretocmd{\float@endH}{\def\@tempa{table}}%
871 \ifx\@tempa\c@type\nostarch@save@tbl@width\fi}{-}{-}

```

`\nostarch@read@LT@width` The long table version of setting caption width is different, because a longtable knows its width.

```

872 \def\nostarch@read@LT@width{%
873   \ifnostarch@overridecaptionwidth\else
874     \global\setlength{\nostarch@captionwidth}{\z@}%
875     \bgroup
876     \def\LT@entry##1##2{%
877       \global\addtolength{\nostarch@captionwidth}{##2}}%
878     \csname LT@\romannumeral\c@LT@tables\endcsname
879     \egroup
880   \fi
881   \global\nostarch@overridecaptionwidthfalse
882 }
883 \AtBeginDocument{\pretocmd{\caption@LT@config}{\global\rownum=1\relax
884   \nostarch@read@LT@width}{-}{-}}
885 \AtBeginEnvironment{longtable}{\global\rownum=0\relax}

```

Fonts for captions

```

886 \DeclareCaptionFont{nostarchfigfont}{\sffamily
887   \itshape \fontsize{8.5pt}{9pt}\selectfont}
888 \DeclareCaptionFont{nostarchtabfont}{\futura\book
889   \fontsize{9pt}{9pt}\selectfont}

```

And the setup

```

890 \captionsetup[figure]{font=nostarchfigfont,singlelinecheck=off,
891   aboveskip=8pt,belowskip=-8pt, format=nostarchfigtblformat}
892 \captionsetup[lstlisting]{font=nostarchfigfont,singlelinecheck=off,
893   aboveskip=4pt, belowskip=0pt}
894 \captionsetup[table]{font=nostarchtabfont,singlelinecheck=off,
895   aboveskip=0pt,belowskip=4pt, labelfont=bf, format=nostarchfigtblformat}

\captionlst
\boxlst
\tablefont This is the font used for table body:
896 \def\tbfont{%
897   \futura-book\fontsize{8.5pt}{10pt}\selectfont}

\thfont Font for table headers:
898 \def\thfont{%
899   \futura-heavy\fontsize{9pt}{10pt}\selectfont}

900 \AtBeginEnvironment{tabular}{\tbfont}
901 \AtBeginEnvironment{longtable}{\tbfont}

\heavyrulewidth Changing booktabs defaults:
\lightrulewidth 902 \heavyrulewidth=3\p@
\cmidrulewidth 903 \lightrulewidth=1\p@
904 \cmidrulewidth=1.5\p@

\bottomrule Our \bottomrule is thin:
905 \def\bottomrule{\noalign{\ifnum0=}\fi
906   \@aboverulesep=\aboverulesep
907   \global\@belowrulesep=\belowbottomsep
908   \global\@thisruleclass=\@ne
909   \@ifnextchar[{\@BTrule}{\@BTrule[\lightrulewidth]}}

\belowrulesep Again redefining booktabs:
\belowbottomsep 910 \belowrulesep=0.7ex
\abovetopsep 911 \belowbottomsep=0.65pt
912 \aboverulesep=0.7ex
913 \abovetopsep=0.65pt

tablewide Wide table
914 \newenvironment{tablewide}[1] []
915   {
916     \captionsetup[table]{font=nostarchtabfont,singlelinecheck=off,
917       aboveskip=0pt,belowskip=4pt, labelfont=bf, margin=-70pt}
918     \begin{table} [#1]
919   }
920   {
921     \end{table}
922     \captionsetup[table]{font=nostarchtabfont,singlelinecheck=off,
923       aboveskip=0pt,belowskip=4pt, labelfont=bf, margin=0pt}
924   }

```

**tabularwide** Wide tabular

```
925 \newenvironment{tabularwide}[1]
926   {
927     \hspace*{-72pt}
928     \begin{tabular}{#1}
929   }
930   {
931     \end{tabular}
932   }
```

**figurewide** Wide figure

```
933   \newenvironment{figurewide}[1] []
934   {
935     \captionsetup[figure]{font=nostarchfigfont,singlelinecheck=off,
936     aboveskip=8pt,belowskip=-8pt, margin=-70pt}
937     \begin{figure}[#1]
938     \hspace*{-70pt}
939   }
940   {
941     \end{figure}
942     \captionsetup[figure]{font=nostarchfigfont,singlelinecheck=off,
943     aboveskip=8pt,belowskip=-8pt}
944   }
```

Setting up colors in tables

```
945 \rowcolors[] {1} {} {nspgray}
```

We extend the height of the rows and delete the space around rules

```
946 \setlength{\aboverulesep}{0pt}
947 \setlength{\belowrulesep}{0pt}
948 \setlength{\extrarowheight}{.8ex}
```

### 3.15 Verbatim, url and Listings Customization

**Code** This is for framed code:

```
949 \DefineVerbatimEnvironment{Code}{Verbatim}{frame=lines,framerule=0.25pt, commandchars=\\\{\}}
```

**\FV@ListParameterHook** The skip before code is too large for us

```
950 \FV@AddToHook\FV@ListParameterHook{\vspace{-6pt}}
```

We also enable verbatim footnotes.

```
951 \VerbatimFootnotes
```

### 3.16 Boxes and projects

Various boxes.

**nspgray** The color for boxes

```
952 \definecolor{nspgray}{cmyk}{0, 0, 0, 0.1}
```

And various mdframed styled boxes

```

953 \mdfdefinestyle{nspbox}{%
954     linecolor=black,
955     outerlinewidth=1pt,
956     roundcorner=5pt,
957     innertopmargin=\baselineskip,
958     innerbottommargin=\baselineskip,
959     innerrightmargin=18pt,
960     innerleftmargin=18pt,
961     backgroundcolor=nspgray,
962     everyline=true
963 }
964
965 \mdfdefinestyle{custombox}{%
966     linecolor=black,
967     outerlinewidth=1pt,
968     roundcorner=5pt,
969     innertopmargin=\baselineskip,
970     innerbottommargin=\baselineskip,
971     innerrightmargin=18pt,
972     innerleftmargin=18pt,
973     everyline=true
974 }
975 \newenvironment{nspbox}[1]
976 {\begin{mdframed}[style=nspbox]
977     \begin{center}
978     {\dogma \fontsize{9pt}{15pt} \MakeUppercase{\sobox{#1}}}
979     \end{center}
980     \begin{flushright}
981     \begin{flushleft}
982     \parskip=.5\baselineskip
983     \tbfont
984 }
985 {\end{flushleft}\end{flushright}
986 \end{mdframed}}
987 \newenvironment{nspboxcontinued}
988 {\begin{mdframed}[style=nspbox]
989     \begin{flushright}
990     \begin{flushleft}
991     \parskip=.5\baselineskip
992     \tbfont
993 }
994 {
995 \end{flushleft}
996 \end{flushright}
997 \end{mdframed}}
998 \newenvironment{custombox}[1]
999 {\begin{mdframed}[style=custombox]
1000     \begin{center}
1001     {\dogma \fontsize{9pt}{15pt} \MakeUppercase{\sobox{#1}}}
1002     \end{center}
1003     \begin{flushright}
1004     \begin{flushleft}
1005     \parskip=.5\baselineskip

```

```

1006     \tbfont
1007 }
1008 {\end{flushleft}\end{flushright}
1009 \end{mdframed}}
1010
1011 \newenvironment{customboxcontinued}
1012 {\begin{mdframed}[style=custombox]
1013     \begin{flushright}
1014     \begin{flushleft}
1015     \parskip=.5\baselineskip
1016     \tbfont
1017 }
1018 {
1019 \end{flushleft}
1020 \end{flushright}
1021 \end{mdframed}}
1022
1023 \newcommand{\continued}[0]{%
1024     {\begin{flushright}%
1025     \emph{(continued)}}%
1026     \end{flushright}}%
1027 }

Project stuff

1028 \newcounter{project}
1029 \stepcounter{project}
1030 \newcommand{\projecthead}[1]{
1031     \vspace{16pt}%
1032     \noindent%
1033     \hspace{-.75in}%
1034     \addcontentsline{toc}{boldsection}{Project~\#\theproject: #1}%
1035     {\sffamily\bfseries\fontsize{12pt}{16pt}\selectfont
1036     \colorbox{black}{\textcolor{white}{Project~\#\theproject: #1}}}%
1037     \vspace{6pt}%
1038     \@afterindentfalse\@afterheading%
1039     \refstepcounter{project}%
1040 }

```

Urls are typeset in italics, with upper tilde, and according to the following rules: URLs should break *before* periods, underscores, equal signs, ampersands, and hyphens but *after* colons, slashes and hash marks. Also, we do not allow splitting before slashes.

`\UrlFont` Urls are in italic

```
1041 \def\UrlFont{\itshape}
```

`\UrlTildeSpecial`

```
1042 \def\UrlTildeSpecial{\do\~{\raise.2ex\hbox{\m@th$\scriptstyle\sim$}}}
1043 \let\Url@force@Tilde\UrlTildeSpecial
```

`\UrlBreaks` Breaks after colons, slashes, hash marks. Colons are defined in `\UrlBigBreaks`, so we need the other signs. We also add some other signs here

```
1044 \def\UrlBreaks{\do\#\do\\\do\>\do\]\do\}\do\}
```

`\UrlSpecials` We add to macro special treatment of the chars with breaking URLs. Slashes are interesting: we allow breaking after them, but not before, even after other slashes or colons *before* them

```

1045 \g@addto@macro{\UrlSpecials}{%
1046   \do\.\{\penalty\UrlBreakPenalty\mathchar46\relax}%
1047   \do\_{\penalty\UrlBreakPenalty\mathchar95\relax}%
1048   \do\={\penalty\UrlBreakPenalty\mathchar61\relax}%
1049   \do\&{\penalty\UrlBreakPenalty\mathchar38\relax}%
1050   \do\-{\penalty\UrlBreakPenalty\mathchar45\relax}%
1051   \do\!{\penalty\UrlBreakPenalty\mathchar33\relax}%
1052   \do\?{\penalty\UrlBreakPenalty\mathchar63\relax}%
1053   \do\|{\penalty\UrlBreakPenalty\mathchar124\relax}%
1054   \do\,{\penalty\UrlBreakPenalty\mathchar44\relax}%
1055   \do\;{\penalty\UrlBreakPenalty\mathchar59\relax}%
1056   \do\@{\penalty\UrlBreakPenalty\mathchar64\relax}%
1057   \do\'{\penalty\UrlBreakPenalty\mathchar39\relax}%
1058   \do\"{\penalty\UrlBreakPenalty\mathchar34\relax}%
1059   \do\+{\penalty\UrlBreakPenalty\mathchar43\relax}%
1060   \do\/{\unpenalty\penalty\@M\mathchar47\penalty\UrlBreakPenalty}%
1061 }

```

`\UrlNoBreaks` We do not allow breaks in urls after brackets

```

1062 % \def\UrlNoBreaks{} % Rolled back redefinition

```

### 3.17 Margin notes

Filenames on margins

```

1063 \renewcommand*{\marginfont}{\sffamily\itshape\fontsize{8.5}{10}\selectfont}
1064 \renewcommand*{\marginnotevadjust}{-\baselineskip}
1065 \newcommand{\marginwingding}[1]{\fontsize{10pt}{12pt}\selectfont \wingding{#1}}

```

Code below makes the margin note always on the left, taken from: <https://tex.stackexchange.com/questions/472728/marginnote-always-on-left-side-of-the-page>

```

1066 \long\def\@mn@@@marginnote[#1]#2[#3]{%
1067   \begingroup
1068     \ifmmode\mn@strut\let\@tempa\mn@vadjust\else
1069       \if@inlabel\leavevmode\fi
1070       \ifhmode\mn@strut\let\@tempa\mn@vadjust\else\let\@tempa\mn@vlap\fi
1071     \fi
1072     \@tempa{%
1073       \vbox to\z@{%
1074         \vss
1075         \@mn@margintest
1076         \if@reversemargin\if@tempswa
1077           \@tempswafalse
1078         \else
1079           \@tempswatru
1080         \fi\fi
1081       }
1082       \llap{%
1083         \vbox to\z@{\kern\marginnotevadjust\kern #3
1084           \vbox to\z@{%
1085             \hsize\marginparwidth

```

```

1086         \linewidth\hsize
1087         \kern-\parskip
1088         %\mn@parboxrestore
1089         \marginfont\raggedleftmarginnote\strut\hspace{\z@}%
1090         \ignorespaces#1\endgraf
1091         \vss
1092     }%
1093     \vss
1094 }%
1095 \if@mn@verbose
1096     \PackageInfo{marginnote}{xpos seems to be \@mn@currxpos}%
1097 \fi
1098 \begingroup
1099     \ifx\@mn@currxpos\relax\else\ifx\@mn@currpos\@empty\else
1100         \kern\@mn@currxpos
1101     \fi\fi
1102     \ifx\@mn@currpage\relax
1103         \let\@mn@currpage\@ne
1104     \fi
1105     \if@twoside\ifodd\@mn@currpage\relax
1106         \kern-\oddsidemargin
1107     \else
1108         \kern-\evensidemargin
1109     \fi
1110     \else
1111         \kern-\oddsidemargin
1112     \fi
1113     \kern-1in
1114 \endgroup
1115 \kern\marginparsep
1116 }%
1117 }%
1118 }%
1119 \endgroup
1120 }

```

### 3.18 Bibliography

`\bibsection` We actually use `chapter` for bibliographic sections, but here we try to be nice to `natbib`:

```

1121 \AtBeginDocument{
1122     \def\bibsection{%
1123         \clearpage
1124         {\pagestyle{empty}\cleardoublepage}%
1125         \everypar{}%
1126         \thispagestyle{empty}%
1127         \global\@topnum\z@
1128         \@afterindentfalse
1129         \gdef\@chapterart{}%
1130         \@nschapterpreamble
1131         \vspace*{0.622in}%
1132         \addcontentsline{toc}{chapter}{\MakeUppercase{\bibname}}%
1133         \addcontentsline{toc}{bchapter}{\bibname}%
1134         {\centering

```

```

1135      {\dogma\fontsize{16pt}{20pt}\selectfont
1136       \MakeUppercase{\sochapter{\bibname}}\par}}\nobreak\vskip25pt\relax%
1137      \@mkboth{\bibname}{\bibname}}}%

```

**thebibliography** We want bibliography to be in the table of contents:

```

1138 \renewenvironment{thebibliography}[1]{%
1139   \bibsection
1140   \list{\@biblabel{\@arabic\c@enumiv}}%
1141     {\settowidth\labelwidth{\@biblabel{#1}}%
1142      \leftmargin\labelwidth
1143      \advance\leftmargin\labelsep
1144      \@openbib@code
1145      \usecounter{enumiv}}%
1146      \let\p@enumiv\@empty
1147      \renewcommand\theenumiv{\@arabic\c@enumiv}}%
1148   \sloppy
1149   \clubpenalty4000
1150   \@clubpenalty \clubpenalty
1151   \widowpenalty4000%
1152   \sfcode`\.\@m}
1153 {\def\@noitemerr
1154   {\@latex@warning{Empty `thebibliography' environment}}}%
1155   \endlist}

```

### 3.19 Index

**\term** An indexed term

```

1156 \newcommand{\term}[1]{\emph{#1}\index{#1}}

```

**theindex** We want our index to be in the table of contents too:

```

1157 \renewenvironment{theindex}{%
1158   \clearpage
1159   {\pagestyle{empty}\cleardoublepage}%
1160   \everypar{}%
1161   \thispagestyle{empty}%
1162   \global\@topnum\z@
1163   \@afterindentfalse
1164   \gdef\@chapterart{}%
1165   \if@twocolumn
1166     \@restonecolfalse
1167   \else
1168     \@restonecoltrue
1169   \fi
1170   \twocolumn[%
1171     \nschapterpreamble
1172     \vspace*{0.622in}%
1173     \addcontentsline{toc}{chapter}{\MakeUppercase{\indexname}}%
1174     \addcontentsline{toc}{chapter}{\indexname}%
1175     {\centering
1176      {\dogma%
1177       \fontsize{16pt}{20pt}\selectfont
1178       \MakeUppercase{\sochapter{\indexname}}\par}}%
1179     \nobreak\vskip25pt\relax}%

```



```

1180 \@mkboth{\indexname}%
1181 {\indexname}%
1182 \parindent\z@
1183 \parskip\z@ \@plus .3\p@\relax
1184 \columnseprule \z@
1185 \columnsep 0.25in%
1186 \let\item\@idxitem}
1187 {\if@restonecol\onecolumn\else\clearpage\fi}

\@idxitem This is how we format level 1 index entries:
1188 \renewcommand\@idxitem{%
1189 \par\hangindent0.45in\normalfont\fontsize{9.5\p@}{11.5\p@}\selectfont
1190 \raggedright}

\subitem Level 2 entries:
1191 \renewcommand\subitem{\@idxitem \hspace*{0.15in}}

\subsubitem Level 3 entries:
1192 \renewcommand\subsubitem{\@idxitem \hspace*{0.3in}}

\indexspace The space between the groups
1193 \renewcommand\indexspace{\par \vskip 14\p@\relax}

\indexgroup When an index starts a new letter, we call this macro:
1194 \newcommand\indexgroup[1]{\{\futura\boldc
1195 \fontseries{bc}\fontsize{11\p@}{13\p@}\selectfont#1\par\vskip4\p@}



### 3.20 Update Page and Colophon



\updatesname Just the name for updates:
1196 \def\updatesname{Updates}

\updatespage This is the command that start update page. It looks like chapter, but it does not
mark the pages or appear in the tables of contents:
1197 \newcommand\updatespage{%
1198 \clearpage
1199 {\pagestyle{empty}\cleardoublepage}%
1200 \everypar{}%
1201 \thispagestyle{empty}%
1202 \global\@topnum\z@
1203 \gdef\@chapterart{}%
1204 \vspace*{1.875in}%
1205 {\centering
1206 \dogma%
1207 \fontsize{16pt}{20pt}\selectfont
1208 \MakeUppercase{\sochapter{\updatesname}}\par\nobreak\vskip40\p@}%
1209 \@nobreaktrue
1210 \everypar{%
1211 \if@nobreak
1212 \@nobreakfalse
1213 \clubpenalty \@M
1214 \setbox\z@\lastbox
1215 \else

```

```

1216 \clubpenalty \@clubpenalty
1217 \everypar{}%
1218 \fi}}

```

`\colophonname` Just the name for colophon:

```

1219 \def\colophonname{Colophon}

```

`\colophon` Colophon does not start a separate page:

```

1220 \newcommand\colophon{%
1221 \everypar{}%
1222 \global\@topnum\z@
1223 \gdef\@chapterart{}%
1224 \vspace*{0.875in}%
1225 %{\centering
1226 %\dogma%
1227 % \fontsize{16pt}{20pt}\selectfont
1228 %\MakeUppercase{\sochapter{\colophonname}}\par\nobreak\vskip40\p@}%
1229 \@nobreaktrue
1230 \everypar{%
1231 \if@nobreak
1232 \@nobreakfalse
1233 \clubpenalty \@M
1234 \setbox\z@\lastbox
1235 \else
1236 \clubpenalty \@clubpenalty
1237 \everypar{}%
1238 \fi}\par
1239 The fonts used in \emph{\@title} are New Baskerville, Futura, The
1240 Sans Mono Condensed, and Dogma. The book was typeset with
1241 \LaTeXe{} package
1242 \texttt{nostarch} by Boris Veytsman with many additions by Alex
1243 Freed and other members of the \emph{No Starch Press} team
1244 \emph{(\csname ver@nostarch.cls\endcsname).}\par}

```

### 3.21 End of Class

```

1245 \endclass

```

### 3.22 Dealing with `hyperref`

First, we load `hyperref` with right options. I do not know why bookmarks do not work, but this is important to switch off:

```

1246 \nshyper
1247 \RequirePackage[breaklinks,colorlinks,linkcolor=black,
1248 citecolor=black,pagcolor=black,urlcolor=black,hyperindex]{hyperref}

```

`hyperref` expects the starred parts and chapters to have only one argument—but we have two!

```

1249 \AtBeginDocument{%
1250 \def\@schapter[#1]#2{%
1251 \H@old@schapter[#1]{#2}%
1252 \@nschapterpreamble}%
1253 \def\@spart[#1]#2{%
1254 \H@old@spart[#1]{#2}%

```

```

1255 \Hy@GlobalStepCount\Hy@linkcounter
1256 \xdef\@currentHref{part*.\the\Hy@linkcounter}%
1257 \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}}}%

```

We change the preamble for bibliography and index:

```

1258 \def\@nschapterpreamble{%
1259 \begingroup
1260 \let\@mkboth\@gobbletwo
1261 \Hy@GlobalStepCount\Hy@linkcounter
1262 \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
1263 \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
1264 \endgroup}

```

We can add information about the file to the pdf metadata as well:

```

1265 \let\@old@maketitle\maketitle
1266 \def\maketitle{%
1267 \hypersetup{pdfauthor=\@author, pdftitle=\@title}%
1268 \@old@maketitle}
1269 \nshyper}

```

### 3.23 MakeIndex Style File

These lines will produce some warnings when running Makeindex as they try to cover two different versions of the program:

```

1270 \ist)
1271 lethead_prefix "\indexgroup{"
1272 lethead_suffix "}"
1273 lethead_flag 1
1274 heading_prefix "\indexgroup{"
1275 heading_suffix "}"
1276 headings_flag 1
1277 \ist)

```

## References

- [1] UK T<sub>E</sub>X Users Group. UK list of T<sub>E</sub>X frequently asked questions. <http://www.tex.ac.uk/cgi-bin/texfaq2html>, 2006.
- [2] Sebastian Rahtz and Heiko Oberdiek. *Hypertext Marks in L<sup>A</sup>T<sub>E</sub>X: a Manual for Hyperref*, September 2006. <https://ctan.org/pkg/hyperref>.
- [3] Simon Fear. *Publication Quality Tables in L<sup>A</sup>T<sub>E</sub>X*, April 2005. <https://ctan.org/pkg/booktabs>.
- [4] Timothy Van Zandt. *The ‘fancyvrb’ Package. Fancy Verbatims in L<sup>A</sup>T<sub>E</sub>X*, July 1998. <https://ctan.org/pkg/fancyvrb>.
- [5] Carsten Heinz and Brooks Moses. *The Listings Package*, 2007. <https://ctan.org/pkg/listings>.
- [6] Patrick W. Daly. *Natural Sciences Citations and References (Author-Year and Numerical Schemes)*, February 2007. <https://ctan.org/pkg/natbib>.
- [7] Leslie Lamport. *L<sup>A</sup>T<sub>E</sub>X: a Document Preparation System*. Addison-Wesley Publishing Company, Reading, Ma., 2 edition, 1994. Illustrations by Duane Bibby.
- [8] Peter Wilson. *The Memoir Class for Configurable Typesetting*, January 2004. <https://ctan.org/pkg/memoir>.
- [9] Leslie Lamport, Frank Mittelbach, and Johannes Braams. *Standard Document Classes for L<sup>A</sup>T<sub>E</sub>X version 2<sub>ε</sub>*, 1997. <https://ctan.org/pkg/base>.
- [10] Piet van Oostrum. *Page Layout in L<sup>A</sup>T<sub>E</sub>X*, March 2004. <https://ctan.org/pkg/fancyhdr>.

## Change History

v0.1			
General: First fully functional			
version .....	3		
v0.2			
\@chapter: Moved up .....	24		
\enumerate: Flush left numbers ..	28		
\itemize: Flush left bullets .....	28		
\topmargin: Moved down .....	16		
v0.3			
\@afterheading: Moved the circle			
art .....	25		
\@footnotetext: Changed LaTeX			
default .....	30		
\clubpenalty: Changed settings ..	16		
\footins: Changed LaTeX			
defaults .....	30		
\footnoterule: Increased kern			
above the rule .....	29		
\section: Changed indentation ..	27		
v0.4			
\@afterheading: Added special			
treatment for the case of empty			
chapter art .....	25		
v0.5			
General: Documentation update ..	3		
\@endpart: Changed LaTeX			
default .....	24		
\@nostarchlocation: Introduced			
the macro .....	17		
\@nostarchlogo: Introduced the			
macro .....	17		
\@part: Changed LaTeX default ..	23		
\@spart: Changed LaTeX default ..	24		
\@subtitle: Introduced the macro ..	17		
\maketitle: Changed LaTeX			
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\brieftableofcontents:			
Introduced macro .....	19		
\dedicationpage: Introduced the			
macro .....	19		
\ciblock: Introduced the macro ..	19		
\l@chapter: Changed LaTeX			
default .....	21		
\l@part: Changed LaTeX default ..	20		
\l@section: Changed LaTeX			
default .....	21		
\l@subsection: Changed LaTeX			
default .....	21		
\makehalftitle: Introduced the			
macro .....	17		
\nostarchlocation: Introduced			
the macro .....	17		
\nostarchlogo: Introduced the			
macro .....	17		
\copyrightpage: Introduced the			
macro .....	18		
\part: Changed LaTeX default ..	23		
\subtitle: Introduced the macro ..	17		
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LaTeX default .....	20		
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General: Added MakeIndex style ..	43		
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Introduced package nshyper .....	42		
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interface .....	24		
\@idxitem: Changed default .....	41		
\@schapter: Reverted to standard			
interface .....	25		
\backmatter: Changed LaTeX			
default .....	22		
\bibsection: Introduced the			
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\chapter: Reverted to standard			
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\chapterart: Introduced the			
command .....	26		
\chapterartfile: Introduced the			
command .....	27		
\colophon: Introduced the macro ..	42		
\colophonname: Introduced the			
macro .....	42		
\thebibliography: Introduced the			
macro .....	40		
\theindex: Introduced the macro ..	40		
\indexgroup: Introduced the			
macro .....	41		
\indexspace: Changed default ..	41		
\l@bchapter: Introduced macro ..	22		
\l@bpart: Introduced macro .....	22		
\mainmatter: Changed LaTeX			
default .....	22		
\secdef: Changed LaTeX default ..	23		
\subitem: Changed default .....	41		
\subsubitem: Changed default ..	41		
\updatesname: Introduced the			
macro .....	41		
\updatespage: Introduced the			
macro .....	41		

v0.7			
\@afterheading: Changed dimensions	25	\subsectionnumberwidth: Introduced the length	21
\@dotsep: Changed LaTeX default	20	v1.4	
\@part: Changed dimensions	23	General: Updated interface with listings package	3
\@schapter: Changed dimensions	25	\thelistings: Added	
maketitle: Changed dimensions	18	\AtBeginDocument	30
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\makehalftitle: Changed dimensions	17	General: Incorporated in-house changes by No Starch Press	3
\tableofcontents: Changed dimensions	20	\@chapterwithquote: Introduced the command	26
\topmargin: Changed dimensions	16	\@pnumwidth: Redefined macro	22
v0.8		\apptoc: Added macro	19
\@dotsep: Tightened dots	20	\bettertilde: Introduced macro	15
\briefftableofcontents: Changed dimensions	19	\boldsectionnumberwidth: Introduced the length	21
\tableofcontents: Changed dimensions	20	\chapterwithquote: Introduced the command	26
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v1.1		description: Redefined	29
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\@makefnstext: Added space between footnote mark and footnote text	30	\l@boldsection: Introduced the macro	21
\briefftableofcontents: Added toc name to the verso footers	19	plainlist: Added macro	29
\footnoterule: Increased kern below the rule	29	\menuarrow: Introduced macro	15
\l@section: Changed numwidth	21	\neg: Introduced macro	15
\tableofcontents: Added toc name to the verso footers	20	\nostarch@fontspath: Introduced macro	12
\topmargin: Made shorter	16	codewide: Added environment	31
v1.2		\slashslash: Introduced macro	15
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\tableofcontents: Added toc name to the verso footers	20	\sochapter: Introduced macro	16
v1.3		\sonote: Introduced macro	16
\@chapter: Corrected a stupid mistake: put refstepcounter out of a group	24	\sotitle: Introduced macro	16
\l@section: Made number width user settable	21	\term: Introduced the macro	40
\l@section: Made number width user settable	21	\turnoffbigpara: Introduced macro	23
\sectionnumberwidth: Introduced the length	21	\wingding: Introduced macro	14
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		\c@nostarch@tbl: Introduced macro	32
		\ifnostarch@overridecaptionwidth: Introduced macro	31
		\NextCaptionWidth: Introduced macro	32
		\nostarch@captionwidth: Introduced macro	31
		\nostarch@measurecaptionwidth: Introduced macro	32
		\nostarch@read@LT@width: Introduced macro	33

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Introduced macro	32	<code>\UrlTildeSpecial:</code> Redefined	
<code>\nostarch@save@tbl@width:</code>		macro	37
Introduced macro	33		v2.2
<code>\nostarch@tbl@warn:</code> Introduced		<code>\aside:</code> Added macro	29
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<code>\UrlBreaks:</code> Moved slashes to		<code>\warning:</code> Defined using generic	29
specials	37		v2.3
Redefined macro	37	<code>\UrlNoBreaks:</code> Removed	
<code>\UrlFont:</code> Redefined macro	37	redefinition	38
<code>\UrlNoBreaks:</code> Redefined macro	38	<code>\UrlSpecials:</code> Moved out opening	
<code>\UrlSpecials:</code> Added slashes and		braces for compatibility with	
double quote	38	amsmath	38

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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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\"	1058	\@currentlabel . . . .	527, 606, 742
\#	1034, 1036, 1044	\@dblarg . . . . .	470
\&	1049	\@dotsep . . . . .	<u>369</u> , 449
\'	1057	\@dottedtocline . . .	411, 415, 419
\)	1044	\@empty . . . . .	279, 290, 575, 1099, 1146
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\,	1054	\@enumctr . . . . .	698, 701, 702
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\;	1055	\@flushglue . . . . .	314
\=	1048	\@footnotetext . . . .	<u>736</u>
\>	1044	\@gobbletwo . . . . .	1260
\?	1052	\@highpenalty . . . . .	372, 387, 396, 425, 441, 452, 484, 531, 610
\@	1056	\@idxitem . . . . .	1186, <u>1188</u> , 1191, 1192
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\@MM . . . . .	740	\@ifstar . . . . .	470
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