

# The **etoc** package

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Package version: v1.07g (2013/10/13)

Documentation generated from the source file  
with timestamp “13-10-2013 at 23:44:43 CEST”

## Abstract

The **etoc** package gives to the user complete control on how the entries of the table of contents should be constituted from the *name*, *number*, and *page number* of each sectioning unit. This goes via the definition of *line styles* for each sectioning level used in the document. The package provides its own custom line styles. Simpler ones are given as examples in the documentation. The simplest usage will be to take advantage of the layout facilities of packages dealing with list environments.

The `\tableofcontents` command may be used arbitrarily many times and it has a variant `\localtableofcontents` which prints tables of contents ‘local’ to the current surrounding document unit. An extension of the `\label/\ref` syntax allows to reproduce (with another layout) a TOC defined somewhere else in the document.

The formatting inherited (and possibly customized by other packages) from the document class may also be used in *compatibility mode*. Regarding the *global toc display*, **etoc** provides pre-defined styles based on a multi-column format, optionally with a frame or a ruled title.

As the assignment of levels to the sectioning units can be changed at any time, **etoc** can be used in a quite general manner to also create custom “lists of”, additionally to the tables of contents related to the document sectioning units. No auxiliary file is used additionally to the standard `.toc` file.

## 1. License, installation

```
% Copyright (C) 2012-2013 by Jean-Francois Burnol <jfbu at free dot fr>
%
% This Work may be distributed and/or modified under the
% conditions of the LaTeX Project Public License, either
% version 1.3c of this license or (at your option) any later
% version. This version of this license is in
%   http://www.latex-project.org/lppl/lppl-1-3c.txt
% and the latest version of this license is in
%   http://www.latex-project.org/lppl.txt
% and version 1.3 or later is part of all distributions of
% LaTeX version 2005/12/01 or later.
%
% This Work has the LPPL maintenance status Author-Maintained.
%
% The Author of this Work is
%   Jean-Francois Burnol <jfbu at free dot fr>.
%
% This Work consists of the main source file etoc.dtx and the
% derived files etoc.sty, etoc.dvi, etoc.pdf, etoc.ins, etoc.tex
%
% Extraction of the package (.sty) and driver (.tex) files:
% - if etoc.ins is present:   tex etoc.ins
% - without etoc.ins:       tex etoc.dtx
```

## 2. Foreword

```
%
% It is also possible to run latex/pdflatex directly on etoc.dtx
%
% At least three ways to produce etoc.pdf:
% (1) latex etoc.dtx (three times), then dvips, then ps2pdf
% (2) pdflatex etoc.dtx (three times)
% (3) latex etoc.tex (three times), then dvipdfmx
%
% Method (3) produces the smallest pdf files.
% Options can be set in etoc.tex:
% - scrdoc class options (paper size, font size, ...)
% - with or without source code,
% - with dvipdfmx or with latex/pdflatex.
%
% Installation:
%
%   etoc.sty->TDS:tex/latex/etoc/etoc.sty
%   etoc.dtx->TDS:source/latex/etoc/etoc.dtx
%   etoc.pdf->TDS:doc/latex/etoc/etoc.pdf
%
% etoc.tex, etoc.ins, etoc.aux, etoc.toc, etc... may be discarded
%
```

## 2. Foreword

Popular packages dealing with TOCs include `tocloft`, `titletoc` and `minitoc`. Why another one? I started **etoc** for my own use, and found out only later about the above mentioned packages; and they did not accomplish what I was aiming at.

As is well explained in the `tocloft` package documentation, the standard L<sup>A</sup>T<sub>E</sub>X layout for the Table of Contents is buried in the class definitions. In particular, most of the lengths therein are hardcoded, and the only way for the user to change them is to recopy the class definitions into the document and then change them to obtain what is desired (within suitable `\makeatletter` and `\makeatother`). The more reasonable alternative is to use a dedicated package such as `tocloft` or to use another flexible document class.

However, although now things are hopefully not hard-coded, one still has to go through the package or class interface. This means one has to memorize a (possibly large) number of macros which will serve only to this task, and one will always be constrained to customizing one initially given layout.

The spirit of **etoc** is something else. The user will deal with the *name*, the *number* and the *page number* corresponding to each document sectional division (and found in a line of the `.toc` file) in a completely arbitrary manner: they are made available via the `\etocname`, `\etocnumber`, and `\etocpage` commands.

**etoc** appears to be compatible with the `article`, `book`, `report`, `scrartcl`, `scrbook`, `scrreprt` and `memoir` classes.

### 3. Change history

v1.07g [2013/10/13]

new commands `\etocsettocdepth`, `\etocsettocdepth.toc`, `\etocobeytoctocdepth`, `\etocignoretoctocdepth` which emulate part of `tocvsec2` functionality ; measures to make `tocvsec2` partially compatible with `etoc`.

new commands `\etocsetnexttocdepth`, `\invisibletableofcontents`, `\invisiblelocaltableofcontents`.

switched from `tikz-qtrees` to `forest` for the first 'toc as tree' example.

command names are linked to their descriptions, and many other changes in the documentation.

removed printing of temporary message when the local toc id is not yet stabilized; indeed `\localtableofcontents` can have many use, such as filling up some token list register and one may wish to not have anything typeset, even in an intermediate run.

all of `tex etoc.dtx`, `etex etoc.dtx`, `xetex etoc.dtx`, `latex etoc.dtx`, `pdflatex etoc.dtx` are now possible, and the extracted file `etoc.tex` allows easy customization of compilation options for the documentation (default is via `dvipdfmx` which produces the smallest file).

v1.07f [2013/03/07]

new macros `\etocthelinkedname`, `\etocthelinkednumber`, `\etocthelinkedpage`, and `\etocthelink`.

v1.07e [2013/03/01]

improvements in the package own line styles with regards to penalties and vertical spaces.

addition to the documentation of an example of a tree-like table of contents (uses `tikz`).

more such examples added 2013/03/03.

v1.07d [2013/02/24]

minor code improvements and new documentation section "Another compatibility mode".

v1.07b [2013/02/02]

removal of the `\xspace` from the macros `\etocname`, `\etocnumber`, `\etocpage`.

additional examples in the documentation.

v1.07 [2013/01/29]

new commands:

`\etocthename`, `\etocthenumber`, `\etocthe-page`, `\etoclink`,

`\etoccontentsline`, `\etoccontentsline*`

`\etocnoper`, `\etocaftercontentshook`

modified command: `\etocmulticolstyle`

new documentation section "Surprising uses of `etoc`" which explains how to do "Lists of arbitrary things", in addition to the tables of contents.

v1.06 [2012/12/07]

the standard macros `\@section` etc... are modified only during the calls to `\tableofcontents`; they can thus be customized as will by the user (with the help of a package like `tocloft`) and this will be taken into account by `etoc` for the TOCs typeset in compatibility mode.

v1.05 [2012/12/01]

`\localtableofcontents` replaces `\tableofcontents*` (for compatibility with the `memoir` class).

compatibility with KOMA-script and `memoir` document classes.

v1.04 [2012/11/24]

a (possibly local) table of contents can be labeled:

`\tableofcontents \label{toc:1}`

and reproduced elsewhere in the document (with a possibly completely different layout):

`\tableofcontents \ref{toc:1}`

v1.02 [2012/11/18]

initial version.

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# Part I. Overview

Here are some statistics for this part: it contains 3 sections and 4 subsections. The name of the first section is “Do I need to be a geek to use **etoc**?” and the corresponding number is “4”. The name of the last section is “A first example” and its number is “6”. The name of the first subsection is “Limitations in the use of list environments for tables of contents” and the corresponding number is “4.1”. The name of the last subsection is “Compatibility mode” and its number is “5.3”.

## 4. Do I need to be a geek to use **etoc**?

Not quite. The simplest way is to use `enumerate` environments, with the customizing facilities of packages such as `enumitem`,<sup>1</sup> to display the data fetched by **etoc** from the `.toc` file. The data consists of the *name* (`\etocname`), *number* (`\etocnumber`), and *page number* (`\etocpage`) as extracted<sup>2</sup> from the `.toc` file.

This is illustrated at the start of Part IV. More sophisticated examples would use more sophisticated `enumitem` options. One may say then that again the user has to memorize some customizing! indeed, but the syntax and option names to memorize are in no way related only to matters of tables of contents, hence an economy of use of the poor brain.

Next in ease of use, perhaps, is the method explained later in this part. For this some knowledge of `\leftskip`, `\rightskip`, etc... is necessary. Next, people who know the internals of  $\text{\LaTeX}2\epsilon$  well (which is not my case) will happily use directly a `\list` command.

As will be amply illustrated in this manual, **etoc** is quite versatile (especially as it allows to re-define at any point in the document the hierarchy of sectioning units) and one can achieve surprising effects with it: Part III is devoted to this, and some more is to be found in Part VII.

A very important aspect of **etoc** is that it is geared towards making many TOCs in the same document, *using only one .toc file*! packages or methods found on the internet which fiddle with `\addcontentsline` or write directly to the `.toc` file often do not have the perspective that this `.toc` file will be used again and again. The present documentation contains 29 visible tables of contents (and a few invisible ones) and uses only one `.toc` file!<sup>3</sup>

### 4.1. Limitations in the use of list environments for tables of contents

There are some limitations to the use of list environments for typesetting TOCs. One of them is intrinsic to the scope limitations created by the groups associated to the environments: the `.toc` file may contain, besides the information to be typeset in the TOCs, some other commands, such as language changing commands, which do not expect to see their scope limited in this way inside a group ( $\text{\LaTeX}$ 's environments create groups).

Therefore the built-in “line styles” proposed by **etoc** as an example (and which are illustrated<sup>4</sup> by the [main table of contents](#) in this document) do not make use of environments.

---

<sup>1</sup><http://ctan.org/pkg/enumitem>

<sup>2</sup>although  $\text{\LaTeX}$  has been promoted as separating contents from form, there are some areas where its real implementation is very far from this ideal. And the `.toc` file is a case in point; not to mention the hard-coded dimensions, with use of the `@` sign, in the macros responsible for constructing the typeset table of contents.

<sup>3</sup>and the counting itself has been achieved by a table of contents which was inserted in the framed paragraph! ... the technique for this kind of effect will be explained later.

<sup>4</sup>with a twist, subsections having been downgraded to the subsubsection style...

## 5. Line styles and toc display style

A distinction shall be made between the *line styles*, *i.e.* the way the name, number and page numbers are used at each level, and the *toc display style* (for lack of a better name) which tells how the title should be set, whether an entry in the .toc file should be made, whether the contents should be typeset with multiple columns, etc... the latter is governed by the command `\etocsettocstyle` (or some higher-level commands) and the former by the command `\etocsetstyle`.

### 5.1. `\etocsetstyle` for the line styles

The command to inform **etoc** of what to do with `\etocname`, `\etocnumber`, and `\etocpage` is called `\etocsetstyle`. It has five mandatory arguments. The first one is the name of the sectional unit: a priori known names are book, part, chapter, section, subsection, subsubsection, paragraph, and subparagraph, and any other name can be declared and assigned to a (numeric) level via the `\etocsetlevel` command.

The four other arguments of `\etocsetstyle` specify: 1) *what to do when this level is first encountered, down from a more general one*, then 2) & 3) (two arguments, a ‘prefix’ and a ‘contents’) *what to do when a new entry of that type is found*, and 4) *the last argument is the code to execute when a division unit of higher importance is again hit upon*.

### 5.2. `\etocsettocstyle` for the toc display

The `\etocsettocstyle` command allows to specify what should be done before and after the line entries of the TOC are typeset, and in particular how the title should be printed. It has two arguments, the first one is executed before the TOC contents (typically it will print “Contents” and define suitable marks for the page headings) and the second is executed after the TOC contents.

**etoc** provides four (customizable) higher level toc styles: `\etocmulticolstyle`, `\etoctocstyle`, `\etocruledstyle`, and `\etocframedstyle`. All use the `multicol` package with a default of two columns (single-column mode is obtained with the optional argument [1]).

These commands must be followed either by `\tableofcontents` or `\localtableofcontents`.

### 5.3. Compatibility mode

Both for the “line styles” and the “toc display style”, it is possible to switch into a compatibility mode which uses the defaults from the document class.<sup>5</sup> This is activated by:

```
\etocstandardlines          % ‘line entries’ as without \usepackage{etoc}
\etocstandarddisplaystyle  % ‘toc display’ as without \usepackage{etoc}
```

If the command `\etocsetstyle` has *not been used in the preamble* the package will be at `\begin{document}` in this compatibility mode: hence just adding `\usepackage{etoc}` should hopefully not change anything to the look of a previously existing document, under the article, book, report, scrartcl, scrbook, scrreprt and memoir classes.

<sup>5</sup>for the “toc display style” **etoc** checks if it knows the class, and if not defaults to the article class layout.

## 6. A first example

Any use of `\etocsetstyle` in the *preamble* or *body* of the document turns off from that point on the compatibility mode for line styles. One re-activates the compatibility mode with `\etocstandardlines`; and the command `\etococlines` will re-activate the line styles as defined by the last uses of `\etocsetstyle`, if their scope was not limited to a group or environment.

The command `\etocdefaultlines` resets the line styles to be the package initial default ones.

Even if `\etocsetstyle` has been used, the global display style remains initially as defined by the document class; one needs to use the command `\etocsettocstyle` or its variants to exit from this compatibility mode at the “toc display style” level. It will be re-activated if use if made of `\etocstandarddisplaystyle`.

## 6. A first example

Let us present it a first example of specification for line styles. Immediately after the start of [Part I](#) we inserted in the source file:

```
\invisiblelocaltableofcontents \label{toc:overview}
```

This sets-up the label `toc:overview`, and we can use it at any location in the document:

```
\tableofcontents \ref{toc:overview}
```

And as we used `\invisible...`,<sup>6</sup> the local TOC will exist only through its clones elsewhere in the document. Here is one such clone:

---

<b>My first <code>etoc</code>: TOC of <a href="#">Part I</a> (<a href="#">Overview</a>)</b>	
<b>4. Do I need to be a geek to use <code>etoc</code>?</b>	6
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We could use the line styles defined by `etoc`, with `\etococlines`, or the default document class styles with `\etocstandardlines`, but we were a bit more ambitious here and wanted to design our own. The technique is a simple one: each heading is in its own paragraph, which may extend on multiple lines; it is responsible for setting its own `\leftskip`. The `\rightskip` on the other hand is shared by all, and page numbers are printed there.

This is a simple design which does not make provisions for page breaks which should be discouraged in-between a section and a subsection etc... as we only used it for the table of contents of this part, thus with sections as top levels, there was no need to specify a style for parts too. The two commands used are `\etocsetstyle` for specifying the line styles, and `\etocruledstyle` for the TOC global style.

```
\begingroup\parindent 0pt \parfillskip 0pt \leftskip 0cm \rightskip 1cm
```

---

<sup>6</sup>this is a shortcut for setting temporarily the `tocdepth` to `-3`, which has the effect to tell `etoc` not to print the TOC, and not even the heading.



```

\etocsetstyle {section}
{
  {\leavevmode\leftskip 0cm\relax}
  {\bfseries\normalsize\makebox[.5cm][l]{\etocnumber.}%
   \etocname\hfill{}\rlap{\makebox[1cm]{\mdseries\etocpage}}\par}
}
\etocsetstyle {subsection}
{
  {\leavevmode\leftskip .5cm\relax }
  {\mdseries\normalsize\makebox[1cm][l]{\etocnumber}%
   \etocname\hfill{}\rlap{\makebox[1cm]{\etocpage}}\par}
}
\etocsetstyle {subsubsection}
{
  {\leavevmode\leftskip 1.5cm\relax }
  {\mdseries\normalsize\makebox[1cm][l]{\etocnumber}%
   \etocname\hfill{}\rlap{\makebox[1cm]{\etocpage}}\par}
}
\etocruledstyle[1]{\bfseries \Large My first \etoc: TOC of
  \autoref{part:overview} (\nameref{part:overview})}
\tableofcontents \ref {toc:overview}
\endgroup

```

## Part II.

# Arbitrarily many TOCs, and local ones too

Here are some statistics for this part: it contains 5 sections and 6 subsections. The name of the first section is “Labeling and reusing elsewhere” and the corresponding number is “7”. The name of the last section is “Two Examples” and its number is “11”. The name of the first subsection is “The `\etocsetnexttocdepth` command” and the corresponding number is “8.1”. The name of the last subsection is “A TOC with a background color” and its number is “11.2”.

**etoc** allows arbitrarily many `\tableofcontents` commands in your document. The line styles and the toc display style may of course be changed in-between. Furthermore `\localtableofcontents` will print local tables of contents: *i.e.* all sections and sub-units inside a given chapter, or all subsubsections and lower inside a given subsection, etc . . .

## 7. Labeling and reusing elsewhere

**etoc** allows the labeling of a TOC with (for example) `\label{toc:A}` and will redisplay it elsewhere when told `\tableofcontents\ref{toc:A}`. The actual layout (title inclusive) used for the cloned TOC will be decided locally. The line styles and toc display style (including the title) will be the current ones and the current value of the `tocdepth` counter

## 8. The `\etocsettocdepth`, `\etocsetnexttocdepth` and `\etocsettocdepth.toc` commands

is obeyed. As an example the table of contents of [Part VI](#) is in a `float` which appears on this page.

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We used this:

```
\begin{figure*}[ht!]  
  \centering  
  \begingroup  
  \etocstandardlines  
  \renewcommand{\etocbkgcolorcmd}{\color{green!5}}  
  \renewcommand{\etocbelowtocskip}{0pt\relax}  
  \fboxseplex  
  \etocframed[1]{\fbox{\makebox[.5\linewidth]{\etocfontminusone  
    \hyperref[toc:c]{I am from far away}}}}  
  \label{toc:d} \ref{toc:c}  
  \endgroup  
\end{figure*}
```

Important: one should not use elsewhere `\tableofcontents \ref{toc:d}`. To clone again, one must use a reference to the original label: `\tableofcontents \ref{toc:c}`.

## 8. The `\etocsettocdepth`, `\etocsetnexttocdepth` and `\etocsettocdepth.toc` commands

The `tocdepth` counter has no bearing on what gets written to the `.toc` file; its action is only on the actual typesetting of the table of contents: in the standard classes there is only one `\tableofcontents` possible, whereas with `etoc`, arbitrarily many are allowed, so one may change `tocdepth` to the appropriate value (which decides the finest sectioning level displayed) again and again each time a table of contents needs to be typeset.

`etoc` provides `\etocsettocdepth{<level>}` whose mandatory argument is either numeric (from -3 to 5) or a division name such as `subsection` or `subsubsection` or any name previously declared to `etoc` with `\etocsetlevel` (the special names `all` and `none` are recognized). This does the appropriate `\setcounter{tocdepth}{numeric_level}`.

## 8. The `\etocsettocdepth`, `\etocsetnexttocdepth` and `\etocsettocdepth.toc` commands

### 8.1. The `\etocsetnexttocdepth` command

As is explained in the next subsection, `tocdepth` is used by `hyperref`, and one must take steps to prevent its changes to influence the bookmarks, too. So, `etoc` has `\etocsetnexttocdepth{<level>}` whose influence ceases immediately after the next table of contents. Thus, `\invisibletableofcontents` is essentially `\etocsetnexttocdepth{none}\tableofcontents`.

The simplest course is thus to have after `\begin{document}` and before the first `\tableofcontents` a single instance of the `\etocsettocdepth` command, with argument the deepest level (or most commonly used deepest level) among the tables of contents of the document, and to use locally, where needed, `\etocsetnexttocdepth` before `\tableofcontents` or `\localtableofcontents`.

### 8.2. The `hyperref` option `bookmarksdepth`

When modifying the counter `tocdepth` for the purposes of multiple uses of `\tableofcontents` or `\localtableofcontents`, one should be aware that package `hyperref` by default takes into account the *current* value of the `tocdepth` counter to decide whether the pdf file will contain a bookmark corresponding to sectioning commands encountered in the source file. Thus, one typically needs to reset `tocdepth` to its previous value after having temporarily modified it for a given table of contents.

Or, there is the `bookmarksdepth=n` option of package `hyperref`, with  $n$  the desired document bookmarks maximal depth, which can be numeric or the name of a level known to `hyperref`. This documentation previously passed `bookmarksdepth=3` as option to `hyperref`, so even if `tocdepth` was left to 1 by inadvertance after printing a certain table of contents this did not modify the bookmark tree of the pdf file. Now that `\etocsetnexttocdepth` has been added to the package, we have used it systematically and there was no need for `bookmarksdepth=3` anymore.

### 8.3. Further commands `\etocsettocdepth.toc`, `\etocobeytoctocdepth`, and `\etocignoretoctocdepth`

This command `\etocsettocdepth.toc` implements some functionality of `toctvsec2`<sup>7</sup>, a package which however was incompatible with `etoc` (it can still be used for its `secnumdepth`-related commands, but its `toc`-related activities will get canceled by `etoc`) and more-or-less designed for a single table of contents.

The action of `\etocsettocdepth.toc` is totally different than the one of `\etocsettocdepth`. Rather than modifying the `tocdepth` counter immediately, it adds a line to the `.toc` file which, when executed inside a table of contents will enact this change.

The command `\etocsettocdepth.toc`, like `\etocsettocdepth`, accepts both numeric and named arguments. In the case of a named argument, the actual numeric value to be used is not yet decided at the time the `.toc` file is created; it will be the value currently specified for the named level at the time each table of contents (not having done `\etocignoretoctocdepth`) is typeset.

---

<sup>7</sup><http://ctan.org/pkg/toctvsec2>. I thank D.B. for drawing my attention to the incompatibility of this package with `etoc`.

## 9. Adding commands to the .toc file

The `tocdepth` counter will never be set to a value finer than its initial value at the start of the table of contents: so adding commands `\etocsettocdepth.toc` in the document is a way to *restrict* locally the depth of the table of contents. For example to prevent inclusion in the tables of contents of the sub-sub-sections of a given chapter.

This gets executed in ALL tables of contents. So `\etocignoretoctocdepth` is provided to cancel this mechanism when needed; and `\etocobeytoctocdepth` will re-activate it. The package does `\etocobeytoctocdepth` when it is loaded.

Actually, with the *shuffling abilities* of `etoc`, one may never need nor wish to do `\etocignoretoctocdepth` if one has used `\etocsettocdepth.toc` in the following powerful way, illustrated on an example, there are infinite variations.

In the preamble one does `\etocsetlevel{partI}{6}`, `\etocsetlevel{partII}{6}`, ..., for as many parts as found in the document. Then one inserts a command `\etocsettocdepth.toc{partI}`, just before the first `\part`, and the same for all others. One may then decide, individually for each part, what will be the finest level authorized to appear in the next table of contents, through assignments `\etocsetlevel{partI}{2}`, `\etocsetlevel{partII}{1}`, etc... each time one prints a TOC, one decides on the levels for each part. One may exclude entirely the part and all its sub-units by setting the level of its associated tag to -2.

Important: `\etocsetlevel` only accept numeric levels, from -3 to 6, with -3 only accepted for such dummy level associations (one can not and one should not try to associate a line style to a named level assigned a numeric value of -3) allowing to exclude an entire book from inclusion in a TOC (memoir allows this level book). I guess this might prove a rather rare instance, but still I enlarged `\etocsetlevel` to accept it.

## 9. Adding commands to the .toc file

When displaying in that way many tables of contents in the same document one should be cautious when adding manually things to the .toc file. For example, inserting `\addtocontents{toc}{\string\clearpage}` just before a `\part` to fix the problem when some part entry (in the table of contents) is isolated at the bottom of one page, will cause problems with multiple TOCs: this `\clearpage` will be executed by `etoc` each time a `\tableofcontents` or `\localtableofcontents` command is encountered! The more prudent thing is to do rather: `\addtocontents{toc}{\string\myclearpage}`, to have a `\let\myclearpage\relax` at the top level of the document and to use where needed something like:

```
\let\myclearpage\clearpage
\tableofcontents
\let\myclearpage\relax
```

The memoir class has the command `\settocdepth` which writes a `\changetocdepth` command inside the .toc file. This will impact the typesetting by `etoc` of *all* tables of contents, with (possibly) unexpected results: imagine the document has `\settocdepth{chapter}` at some point to avoid having the sections from subsequent chapters be listed in the main table of contents. Then a local table of contents in one of these chapters will print a title but will be without any entry.

As the memoir class by itself allows multiple `\tableofcontents` these issues already arise there, independently of `etoc`, see page 170 of the memoir manual.

## 10. A powerful functionality of **etoc**: the re-assignment of levels

For this specific issue, the commands `\etocsettocdepth.toc`, `\etocignoretoc-tocdepth` and `\etocobeytoctocdepth` are the way to go.

As an aside, any `\setcounter{tocdepth}{n}` command added directly to the `.toc` file sees its effect (since release 1.07g) canceled at the end of each table of contents, which automatically does a `\setcounter{tocdepth}{previous_value}` with the value active on entering the table of contents.

### 9.1. The hyperref option *hidelinks*

The colored links (and also the rectangle links) are a bit annoying when used in tables of contents, especially when the document uses **etoc** and has plenty of them! One may wish for having colored links, *except* for those within table of contents! Indeed, why would things in TOCs need to be either framed in rectangles or colored, when the user *already expects them to be links*!

I use the following trick: either in the preamble using `\AtBeginDocument`, or right after `\begin{document}`, I have the command

```
\addtocontents{toc}{\protect\hypersetup{hidelinks}}
```

All TOCs typeset by **etoc** have their contents done within a group (as if enclosed in an environment). So the command `\hypersetup{hidelinks}` will be executed by *each* TOC, but its effect will be limited to that TOC.

I found out experimentally that the option `hidelinks` could indeed be set many times with `\hypersetup` (this is not the case of all hyperref options).

## 10. A powerful functionality of **etoc**: the re-assignment of levels

The intrinsic levels manipulated by **etoc** are numeric: from -2 (which corresponds to book in the memoir class) down (from the big to the small) to 5 (subparagraph). But the assignment of a numeric level to a given name can be modified at any time with the command `\etocsetlevel{<level_name>}{<n>}`. In conjunction with the use of the  $\text{\LaTeX}$  `tocdepth` counter, this has powerful applications: `<level_name>` does not have to coincide with an actual document sectioning command, and **etoc** can be used to print arbitrary “lists of things”, using no other auxiliary file than the `.toc` file. This is explained further in [Part III](#).

It is often said that in the standard classes, the sectioning level of `\part` is 0 in the classes not having a `\chapter` command, and -1 in classes having a `\chapter` command. This is *correct* for what regards the *automatic numbering*, as is governed by the value of the `secnumdepth` counter; but it is *wrong* for what regards the effect of the `tocdepth` counter: setting the `tocdepth` to -1 in the article class just before `\tableofcontents` does *not* prevent Parts from appearing in the Table of Contents. One has to set it to -2 for that, whether in the article or in the book class.

## 11. Two Examples

The canonical levels, a priori known to **etoc**, are those of relevance to the **tocdepth** counter in the standard classes and are recapitulated in this table:

(memoir class) book	-2
part	-1
chapter	0
section	1
subsection	2
subsubsection	3
paragraph	4
subparagraph	5

With **etoc**, the user can easily print a local table of contents inside a given subsection, where subsubsections will be printed in the style of sections, paragraphs in the style of subsections, and subparagraphs in the style of subsubsections, if so desired. One can also decide to set everything to be at the level 6 (never displayed by **etoc**), except for example paragraphs, promoted to be at level 1, and then one obtains a nice table of contents of all the paragraphs from the document! (tocdepth at least 1)<sup>8</sup>

## 11. Two Examples

### 11.1. A Beautiful Thesis example

Here is another relatively simple example of use of the package functionalities. Let us set up some line styles. We choose a style for sections and sub-sections which would be suitable for, respectively, sections and sub-sections in an average length memoir. The line style specifications have some redundancy for clarity, and do not care about what to do at possible page breaks. Also, they do not worry about potential multi-column use.

```
\begingroup % we start a group to keep the style changes local
\newlength{\tocleftmargin} \setlength{\tocleftmargin}{5cm}
\newlength{\tocrightmargin} \setlength{\tocrightmargin}{1cm}

\etocsetstyle{section} % will pretend to be a Chapter
{\addvspace{1ex}\parfillskip0pt
 \leftskip\tocleftmargin % (already done in title)
 \rightskip\the\tocrightmargin plus 1fil
 \parindent0pt\color{cyan}} % (already done)
{\bfseries\LARGE\upshape\addvspace{1ex}\leavevmode}
{\llap{Chapter\hspace{.5em}}{\etocnumber}\hspace{.75cm}}{\etocname}
\hfill\makebox[-\tocrightmargin][l]{\makebox[0pt]{\etocpage}}\par}
{}

\etocsetstyle{subsection} % will pretend to be a Section
{}

```

<sup>8</sup>one has to issue `\etoc toc lines`, or to set up at least one style with `\etocsetstyle` to escape from the compatibility mode, which would insist on printing the paragraphs in the TOC as paragraphs, with a silly gigantic left margin.

## 11. Two Examples

```
{\mdseries\large\addvspace{.5ex}\leavevmode}
{\llap{\etocnumber\hspace{.75cm}}\textit{\etocname}%
\hfill\makebox[-\tocrightmargin][l]{\makebox[0pt]{\etocpage}}\par}
{}

\def\tmp{title}{My Very Beautiful Thesis}
\etocsettocstyle{\color{cyan}\parindent0pt \leftskip\tocleftmargin
\leavevmode\leaders\hrule height 1pt\hfill\
\huge\textit{\tmp}\par}{\bigskip}

\tableofcontents \ref{toc:overview}
\endgroup
```

### \_\_\_\_\_ *My Beautiful Thesis*

<b>Chapter 4</b>	<b>Do I need to be a geek to use <i>etoc</i>?</b>	<b>6</b>
4.1	<i>Limitations in the use of list environments for tables of contents</i>	6
<b>Chapter 5</b>	<b>Line styles and toc display style</b>	<b>7</b>
5.1	<i>\etocsetstyle for the line styles</i>	7
5.2	<i>\etocsettocstyle for the toc display</i>	7
5.3	<i>Compatibility mode</i>	7
<b>Chapter 6</b>	<b>A first example</b>	<b>8</b>

### 11.2. A TOC with a background color

Let us now try out some more sophisticated line styles. The display will use the `\etoc-framedstyle` package command, which requires that the produced table of contents fits on a single page.<sup>9</sup> We wrap it up in a `figure environment` showing up on the next page.

The actual design is not pre-built in `etoc`; it uses its ‘framed’ style with a background color. The frame borders have been set to have the same color as the one serving as background for the entire thing. This design (with other colors) is in use also for [this other toc](#), and the reader is referred to [its location](#) for the coding used.

---

<sup>9</sup>using <http://ctan.org/pkg/mdframed> one may do similar constructs compatible with pagebreaks.

Contents of Part One	
4	Do I need to be a geek to use <b>etoc</b> ? 6
4.1	Limitations in the use of list environments for tables of contents . . . . . 6
5	Line styles and toc display style 7
5.1	\etocsetstyle for the line styles . . . . . 7
5.2	\etocsettocstyle for the toc display . . . . . 7
5.3	Compatibility mode . . . . . 7
6	A first example 8

`\tableofcontents \ref{toc:overview}` (cf. [subsection 11.2](#) and [this other toc](#))

# Part III.

## Surprising uses of **etoc**

Here are some statistics for this part: it contains 6 sections and 0 subsection. The name of the first section is “The TOC of TOCs” and the corresponding number is “12”. The name of the last section is “The TOC as a molecule” and its number is “17”.

The TOC of TOCs . . . . .	12, p. 16
Arbitrary “Lists Of...”, \etoccontentsline . . . . .	13, p. 18
A TOC with a fancy layout . . . . .	14, p. 19
Another compatibility mode . . . . .	15, p. 20
The TOC as a tree . . . . .	16, p. 22
The TOC as a molecule . . . . .	17, p. 25

### 12. The TOC of TOCs

Here is the numbered and linked list of all tables of contents which are displayed within this document:<sup>10</sup> [1](#), [2](#), [3](#), [4](#), [5](#), [6](#), [7](#), [8](#), [9](#), [10](#), [11](#), [12](#), [13](#), [14](#), [15](#), [16](#), [17](#), [18](#), [19](#), [20](#), [22](#), [21](#), [23](#), [24](#), [25](#), [26](#), [27](#), [28](#), [29](#). And to obtain it here we just wrote:

Here is the numbered and linked list of all tables of contents  
which are displayed within this document: \tableofcontents.

<sup>10</sup>The TOCs put in floats may change the order: the numbers are listed in the order the TOCs appear in the document; but the numbering itself is from the order of the TOCs in the *source* of this document...



## 12. The TOC of TOCs

The preparatory work was the following. First, we defined a counter `visibletoc` whose vocation is to get incremented at each displayed toc. `etoc` has its own private counter but it counts all TOCs, even those not displayed because the `tocdepth` value was -2 or -3.

We could have added manually `\refstepcounter{visibletoc}` and `\label` commands at all suitable locations in the document source, and we would then have used here `\ref` commands, but this imposes heavy manual editing of the source.

There is a much better way: there is a hook `\etocaftertitlehook` and we told it to increment the `visibletoc` counter and to write a line to the `.toc` file, in a manner analogous to what sectioning commands such as `chapter`, `section`, or `subsection` do. As `etoc` increments its own private counter even before typesetting the title of a table of contents, this provides (most of the time) a better link destination than any counter manipulated from inside `\etocaftertitlehook` (for which the link would target the area just after the title). So, rather than including `\refstepcounter{visibletoc}` inside `\etocaftertitlehook`, we just put there `\stepcounter{visibletoc}` followed by the command `\etoccontentsline{visibletoc}{\thevisibletoc}`. This `etoc` command `\etoccontentsline{<level_name>}{<name>}` has the same effect as:

```
\addcontentsline{toc}{<level_name>}{<name>}
```

but its usefulness is to circumvent<sup>11</sup> the patching for automatic creation of bookmarks done to `\addcontentsline` by the `hyperref` package, as pdf bookmarks don't make much sense here (and would elicit a complaint of `hyperref` that the bookmark level is 'unknown').<sup>12</sup>

Finally, the preamble of the document did `\etocsetlevel{visibletoc}{6}`. The level 6 (or anything with a higher number) is ignored, even if `tocdepth` has value 10 for example; this is independently of whether `etoc` uses the document class default line styles or its own line styles, or the ones defined by the user with the `\etocsetstyle` command. So there is no need to worry that something could go wrong.

Then, only here we have set `\etocsetlevel{visibletoc}{0}`. And to display only this kind of entries we assign temporarily to part and chapter level 1 (or anything higher than zero) and set `tocdepth` to the value 0. We also did `\etocsetstyle{visibletoc}{\etocskipfirstprefix}{,}{\etocname}{}` which defines an inline display with the comma as separator. Finally, as `etoc` issues `\par` automatically by default just before typesetting a table of contents, we used the command `\etocinline` (also known as `\etocnopar`) which turns off this behavior.

Here are the implementation details:

```
< in the preamble >
\newcounter{visibletoc}
\renewcommand{\etocaftertitlehook}
{
  \stepcounter{visibletoc}\etoccontentsline{visibletoc}{\thevisibletoc}
}
\etocsetlevel{visibletoc}{6}
\begin{document}
  < document body >
\subsection{Surprising uses of etoc}
```

<sup>11</sup>using `\addtocontents` rather than `\addcontentsline`

<sup>12</sup> The package provides a starred variant `\etoccontentsline*`, which does allow the creation of bookmarks and has a third mandatory argument which is the Level to be used by these bookmarks; depending on the context the starred as well as the non-starred variants may be profitably preceded by `\phantomsection`.

### 13. Arbitrary “Lists Of...”, \etoccontentsline

```
\begingroup
\etocinline
\etocsetlevel{part}{1}
\etocsetlevel{chapter}{1}
\etocsetlevel{visibletoc}{0}
\etocsetstyle{visibletoc}
  {\etocskipfirstprefix}{, }{\color{niceone}\etocname}}{}
\etocsettocstyle{}{} % don't set any title, rules or frame or multicol!
\etocsetnexttocdepth{0} % display only the 'visibletoc' entries from .toc
```

Here is the numbered and linked list of all tables of contents which are displayed within this document: \tableofcontents.

```
\endgroup
```

After `\etocsetstyle{visibletoc}{...}{...}{...}{...}`, all future TOCs (not in compatibility mode) will use the defined style for level 0 (which is normally the level for chapters). To keep these changes strictly local the simplest manner is to put everything inside a group.

The [subsection 27.2](#) gives another use of the shuffling of levels.

### 13. Arbitrary “Lists Of...”, \etoccontentsline

This idea of interverting the levels is very powerful and allows to let **etoc** display lists of arbitrary things contained in the document. All of that still using nothing else than the .toc file! Example: imagine a document with dozens of exercises, perhaps defined as `\newtheorem{exercise}{}[section]`. Let us explain how to instruct **etoc** to display an hyperlinked list of all these exercises. For this we put in the preamble:

```
\newtheorem{exerci}{}[section]
% the exercise number will be recoverable via \etocname: v--here--v
\newcommand*\exercisetotoc{\etoccontentsline{exercise}{\theexerci}}
\newenvironment{exercise}{\begin{exerci}\exercisetotoc}{\end{exerci}}
\etocsetlevel{exercise}{6}
```

In this way, `\etocname` will give the exercise number (but `\etocnumber` will be empty). Had we used instead

```
\newcommand*\exercisetotoc
  {\etoccontentsline{exercise}{\protect\numberline{\theexerci}}}
```

the exercise number would then have been available via `\etocnumber`, and `\etocname` would have been empty. It doesn't matter which one of the two methods is used. The **etoc** command `\etoccontentsline{...}{...}` is provided as a substitute to `\addcontentsline{toc}{...}{...}`: this is to avoid the patching which is done by `hyperref` to `\addcontentsline` in its process of creation of bookmarks. If one wants to authorize `hyperref` to create bookmarks at a specific level  $\langle n \rangle$ , one can use (here with  $\langle n \rangle = 2$ ) the starred variant `\etoccontentsline*` which has an additional argument:

```
\newcommand*\exercisetotoc{\etoccontentsline*{exercise}{\theexerci}{2}}
```

## 14. A TOC with a fancy layout

The counter `exerci` is already incremented by the `exerci` theorem environment, and provides the correct destination for the link added by package `hyperref`. The command `\exercisetotoc` adds for each exercise a line to the `.toc` file, corresponding to a fictitious document unit with name ‘exercise’. A four-column list, including the sections, can then be typeset with the following code:

```
\etocsetnexttocdepth{2}      % sections are at level 1 and will show up
\begingroup
\etocsetlevel{exercise}{2}    % but:
\etocsetlevel{chapter}{3}    %      no chapters
\etocsetlevel{subsection}{3} %      no subsections
\etocsetlevel{part}{3}       %      no parts
\etocsetstyle{exercise}{}{} % \etocname = exercise number
    {\noindent\etocname\strut\leaders\etoclineleaders\hfill\etocpage\par}
    {\pagebreak[2]\vskip\baselineskip}
\etocsetstyle{section}{}{}
    {\noindent\strut{\bfseries\large\etocnumber\hskip.5em\etocname}\par}
    {\nopagebreak[3]}{}
\etocruledstyle[4]{\Large\bfseries List of the exercises}
\setlength{\columnseprule}{.4pt}
\tableofcontents
\endgroup
```

## 14. A TOC with a fancy layout

Here is a table of contents where the sections from a given chapter are to be represented by a number range (like 18–22 for a given chapter, 42–49 for another one ... of course to be inserted automatically in the TOC).

This is not an image inclusion, the TOC is produced from its original `tex` source inserted in this document after replacement of `part`, `chapter` or `section` with `dummypart`, `dummychapter` and `dummysection` (and there is also a dummy page count). We copied the line styles used in the original and displayed the table of contents following:

```
\etocsetlevel{dummypart} {-1} \etocsetlevel{part} {2}
\etocsetlevel{dummychapter}{0} \etocsetlevel{chapter}{2}
\etocsetlevel{dummysection}{1} \etocsetlevel{section}{2}
\etocsetnexttocdepth{1}
```

Each chapter displays the numbers of only the first and the last sections it contains. See the source file `etoc.dtx` for the details of how this is done.

Another technique for doing this kind of things is explained in [subsection 27.4](#).

# TABLE OF CONTENTS

## PART I

				SECTIONS.	PAGE.
Introductory	...	...	...	1—8	5

## 15. Another compatibility mode

### Concord.

#### LESSON.

1.	Concord of Subject and Verb	...	...	9—17	7
2.	Concord of Substantive and Adjective	...	...	18—22	9
	Concord of Relative and its Antecedent	...	...	23—25	

## PART II Government.

3.	The Accusative Case	...	...	...	17
	General uses	...	...	26—30	
	Particular uses	...	...	31—37	
4.	Verbs governing two Accusatives	...	...	38—41	23
5.	The Causal	...	...	42—49	25
6.	The Instrumental Case	...	...	...	27
	General uses	...	...	50—54	
	Particular uses	...	...	55—59	
7.	The Dative Case	...	...	...	33
	General uses	...	...	60—65	
	Particular uses	...	...	66—71	
8.	The Ablative Case	...	...	...	39
	General uses	...	...	72—75	
	Particular uses	...	...	76—86	
9.	The Locative Case	...	...	...	45
	General uses	...	...	87—92	
	Particular uses	...	...	93—100	

## 15. Another compatibility mode

As explained in [subsection 5.3](#), the commands `\etocstandardlines` and `\etocstandarddisplaystyle` tell **etoc** to, essentially, act as an observer. The document class layout for the table of contents is then perfectly obeyed. There is no way to customize this standard layout (change fonts, margins, vertical spacings, etc...) from within the package. For this, use some package dedicated to this task; because **etoc** either is (temporarily perhaps) in compatibility mode with no customization on its part possible, or the user has specified the layout in `\etocsetstyle` commands (and `\etocsettocstyle`) and is (supposedly...) in complete control.

Well, there is actually an alternative. It is possible to use the `\etocsetstyle` commands to recreate an artificial compatibility mode, in order to achieve effects like the following, all things being otherwise equal to the document class defaults:

1. get the `\hyperref` link to encapsulate only the names, but not the numbers of each entry of the table of contents,

## 15. Another compatibility mode

2. use the document class style for chapters and sections, but modify it only for subsections,
3. do either of the above only for some portions of the table of contents.

Here is how to proceed. One puts in the preamble:

```
\makeatletter
\newcommand{\MyStandardTOC}{%
  \begingroup
  \let\savedpartline\l@part
  \let\savedchapterline\l@chapter %% remove if article/scrartcl class
  \let\savedsectionline\l@section
  \let\savedsubsectionline\l@subsection
  % and so on if \subsubsection, etc... is used
  %
  % for the book or article classes:
  \etocsetstyle{part}{}{}
    {\savedpartline{\etocnumber\hspace{1em}\etocname}{\etocpage}}{}%
  % for the scrbook or scrartcl classes:
  \etocsetstyle{part}{}{}
    {\savedpartline{\numberline{\etocnumber}\etocname}{\etocpage}}{}%
  % identical in book/article/scrbook/scrartcl classes:
  \etocsetstyle{chapter}{}{} %% only for book and scrbook
    {\savedchapterline{\numberline{\etocnumber}\etocname}{\etocpage}}{}%
  \etocsetstyle{section}{}{}
    {\savedsectionline{\numberline{\etocnumber}\etocname}{\etocpage}}{}%
  \etocsetstyle{subsection}{}{}
    {\savedsubsectionline{\numberline{\etocnumber}\etocname}{\etocpage}}{}%
  % etc... if further sectioning units are used
  % (see the text for what to do with the memoir class)
  \etocstandarddisplaystyle % this is for the title, page-marks, etc...
  \tableofcontents
  \endgroup}
\makeatother
```

Of course if the document has only one table of contents then there is no need to put the commands inside a macro, or even inside a group.<sup>13</sup> With these commands **etoc** will construct a TOC completely identical to what would have been done by one of the document class: `article`, `book`, `scrartcl`, `scrbook`.<sup>14</sup> The number and the name of each entry are each separately an `hyperref` link, as is always the case with **etoc**, when not in compatibility mode. Replacing `\etocnumber` with `\etocthenumber` will give a TOC where the numbers are not links anymore, but the names still are. Or one may decide to use `\etocthename` and keep an hyperlinked number with `\etocnumber`.

Here is a subtler example where one only marginally modifies the sections (adding color to the number and removing the `hyperref` link) and keeps the subsections as in the default, *except* for those of one specific section, for which the layout is completely modified:

<sup>13</sup>and if moreover one just wants to keep the same layout as in the default, one may question why using **etoc**... there is *one* good reason: numbers and names are separately `hyperref` links, whereas normally there is only one link holding both the number and the name corresponding to one toc entry.

<sup>14</sup>For the memoir class, one needs a bit more: each of the command `\booknumberline`, `\partnumberline` and `\chapternumberline` will have to be saved with a `\let`, and, one then specifies:

```
\etocsetstyle{chapter}{}{}{\savedchapterline{\savedchapternumberline
  {\etocnumber}\etocname}{\etocpage}}{}
  (and analogously for part, respectively book).
```

## Contents

<b>4. Do I need to be a geek to use <code>etoc</code>?</b>	<b>6</b>
4.1. Limitations in the use of list environments for tables of contents . . . . .	6
<b>5. Line styles and toc display style</b>	<b>7</b>
<i>\etocsetstyle for the line styles</i> (5.1) – <i>\etocsettocstyle for the toc display</i> (5.2) – <i>Compatibility mode</i> (5.3).	
<b>6. A first example</b>	<b>8</b>

This example only has sections and subsections, and the code used in `\MyStandardTOC` was:

```
\etocsetstyle{section}{%
  {\ifnum\etocthenumber=5
    \etocsetstyle{subsection}
      {\par\nopagebreak\begin{group}
        \leftskip1.5em \rightskip\@tocrmarg \parfillskip\@flushglue
        \parindent 0pt \normalfont\normalsize\rmfamily\itshape
        % \columnseplem
        % \begin{minipage}{\dimexpr\linewidth-\leftskip-\rightskip\relax}%
        % \begin{multicols}{2}%
        \etocskipfirstprefix}
        {\allowbreak\,--\,}
        {\etocname\ \textup{(\etocnumber)}}}
        {\.\par\endgroup}%
        % {\.\par\end{multicols}\end{minipage}\par\endgroup}%
      }
    \else
      \etocsetstyle{subsection}
        {}{}
        {\savedsubsectionline{\numberline{\etocnumber}\etocname}{\etocpage}}
        {}%
      }
    \fi}
{\savedsectionline{\numberline{{\color{cyan}\etocthenumber}}\etocname}{\etocpage}}
{}%
```

Notice the page head-mark added by this standard TOC. Sections and subsections are printed exactly as in the default (except for the subsections of one specific user-chosen section and except for the color of the section numbers), with no need to specify explicitly any length, font or other formatting instructions. But we had to examine the `scrartcl` sources to determine what to use for `\leftskip` and `\rightskip` for our customized section entries.

## 16. The TOC as a tree

Using `tikz`<sup>15</sup> and the package `forest`<sup>16</sup> we shall display the table of contents of this part as a tree. The technique is to use the `etoc` modified command `\tableofcontents` not for typesetting, but to prepare a macro, or rather here a *token list* variable, with all the

<sup>15</sup><http://ctan.org/pkg/pgf>

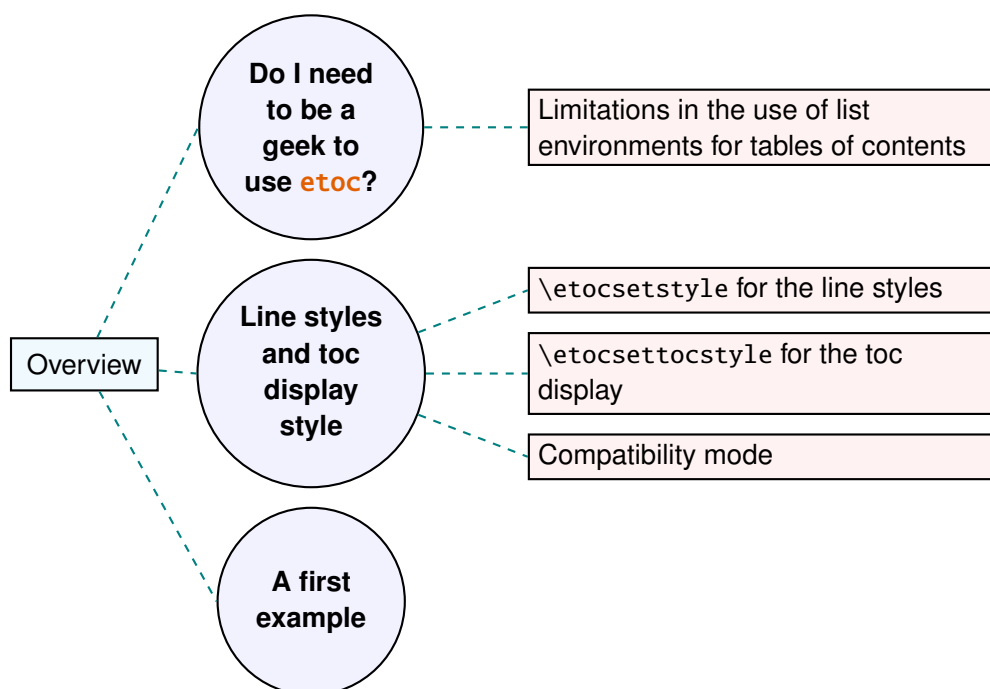
<sup>16</sup><http://ctan.org/pkg/forest>

instructions to be executed later. LESLIE LAMPORT's book has no mention whatsoever of token lists, and L<sup>A</sup>T<sub>E</sub>X gives the impression to not really expect the general user to ever hear about them (or delimited macros); this whole section and the next are thus for advanced users.

Putting the `\etocnumber` and `\etocname` commands in `\treetok` would be of no use: to which number or name would they then refer to, in a delayed execution?

We need to store, not the macro names, but the macro contents. And also we wish to maintain the correct `hyperref` hyperlinks.<sup>17</sup> The hyperlink information put by `etoc` inside `\etocname`, etc..., is just a pointer, not storable for later use; but the package provides `\etocthelinkednumber`, `\etocthelinkedname`, and `\etocthelinkedpage` whose contents contain the hyperlink in a form which can be stored and later reused.

The various `etoc` styles for sections, subsections, ..., use a macro `\appendtotok` whose rôle is to append to a given token list variable the once-expanded macro given as second argument. The token list register used is called `\treetok`. All this will happen in reaction to a `\tableofcontents` command, but *nothing* is yet printed in the process.<sup>18</sup> This is the later job of a forest environment containing the contents of `\treetok`.



A table of contents displayed as a forest tree.

The resulting tree has been put in a `float`, which appears above. Here is the code used for its production:

<sup>17</sup>This manual up to the version of May 14, 2013 used package `qtikz-tree` but there were problems with hyperlinks. No such problem arises either when using `forest` or the native `tikz` syntax for trees (which will be illustrated in the next section).

<sup>18</sup>There is always a `\par`, which here is not a problem, but can be suppressed if need be via the command `\etocinline` or its synonym `\etocnpar`.

## 16. The TOC as a tree

```

\newtoks\treetok
\newtoks\temptok

\newcommand*\appendtotok[2]{% #1=toks variable, #2=macro, expands once #2
  #1\expandafter\expandafter\expandafter
  {\expandafter\the\expandafter #1#2}}

\newcommand*\PrepareSectionNode{%
  \temptok {\centering\bfseries}%
  \appendtotok\temptok\etocthelinkedname
  \edef\foresttreenode{ [{\noexpand\parbox{2cm}{\the\temptok}}}%
}

\newcommand*\PrepareSubsectionNode{%
  \temptok {\raggedright}%
  \appendtotok\temptok\etocthelinkedname
  \edef\foresttreenode{ [{\noexpand\parbox{6cm}{\the\temptok}}}%
}

\etocsetstyle{section}
  {\etocskipfirstprefix}
  {\appendtotok\treetok{ }}
  {\PrepareSectionNode \appendtotok\treetok\foresttreenode}
  {\appendtotok\treetok{ }}

\etocsetstyle{subsection}
  {\etocskipfirstprefix}
  {\appendtotok\treetok{ }}
  {\PrepareSubsectionNode \appendtotok\treetok\foresttreenode}
  {\appendtotok\treetok{ }}

\etocsettocstyle
  {\treetok[{ {\hyperref[part:overview]{Overview}}}] }
  {\global\appendtotok\treetok{ }}

% forest does not like @\the\treetok if \treetok is empty. On first latex
% run, this will be the case because the TOC style defined above will not
% have been executed, as the label {toc:overview} does not refer to a valid
% TOC yet. So we must give a safe default value to \treetok
\treetok[{ {run latex again}}]

\begin{figure*}[th!]\centering
  \etocsetnexttocdepth{2}
  \tableofcontents \label{toc:forest}\ref{toc:overview}
  \hypersetup{hidelinks}%
  \bracketset{action character=@}
  \begin{forest}
    for tree={anchor=center,child anchor=west,
              grow'=east,draw,thick,
              edge={draw,thick,dashed,color=teal}},
    where={level()==1}{circle,thick,fill=blue!5,
                      before computing xy={l=3cm}}{ },
    where={level()==2}{fill=red!5,
                      before computing xy={l=6cm}}{ },
    rectangle, thick, fill=cyan!5, inner sep=6pt,
    @\the\treetok
  \end{forest}
\end{figure*}

```

Why `\hypersetup{hidelinks}`? as explained in [subsection 9.1](#), I prefer the links in TOCs not to be colorized, nor framed, so this document inserts a command `\hypersetup{hidelinks}` in the `.toc` file. But at the time the `\treetok` contents are unpacked the



## 17. The TOC as a molecule

`\hyperlink` commands originating in `\etoctheLinkedname`, etc... will be executed in the normal environment for links (which, in this document, is to colorize them). Rather than having `etoc`'s code try to guess what the current "style" for links is (a concept not really provided by `hyperref` it seems) and store it in `\etoctheLinkedname`, etc..., I opted for the simpler solution to leave it up to the user to recreate whatever conditions are desired. So here it is necessary to re-issue `\hypersetup{hidelinks}` in the figure environment.

There are some other examples in this documentation where `\tableofcontents` is used to prepare material for later typesetting, as for example (see [subsection 27.4](#)) for printing the statistics at the start of each Part: the code there uses save boxes, so the problem of the appearance of the links does not arise then, they will be stored as ready to be re-used boxes.

## 17. The TOC as a molecule

It is also possible to construct a TOC tree obeying the TikZ syntax for trees: but this is a more complicated task for the `etoc` line styles for reasons related to the way braces are handled by  $\TeX$  (they need, when filling up the token list to be always balanced at each step, else complicated tricks must be employed.)

The simplest strategy is to allocate a token list (or use a macro) for each level used: we may need a `\parttok`, a `\chaptertok`, a `\sectiontok` and a `\subsectiontok`, to help in the task of filling up the total `\treetok`. As we are interested here in the table of contents of this (or another) document part, only a `\sectiontok` and a `\subsectiontok` will be needed.

```
% \newtoks\treetok % already done earlier
\newtoks\sectiontok \newtoks\subsectiontok \newcommand*\treenode{}

\newcommand*\appendchildtree[2]{% token list t1 becomes: t1 child {t2}
  \edef\tmp{\the#1 child {\the#2}}%
  #1\expandafter{\tmp}%
}
\newcommand*\preparetreenode{%
  \tmptok\expandafter{\etoctheLinkednumber}% expanded one time (mandatory)
  \edef\treenode{node {\the\tmptok}}%
}

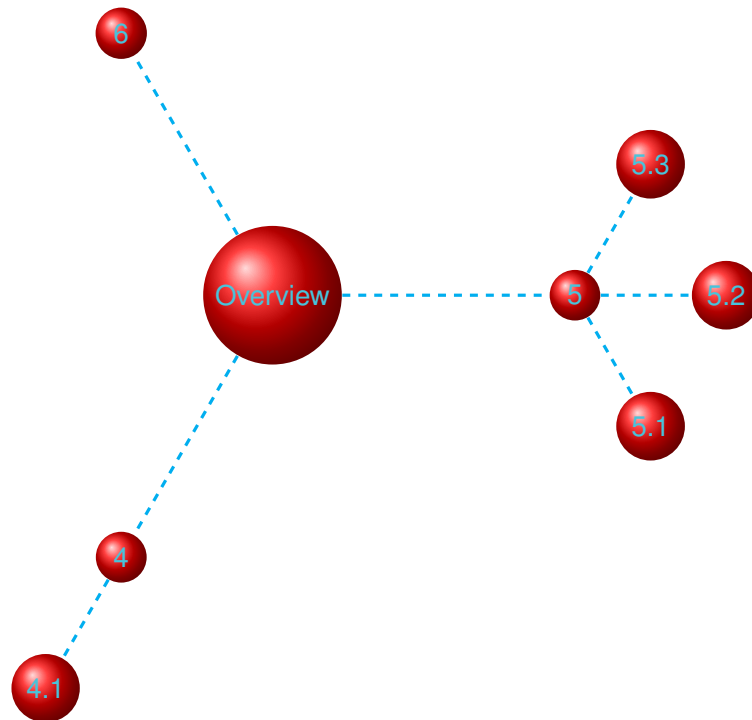
\etocsetstyle{section}
{
  \etocskipfirstprefix
  {\appendchildtree\treetok\sectiontok}
  {\preparetreenode \sectiontok\expandafter{\treenode}}
  {\appendchildtree\treetok\sectiontok}
}

\etocsetstyle{subsection}
{
  \etocskipfirstprefix
  {\appendchildtree\sectiontok\subsectiontok}
  {\preparetreenode \subsectiontok\expandafter{\treenode}}
  {\appendchildtree\sectiontok\subsectiontok}
}

\etocsettocstyle
{
  \treetok{\node {\hyperref[part:overview]{Overview}}}}
{\global\appendtotok\treetok{ ;}}

% moved to the inside of the figure environment for correct \pageref{toc:molecule}
% \etocsetnexttocdepth{2}
% \tableofcontents \label{toc:molecule} \ref{toc:overview}
```

## 17. The TOC as a molecule

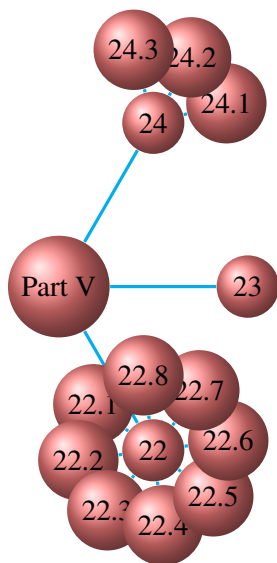


A table of contents as a “molecule.”

The `\tableofcontents` command appears just above the `tikzpicture` environment in a figure float (for the label of the table of contents to certainly refer to the same page as the one where the picture will actually be printed). We thus get the table of contents as a “[molecule](#)”, which appears above. Here is the code actually producing it:

```
\begin{figure*}[th!]\centering
  \etocsetnexttocdepth{2}
  \tableofcontents \label{toc:molecule} \ref{toc:overview}
  \hypersetup{hidelinks}%
  \begin{tikzpicture}
    [grow cyclic,
     level 1/.style={level distance=4cm,sibling angle=120},
     level 2/.style={level distance=2cm,sibling angle=60},
     every node/.style={ball color=red,circle,text=SkyBlue},
     edge from parent path={[[dashed,very thick,color=cyan]
                           (\tikzparentnode) --(\tikzchildnode)}]
    \the\treetok
  \end{tikzpicture}
\end{figure*}
```

This [TikZ TOC](#) is fully hyperlinked, like the previous [Forest TOC](#).



On the side, the (fully hyperlinked) table of contents of [Part V](#).

```
\etocsettocstyle
  {\treetok{\node {\autoref{part:globalcmds}}}}
  {\global\appendtotok\treetok{ ;}}
\etocsetnexttocdepth {subsection}
\tableofcontents \ref{toc:globalcmds}
\noindent
\parbox{4cm}{\hypersetup{hidelinks}%
\begin{tikzpicture}
  [grow cyclic,
   level 1/.style={level distance=2.5cm,sibling angle=60},
   level 2/.style={level distance=1cm,sibling angle=45},
   every node/.style={ball color=red!50,circle,text=black},
   edge from parent path={[[very thick,color=cyan]
(\tikzparentnode) --(\tikzchildnode)]}
\the\treetok
\end{tikzpicture}}}%
...
```

## Part IV.

# Package commands for the toc line styles

Here are some statistics for this part: it contains 4 sections and 8 subsections. The name of the first section is “The `\etocsetstyle` command” and the corresponding number is “18”. The name of the last section is “[Am I also red?](#)” and its number is “21”. The name of the first subsection is “The `\etocname` and `\etocpage` commands” and the corresponding number is “18.1”. The name of the last subsection is “[This is a \(pale\) red subsection for illustrative purposes](#)” and its number is “20.2”.

### Contents of [Part IV](#)

#### 18 The `\etocsetstyle` command (page 28)

18.1 The `\etocname` and `\etocpage` commands (p. 28)

18.2 The `\etocskipfirstprefix` command (p. 29)

18.3 The `\etocnumber` command (p. 29)

*The `\etocifnumbered` switch.*

18.4 The `\etocthenname`, `\etocthenumber`, and `\etocthepage` commands (p. 30)

18.5 The `\etoclink` command (p. 30)

18.6 The `\etocthelinkedname`, `\etocthelinkednumber`, `\etocthelinkedpage` and `\etocthelink` commands. (p. 30)

#### 19 The `\etocsetlevel` command (page 31)

**20** Scope of commands added to the `.toc` file (page 32)

20.1 Testing the scope (p. 32)

20.2 This is a (pale) red subsection for illustrative purposes (p. 32)

**21** Am I also red? (page 32)**18. The `\etocsetstyle` command****18.1. The `\etocname` and `\etocpage` commands**

Let us explain how **etoc** was used to produce the table of contents displayed at the beginning of this second part. This is a local table of contents, and we used the command `\localtableofcontents`.

We shall distinguish between the *line styles* and the *toc display style*. The line styles were (essentially) obtained in the following manner:<sup>19</sup>

```
\etocsetstyle{section}
{\begin{enumerate}}
{\normalsize\bfseries\rmfamily\item}
{\etocname{} (page \etocpage)}
{\end{enumerate}}

\etocsetstyle{subsection}
{\begin{enumerate}}
{\normalfont\item}
{\etocname{} (p.~\etocpage)}
{\end{enumerate}}

\etocsetstyle{subsubsection}
{\par\nobreak\begin{group}\normalfont
\footnotesize\itshape\etocskipfirstprefix}
{\allowbreak\,--\,}
{\etocname}
{.\hfil\par\endgroup\pagebreak[3]}
```

These provisory style definitions rely on the automatic numbering generated by the `enumerate` environments but it is much better to use the further command `\etocnumber` inside the item label, which gives the real thing. The improved definitions will thus be explained later.

Each `\etocsetstyle` command has five mandatory arguments:

```
\etocsetstyle{<levelname>}{<start>}{<prefix>}{<contents>}{<finish>}
```

The initially recognized `<levelname>`'s are the sectioning levels of the standard document classes: from *part* (or *book* which is used by the `memoir` class) down to *subparagraph*.

The `<start>` code is executed when a toc entry of that level is encountered and the previous one was at a higher level. The `<finish>` code is executed when one again encounters a higher

<sup>19</sup>the present document has `\renewcommand{\familydefault}{\sfdefault}` in its preamble, hence `\normalfont` switches to the sans typeface; so in the section line-style, I wrote `\rmfamily` instead.

level toc entry. In the mean-time all entries for that level are typeset by executing first the `\langle prefix \rangle` code and then the `\langle contents \rangle` code.

The (robust) commands `\etocname`, `\etocnumber` and `\etocpage` are provided for use inside the `{\prefix}` and `{\contents}` parts of the `\etocsetstyle` specification. They represent of course, the name, number, and page number of the corresponding toc entry.<sup>20</sup> If package `hyperref` is active in the document and has added hyperlinks to the TOC data, then these links are kept in the commands `\etocname`, `\etocnumber` and `\etocpage` (this last one will have a link only if `hyperref` was passed option `linktoc=all`.)

## 18.2. The `\etocskipfirstprefix` command

The chosen subsubsection style also uses the command `\etocskipfirstprefix`, which, if present, *must* be the very last one in the *start* code. It instructs to not use for the first item the specified “prefix” code.

With this style, one would have to be imaginative to design something then for paragraph and subparagraph entries! perhaps as superscripts? Well, usually one does not need paragraphs and subparagraphs numbered and listed in the TOC, so our putative user here chose a design where no provision is made for them and added the definitive:

```
\etocsetstyle{paragraph}{}{}{}{}  
\etocsetstyle{subparagraph}{}{}{}{}{}
```

This is also the situation with the default package line styles!

### 18.3. The \etocnumber command

So far, our specifications would use the numbering generated by the `enumerate` environments, but of course we generally want the actual numbers as found in the `.toc` file. This is available via the `\etocnumber` command. To get the labels in the `enumerate` list to use it we can proceed with the syntax `label=` from the package `enumitem`:

```
\etocsetstyle{section}
{\begin{enumerate}[label=\etocnumber]}
{\normalsize\bfseries\rmfamily\item}
{\etocname{}} (page \etocpage)}
{\end{enumerate}}
```

Rather than just `\etocnumber` we then used something like `\fbox{\etocnumber}`. Note that `\etocnumber` is a robust command which explains why it can be used inside the label specification without needing an added `\protect`.

### 18.3.1. The \etocifnumbered switch

The `\fbox` would give an unaesthetic result in the case of an unnumbered section (which ended up in the table of contents via an `\addcontentsline` command).<sup>21</sup>

20 up to version 1.07a the package put an `\xspace` in each of `\etocname`, `\etocnumber`, and `\etocpage`, but this wasn't such a great idea and has now been removed.

<sup>21</sup> as seen we use `\fcolorbox` rather than `\fbox`. Due to some redefinition made by package `xcolor`, had we used `\fbox` (and not used `hyperref`) we would have needed `\protect\fbox`.

## 18. The `\etocsetstyle` command

The `\etocifnumbered{<A>}{<B>}` command executes `<A>` if the number exists, and `<B>` if not. So we use it in the code which was finally chosen for the section level:

```
\etocsetstyle{section}
{\begin{enumerate}[leftmargin=.75cm, label=\etocifnumbered
  {\fboxrule1pt\colorbox{green}{white}{\etocnumber}}}]
{\normalsize\bfseries\rmfamily\item}
{\etocname{} (page \etocpage)}
{\end{enumerate}}

\etocsetstyle{subsection}
{\begin{enumerate}[leftmargin=0cm, label=\etocnumber]}
{\normalfont \item}
{\etocname{} (p.\~\etocpage)}
{\end{enumerate}}
```

If we had changed only the section level, and not the subsection level, an error on compilation would have occurred because the package style for subsections expects to start ‘in vertical mode’. An additional `\par` token in the `<contents>` part of the section level would have fixed this: `{... (page \etocpage)\par}`.

### 18.4. The `\etocthenname`, `\etocthenumber`, and `\etocthepage` commands

It is sometimes desirable to have access to the name, number and page number without the `hyperref` link data: something similar to the starred variant of the `\ref` command, when package `hyperref` is used. For example one may wish to use the unit or page number in some kind of numeric context, or change its formatting. This is provided by the `\etocthe...` commands.

These commands are not protected, so in moving argument contexts (for example in a label specification) they should be preceded by `\protect`.

### 18.5. The `\etoclink` command

The command `\etoclink{<linkname>}` can be used in the line style specifications in a manner analogous to the argument-less commands `\etocname`, `\etocnumber` and `\etocpage`. It creates a link (if such a link was added by `hyperref` to the `.toc` file entry) whose destination is the corresponding document unit and whose name is the given argument. Hence `\etoclink{\etocthename}` is like the original `\etocname`. Notice that if `hyperref` was not instructed to put a link in the page number (via its option `linktoc=all`) then `etoc`’s `\etocpage` contains no link either, but `\etoclink{\etocthepage}` does.

The command `\etoclink` is robust.

### 18.6. The `\etocthelinkedname`, `\etocthelinkednumber`, `\etocthelinkedpage` and `\etocthelink` commands.

This is for advanced uses by advanced users.

The `\etocthename` macro has been mentioned before; using it in instructions such as `\global\let\lastone\etocthename` in an `etoc` line style will define the macro `\lastone` to expand to the last name seen at the corresponding level. But no facilities was previously available to do the same with the link data.

## 19. The `\etocsetlevel` command

The package now provides `\etocthelinkedname` to do the similar thing, with the link data included. It was used in this documentation when doing the [examples with trees](#).

Also provided with the similar goal: `\etocthelinkednumber`, `\etocthelinkedpage` (which contains a link only if `hyperref` added one to the page number) and `\etocthelink{<linkname>}` which allows to make a link with an arbitrary name.

All these commands are fragile.

## 19. The `\etocsetlevel` command

As already explained in [Part III](#), one can inform **etoc** of a level to associate to a given sectioning command with `\etocsetlevel`. For example:

```
\etocsetlevel{cell}{0}  
\etocsetlevel{molecule}{1}  
\etocsetlevel{atom}{2}  
\etocsetlevel{nucleus}{3}
```

Of course, in compatibility mode, it will be assumed here that the macros `\l@cell`, `\l@molecule`, ..., pre-exist. If no table of contents is typeset in compatibility mode, then all that matters is that the line styles have been set. If for example section is at level 1, then there is no need to do a `\etocsetstyle{molecule}` if `\etocsetstyle{section}` has already been done (and it has been done by the package itself in its definition of its own line styles).

The accepted levels run from -2 to 6 inclusive. Anything else is mapped to 6, which is a dummy level, never displayed<sup>22</sup>. The package does:

```
\etocsetlevel{book}{-2}  
\etocsetlevel{part}{-1}  
\etocsetlevel{chapter}{0}  
\etocsetlevel{section}{1}  
\etocsetlevel{subsection}{2}  
\etocsetlevel{subsubsection}{3}  
\etocsetlevel{paragraph}{4}  
\etocsetlevel{subparagraph}{5}
```

**etoc** own custom styles are activated by `\etocdefaultlines`. They are illustrated by the main table of contents of this document.

These level assignments can be modified at anytime: see [Part III](#) for various applications of this technique. As one further example, let's mention here that the [main table of contents](#) of this document was typeset following these instructions:

```
\etocsettocdepth {subsubsection} % set the initial tocdepth  
\etocdefaultlines % use the package default line styles. At this early stage in  
% the document they had not yet been modified by \etocsetstyle  
% commands, so \etocclines could have been used, too.  
\etocmarkboth\contentsname  
\etocmulticolstyle[1] % one-column display  
{\pdfbookmark[1]{Table of contents}{MAINTOC}} % create a bookmark in the pdf
```

---

<sup>22</sup>as explained in [subsection 8.3](#), this is not quite true as associating a unit name to the numeric level -3 is allowed for special tricks, but one should not assign a line style to any name with numeric level -3.

## 20. Scope of commands added to the .toc file

```
\noindent\bfseries\Large
\leaders\hrule height1pt\hfill
\MakeUppercase{Table of Contents}}
\begingroup                                % use a group to limit the scope of the
\etocsetlevel{subsection}{3}               % subsection level change.
\etocsetlevel{subsubsection}{4}            % anything > tocdepth=3.
\tableofcontents \label{toc:main}
\endgroup
```

In this way, the subsections used the style originally designed for subsubsections, the subsubsections were not printed. Without this modification, the appearance would have been very different: the package line styles were targeted to be employed in documents with many many sub-sub-sections, in a two-column layout, giving thus a more compact output that what is achieved by the default L<sup>A</sup>T<sub>E</sub>X table of contents. But here, we have few sub-sub-sections and it is more interesting to drop them and print in a visually different manner sections and subsections.

## 20. Scope of commands added to the .toc file

### 20.1. Testing the scope

Let us switch to the color red, and also add this command to the .toc file:

```
\color{red!50}                                % changing text color
\addtocontents{toc}{\string\color{red!50}} % and also in the .toc file
```

### 20.2. This is a (pale) red subsection for illustrative purposes

Actually, this title here was printed black, due to the way the `scrartcl` class works (it would have been red in the `article` class), but we are more interested in how it looks in the tables of contents: it does appear red in the [main table of contents](#) at the beginning of this document, and also in the [table of contents for this part](#). Both entries obey as expected the `\color{red!50}` command inserted in the .toc file.

But let us now close this subsection and start a section.

## 21. Am I also red?

The question is about how it appears in the tables of contents: the answer is that, yes it is red in the [main TOC](#), and no it is not red in the [local TOC for this part](#). The reason is that the `<finish>` code for the subsection level closed a group, as it used `\end{enumerate}`.

This illustrates the discussion from [subsection 4.1](#).

The default package line styles do not contain group opening and closing instructions: the influence of a command added to the .toc file will propagate until cancelled by another explicit such command inserted in the .toc file.

```
\normalcolor
\addtocontents{toc}{\string\normalcolor}
```

Back to black. Note that this scope problem arises in real life in a multi-lingual document, as the `babel` package writes to the .toc file the language changes occurring in the document.



## Part V.

# Package commands for the toc display style

```
\invisiblelocaltableofcontents \label{toc:globalcmds}
```

Here are some statistics for this part: it contains 3 sections and 11 subsections. The name of the first section is “Specifying the toc display style” and the corresponding number is “22”. The name of the last section is “Table of contents for this part” and its number is “24”. The name of the first subsection is “The command `\etocruledstyle`” and the corresponding number is “22.1”. The name of the last subsection is “A (crazy) inline display” and its number is “24.3”.

## 22. Specifying the toc display style

The *toc display* style says whether the TOC appears with multiple columns or just one, whether the title is typeset as in the article or book class, or should be centered above the entries, with rules on its sides, or if the entire TOC should be put in a frame. For example, to opt for a ruled heading and single column layout, one issues commands of the following type:

```
\etocruledstyle[1]{Title}
\tableofcontents (or \localtableofcontents)
shortcuts:
\etocruled[1]{Title} (or \etoclocalruled[1]{Title})
```

### 22.1. The command `\etocruledstyle`

The general format of `\etocruledstyle` is:

`\etocruledstyle[<number of columns>]{<title of the toc>}`

Note that the title is horizontal material, if it does not fit on one line it should be put in a `\parbox` of a given width. We did this and even enclosed the parboxes in `\fbox`s to get frames around them. For the example with the standard formatting we did not use an `\fbox` and got rid of the horizontal rules via:

```
\renewcommand{\etocoprerule}{\hrule height 0pt}
```

The green frame for the heading of the table of contents at the [start of the second part of this document](#) was obtained with:

```
\etocruledstyle[1]{\etocfontminusone\color{green}%
\fbxrul1pt\fbxseplex
\framebox[\linewidth]
{\normalcolor\hss Contents of this part\hss}}
```

## 22.2. The command `\etocmulticolstyle`

This is also a command with one optional and one mandatory argument:

`\etocmulticolstyle[⟨number_of_columns⟩]{⟨heading⟩}`

The `⟨number_of_columns⟩` can go from 1 to 10 (it defaults to 2, and from 2 on is passed to a `multicols` environment). The `⟨heading⟩` should be some ‘vertical’ material like:

`⟨heading⟩ = \section*{⟨title⟩}`

[New with 1.07] An explicit `\par` not being accepted in the `⟨heading⟩` argument (this is actually a restriction originating in the `multicols` environment), an implicit one is automatically added by **etoc** at the end of the argument, as in this example which shows how the main table of contents of this document was configured:

```
\etocmulticolstyle{\noindent\bfseries\Large
\leaders\hrule height1pt\hfill
\MakeUppercase{Table of Contents}}
```

After `\etocmulticolstyle` all future `\tableofcontents` will use the specified style, if not changed in-between. A shortcut for just one table of contents and not affecting the styles of later TOCs is:

`\etocmulticol[⟨number_of_columns⟩]{⟨heading⟩}`

And there is also `\etoclocalmulticol[⟨number_of_columns⟩]{⟨heading⟩}`.

### 22.2.1. The command `\etoctocstyle`

`\etoctocstyle[⟨kind⟩]{⟨number_of_columns⟩}{⟨title⟩}`  
`= \etocmulticolstyle[⟨number_of_columns⟩]{\kind*{⟨title⟩}}`

where `kind` is one of `chapter`, `section`, ... and defaults to `chapter` or `section` depending on the document class.

#### 22.2.1.1. `\etoctocstylewithmarks[⟨kind⟩]{⟨number_of_columns⟩}{⟨title⟩}{⟨mark⟩}`

`=\etocmulticolstyle[⟨number_of_columns⟩]{\kind*{⟨title⟩ \markboth{\MakeUppercase{⟨mark⟩}}}}`

where `kind` is one of `chapter`, `section`, ... The actual display of the marks depends on the settings of the page style. There is variant `\etoctocstylewithmarksnouc` which does not uppercase.

#### 22.2.1.2. Do we really want paragraph entries in the TOC?

#### 22.2.1.3. really?

## 22.3. The command `\etocruled`

As a shortcut to set the style with `\etocruledstyle` and then issue a `\tableofcontents`, all inside a group so that future table of contents will not be affected, there is:

`\etocruled[⟨number_of_columns⟩]{⟨title⟩}`

And the local form will be `\etoclocalruled`.

## 22.4. The commands `\etocframedstyle` and `\etocframed`

Same mechanism:

`\etocframedstyle[⟨number_of_columns⟩]{⟨title⟩}`

and the accompanying shortcut:

`\etocframed[⟨number_of_columns⟩]{⟨title⟩}`

Here the entire table of contents is framed, hence this can only work if it fits on a page. Note that the title itself is not framed, if one wants a frame one should set it up inside the `⟨title⟩` argument to `\etocframedstyle` or `\etocframed`. There is also `\etoclocalframedstyle` and `\etoclocalframed`.

## 22.5. Headings, titles, `\etocinnertopsep`

There is a slight difference between `\etocmulticolstyle` and `\etocruledstyle` or `\etocframedstyle`. For `\etocmulticolstyle` the mandatory `⟨heading⟩` argument can be something like: `\section*{Table of Contents}`. On the contrary `\etocruledstyle` and `\etocframedstyle` expect an argument “in LR mode” (to use the terminology from the *LaTeX, a document preparation system*). This means that multiline contents arguments to `\etocruledstyle` or `\etocframedstyle` must be enclosed in something like a `\parbox`.

The command `\etocmulticolstyle` now also accepts horizontal mode material in its mandatory argument `⟨heading⟩`: it internally automatically adds a closing `\par`. So one can use for example `\etocmulticolstyle{Hello World}`.

As `\etocmulticolstyle` does not accept `\par` in its optional heading argument, **etoc** provides `\etocoldpar` as a substitute for `\par` (it does `\let\etocoldpar\par` just before the `multicols` environment and automatically adds it to close the heading, before the vertical skip of value `\etocinnertopsep`).<sup>23</sup> The command `\etocoldpar` can also be used explicitly in the mandatory argument to `\etocmulticolstyle`.

An important dimension used by all three of `\etocmulticolstyle`, `\etocruledstyle` and `\etocframedstyle` is `\etocinnertopsep`. It gives the amount of separation between the heading and the start of the contents. Its default value is `2ex` and it is changed by `\renewcommand*{\etocinnertopsep}{⟨new_value⟩}`, not with `\setlength`.

## 22.6. The command `\etocsettocstyle`

This is a command with two mandatory arguments:

`\etocsettocstyle{⟨before_toc⟩}{⟨after_toc⟩}`

The `{⟨before_toc⟩}` part is responsible for typesetting the heading, for example it can be something like `\section*{\contentsname}`.

Generally speaking this heading should leave  $\TeX$  in vertical mode when the actual typesetting of the contents will start: the line styles (either from the standard classes or the package default line styles) expect to start in ‘vertical mode’.

It can also contain instructions to mark the page headings. Or it could check (book class) to see if two-column mode is on, and switch to one-column style, and the `⟨after_toc⟩` part would then reenact the two-column mode.

---

<sup>23</sup>this command `\etocoldpar` (= working `\par` in the argument to `\etocmulticolstyle`) is not related to the switch `\etocinline` whose purpose is to tell **etoc** not to do a `\par` before the table of contents.

## 23. Starred variants of the `\tableofcontents` etc... commands

The previously described commands `\etocmulticolstyle`, `\etocruledstyle`, and `\etocframedstyle` actually call `\etocsettocstyle` as a lower-level routine, and start a `multicols` environment in `{\before_toc}` to close it in `{\after_toc}`.

### 22.7. The compatibility mode `\etocstandarddisplaystyle`

**etoc** will then emulate what the document class would have done regarding the global display style of the table of contents, in its absence. All customizing from inside the class should be obeyed, too.

### 22.8. The command `\etocinline`

With `\etocinline`, or its synonym `\etocnopar`, the `\tableofcontents` command and its variants do not first issue a `\par`. This way, the table of contents can be printed in an inline style; or, if it is used only for preparing some token list or macro, it will leave nothing in the token stream on execution.

## 23. Starred variants of the `\tableofcontents` etc... commands

The `\tableofcontents`, `\localtableofcontents`, `\etocmulticol`, etc... have starred variants (the star must be before the other arguments). For all but the `memoir` class, they are like the original. For the `memoir` class, the original prints an entry in the `.toc` file, as is the usage for the original `\tableofcontents` command in that class, whereas the starred variants do not, as is the habit in that class.

As soon as one starts using local table of contents one discovers that the default `memoir` thing which is to create a chapter entry for each TOC is not convenient. The command `\etocmemoirtotocfmt{<kind>}{<name>}` will change the format (`<kind>` is `chapter`, `section`, `subsection`... and `<name>` can be for example `\contentsname`.) The initial setup is with `chapter` and `\contentsname`.

The format of the actual heading of the TOC should also be set appropriately (for example with `\etocstyle`), to use the identical division unit as in the first argument to `\etocmemoirtotocfmt`.

A weird situation arises when one has two successive `\localtableofcontents` (obviously this is not a truly real life situation), just after a `\part` for example. The first one creates (if the default has not been modified as indicated above) a Chapter heading which is written to the `.toc`. Then the second one thinks to be local to this chapter . . . and as a result it displays nothing. The fix is to define the second one to be a clone of the first one.

Independently of the situation with the `memoir` class there is generally speaking a hook macro called `\etocaftertitlehook` which is inhibited by using the starred variants of the displaying commands. Except for the `memoir` class, this hook is initially defined to do nothing. There is also `\etocaftercontentshook`, similarly defined to do nothing. They can be used for some special effects.

## 24. Table of contents for this part

### 24.1. Testing the compatibility mode

As a third example we now print the local table of contents for this part. First we will test the compatibility mode.<sup>24</sup> The original was invisibly defined with a label at the beginning of this [Part V](#).

```
\KOMAOptions{toc=left}
\etocstandarddisplaystyle % necessary for the display to obey toc=left
\etocstandardlines
\tableofcontents \ref{toc:globalcmds}
```

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### 24.2. A framed display

We now opt for a “framed” style, using the package default line styles and some colors added (it has been put in a float which appears on page [39](#)).<sup>25</sup>

```
\etocdefaultlines
\beginngroup
\renewcommand{\etoccolumnsep}{2em}
\renewcommand{\etocinnerleftsep}{1.5em}
```

<sup>24</sup>the present document uses the `scrartcl` class, and we check here that the `etoc` compatibility mode does respect the customizing done via the class commands.

<sup>25</sup>for reasons currently mysterious to me, when I do not de-activate the two-column mode in the figure with the `[1]` optional argument to `\etocframedstyle`, there is a color leak from the `\color{red}` line which was added to the `.toc`, not stopped by the `\normalcolor` following it. This happens with all three `etoc` styles using a `multicols` environment, and has nothing to do with the other color commands, for the frame or the background. [2013/10/13] 1.07g

```

\renewcommand{\etocinnerrightsep}{1.5em}
% specify a background color for the toc contents
\renewcommand{\etocbkgcolorcmd}{\color{yellow!10}}
% set up the top and bottom rules
\renewcommand{\etoc_toprule}{\hrule height 1pt}
\renewcommand{\etoc_toprulecolorcmd}{\color{red!25}}
\renewcommand{\etoc_bottomrule}{\hrule height 1pt}
\renewcommand{\etoc_bottomrulecolorcmd}{\color{red!25}}
% set up the left and right rules
\renewcommand{\etoc_leftrule}{\vrule width 5pt}
\renewcommand{\etoc_rightrule}{\vrule width 5pt}
\renewcommand{\etoc_leftrulecolorcmd}{\color{red!25}}
\renewcommand{\etoc_rightrulecolorcmd}{\color{red!25}}
% use \fcolorbox to set up a colored frame for the title
\fbboxrule1pt
\renewcommand{\etocbelowtocskip}{0pt\relax}
\etocframedstyle [1]{\normalsize\rmfamily\itshape
  \fcolorbox{red}{white}{\parbox{.8\linewidth}{\centering
    This is a table of contents \‘a la \etoc, but just for
    the sections and subsections in this part. As it is put
    in a frame, it has to be small enough to fit on
    one page. It has the label |toc:b|.}}}
\begin{figure*}[ht!]
  \centering
\tableofcontents \label{toc:b} \ref{toc:globalcmds}
\end{figure*}
\endgroup

```

### 24.3. A (crazy) inline display

Let us finally make some crazy inline display of the table of contents of this entire document. We will typeset the subsections as footnotes... This kind of style is suitable for a hyperlinked document, probably not for print! (although I like it, but my personal taste in such matters does not seem to be highly shared).

Here is the inline table of contents. *License, installation, Foreword, Change history.*  
**Overview:** *Do I need to be a geek to use **etoc**?<sup>26</sup>, Line styles and toc display style<sup>27</sup>, A first example. Arbitrarily many TOCs, and local ones too: Labeling and reusing elsewhere, The \etocsettocdepth, \etocsetnexttocdepth and \etocsettocdepth.toc commands<sup>28</sup>, Adding commands to the .toc file<sup>29</sup>, A powerful functionality of **etoc**: the re-assignment of levels, Two Examples<sup>30</sup>. Surprising uses of **etoc**: The TOC of TOCs, Arbitrary “Lists Of...”, \etoccontentsline, A TOC with a fancy layout, Another compatibility mode, The TOC as a tree, The TOC as a molecule. Package commands for the*

<sup>26</sup>Limitations in the use of list environments for tables of contents.

<sup>27</sup>\etocsetstyle for the line styles; \etocsettocstyle for the toc display; Compatibility mode.

<sup>28</sup>The \etocsetnexttocdepth command; The hyperref option *bookmarksdepth*; Further commands \etocsettocdepth.toc, \etocobeytoctocdepth, and \etocignoretoc-tocdepth.

<sup>29</sup>The hyperref option *hidelinks*.

<sup>30</sup>A Beautiful Thesis example; A TOC with a background color.

*This is a table of contents à la **etoc**, but just for the sections and subsections in this part. As it is put in a frame, it has to be small enough to fit on one page. It has the label `toc:b`.*

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**toc line styles:** *The `\etocsetstyle` command<sup>31</sup>, The `\etocsetlevel` command, Scope of commands added to the `.toc` file<sup>32</sup>, Am I also red?. **Package commands for the toc display style:** *Specifying the toc display style<sup>33</sup>, Starred variants of the `\tableofcontents` etc... commands, Table of contents for this part<sup>34</sup>. **Using and customizing **etoc**:** *Summary of the main style commands<sup>35</sup>, Customizing **etoc**<sup>36</sup>. **Tips:** ... and tricks<sup>37</sup>, Timestamp. **The code:** *Implementation.****

<sup>31</sup>The `\etocname` and `\etocpage` commands; The `\etocskipfirstprefix` command; The `\etocnumber` command (*The `\etocifnumbered` switch*); The `\etocthenname`, `\etocthennumber`, and `\etocthepage` commands; The `\etoclink` command; The `\etocthelinkedname`, `\etocthelinkednumber`, `\etocthelinkedpage` and `\etocthelink` commands..

<sup>32</sup>Testing the scope; **This is a (pale) red subsection for illustrative purposes.**

<sup>33</sup>The command `\etocruledstyle`; The command `\etocmulticolstyle` (*The command `\etocstyle`*); The command `\etocruled`; The commands `\etocframedstyle` and `\etocframed`; Headings, titles, `\etocinnertopsep`; The command `\etocsettocstyle`; The compatibility mode `\etocstandarddisplaystyle`; The command `\etocinline`.

<sup>34</sup>Testing the compatibility mode; A framed display; A (crazy) inline display.

<sup>35</sup>Setting up local styles; Setting up toc display styles; Displaying tables of contents; Labels and references; The package default line styles: `\etocdefaultlines`; One more example TOC layout.

<sup>36</sup>Customizing the **etoc** pre-defined line styles; Customizing the toc display styles.

<sup>37</sup>Hacking framed parboxes; Interverting the levels; All subsections of this document; Displaying statistics; Compatibility with other packages; T<sub>E</sub>Xnical matters; Errors and catastrophes.



Here is the code which has been used:<sup>38</sup>

```
\begingroup
\newsavebox{\forsubsections}
\etocsetstyle{part}{\upshape. \etocskipfirstprefix}{. \upshape}
{\bfseries\etocname:~}{\}
\etocsetstyle{section}{\itshape\etocskipfirstprefix}{, }
{\mdseries\etocname}{\}
\etocsetstyle{subsection}
{\begin{lrbox}{\forsubsections}\upshape\etocskipfirstprefix
}; {\etocname}{\end{lrbox}\footnote{\unhbox\forsubsections.}}
\etocsetstyle{subsubsection}
{ (\itshape\etocskipfirstprefix}{, }{\etocname}{\/\upshape)}
\etocsettocstyle{Here is the inline table of contents. }{.\par}
\tableofcontents
\endgroup
```

## Part VI.

# Using and customizing **etoc**

Here are some statistics for this part: it contains 2 sections and 8 subsections. The name of the first section is “Summary of the main style commands” and the corresponding number is “25”. The name of the last section is “Customizing **etoc**” and its number is “26”. The name of the first subsection is “Setting up local styles” and the corresponding number is “25.1”. The name of the last subsection is “Customizing the toc display styles” and its number is “26.2”.

This is a table of contents for the sections and subsections in this part. It carries the label toc:c

<b>Summary of the main style commands</b>	The package default line styles: \etoc-
. . . . . <b>25, p. 41</b>	defaultlines . . . . . 25.5, p. 42
Setting up local styles . . . 25.1, p. 41	One more example TOC layout . . .
Setting up toc display styles . . . .	. . . . . 25.6, p. 45
. . . . . 25.2, p. 41	<b>Customizing <b>etoc</b></b> . . . . . <b>26, p. 46</b>
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. . . . . 25.3, p. 41	styles . . . . . 26.1, p. 46
Labels and references . . . 25.4, p. 41	Customizing the toc display styles . .
	. . . . . 26.2, p. 48

<sup>38</sup>as this new version of the documentation has some sections before the first part, we had to take special measures in the *begin* code for level part.



## 25. Summary of the main style commands

### 25.1. Setting up local styles

```
\etocsetstyle{<levelname>}{<start>}{<prefix>}{<contents>}{<finish>}
\etocname, \etocnumber, \etocpage, \etocifnumbered{<A>}{<B>}
\etocthename, \etocthenumber, \etocthepage, \etoclink{<linkname>}
```

### 25.2. Setting up toc display styles

```
\etocmulticolstyle[<number_of_columns>]{<heading>}
\etocstyle[<kind>]{<number_of_columns>}{<title>}
\etocstylewithmarks[<kind>]{<number_of_columns>}{<title>}{<mark>}
\etocstylewithmarksnouc[<kind>]{<number_of_columns>}{<title>}{<mark>}
\etocruledstyle[<number_of_columns>]{<title>}
\etocframedstyle[<number_of_columns>]{<title>}
\etocsettocstyle{<before_toc>}{<after_toc>}
```

### 25.3. Displaying tables of contents

```
\tableofcontents
\localtableofcontents
\etocmulticol[<number_of_columns>]{<heading>}
\etoclocalmulticol[<number_of_columns>]{<heading>}
\etocruled[<number_of_columns>]{<title>}
\etoclocalruled[<number_of_columns>]{<title>}
\etocframed[<number_of_columns>]{<title>}
\etoclocalframed[<number_of_columns>]{<title>}
and their starred variants
```

### 25.4. Labels and references

The commands (starred or not) to actually display the table of contents can be followed with optional labels or references:

```
\tableofcontents \label{toc:here}
\tableofcontents \ref{toc:far}
\tableofcontents \label{toc:here} \ref{toc:far}
\localtableofcontents \label{toc:here}
similarly with \etocmulticol etc . . .
```

The commands for local tables of contents do *not* react to a `\ref` following them.

When re-displaying another toc, only its contents are transferred: both the line styles and the toc display style are the ones currently defined, not the ones from the cloned toc.

### 25.5. The package default line styles: `\etocdefaultlines`

Activating the use of the package default line styles<sup>39</sup> is done via `\etocdefaultlines`, or `\etococlines` if these styles have not been modified with `\etocsetstyle`. Sections and sub-sections are printed in essentially the same manner, except that the leading for sub-sections is a bit smaller (with document classes lacking a `\chapter` command, the sections are printed in bold typeface; this is the case in the present document). Sub-sub-sections are printed inline, in one paragraph, with no numbers or page numbers. This style was designed and tested with documents having lots of sub-sub-sections, and should be used on a two-column layout: it provides (only in that situation with many sub-sub-sections) a more compact presentation than what is achieved by the L<sup>A</sup>T<sub>E</sub>X default.<sup>40</sup> On the other hand, used with a one-column layout, and with few sub-sub-sections, the style is a bit more spread out vertically than the L<sup>A</sup>T<sub>E</sub>X default, sub-sections are not visually much different from sections (especially for document classes with a `\chapter` command), so the result is less hierarchical in appearance than in the L<sup>A</sup>T<sub>E</sub>X default.

In this document, for the [main table of contents](#), we did `\etocsetlevel{subsection}{3}` hence the sub-sections were printed with the sub-sub-section inline style.

Let us, to the contrary, typeset now this main table of contents as if the document had been done with a class having the `\chapter` command: we will print sections as chapters, and subsections as sections. We use `\etocsetlevel` for that, and also we need to change the font style of “sections” (which in truth are our subsections) to use not the bold but the medium series; we modify the `\etocfontone` command for that.

```
\etocruledstyle[2]{\normalfont\normalsize\rmfamily\itshape
  \fbox{\parbox{.6\linewidth}{
    \leftskip 0pt plus .5fil
    \rightskip 0pt plus -.5fil
    \parfillskip 0pt plus 1fil This is the global table of
    contents on two columns, using \etoc default line styles, but with
    sections
    being printed as chapters, and subsections as sections.
  }}}
\etocdefaultlines
\etocsetnexttocdepth{1}
\begingroup
\etocsetlevel{section}{0}
\etocsetlevel{subsection}{1}
\renewcommand*{\etocfontone}{\normalfont \normalsize}
\tableofcontents
\endgroup
```

<sup>39</sup>they were written at a very early stage in the development of the package, and version 1.07e has, among other things, modified the previous unsatisfactory use of penalties and vertical spacing commands. This will cause differences to documents having been compiled with earlier versions, apologies for that.

<sup>40</sup>and there will never be a Part or Chapter entry alone at the bottom of a column or page (except if it has no sub-unit).

*This is the global table of contents on two columns, using **etoc** default line styles, but with sections being printed as chapters, and subsections as sections.*

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## 25. Summary of the main style commands

The `\etocthenname`, `\etocthenumber`,  
and `\etocthepage` commands . . .  
. . . . . 18.4, p. 30

The `\etoclink` command 18.5, p. 30

The `\etocthelinkedname`, `\etocthe-  
linkednumber`, `\etocthelinkedpage` and  
`\etocthelink` commands. 18.6, p. 30

### 19. The `\etocsetlevel` command

### 20. Scope of commands added to the `.toc` file

Testing the scope . . . . 20.1, p. 32

This is a (pale) red subsection for illus-  
trative purposes . . . . 20.2, p. 32

### 21. Am I also red?

## Part V. Package commands for the toc display style

### 22. Specifying the toc display style

The command `\etocruledstyle` . .  
. . . . . 22.1, p. 33

The command `\etocmulticolstyle` .  
. . . . . 22.2, p. 34

The command `\etocruled` . . . . .  
. . . . . 22.3, p. 34

The commands `\etocframedstyle` and  
`\etocframed` . . . . . 22.4, p. 35

Headings, titles, `\etocinnertopsep` .  
. . . . . 22.5, p. 35

The command `\etocsettocstyle` . .  
. . . . . 22.6, p. 35

The compatibility mode `\etocstandard-  
displaystyle` . . . . . 22.7, p. 36

The command `\etocinline` . . . . .  
. . . . . 22.8, p. 36

### 23. Starred variants of the `\table- ofcontents` etc... commands

### 24. Table of contents for this part

Testing the compatibility mode . . .  
. . . . . 24.1, p. 37

A framed display . . . . 24.2, p. 37

A (crazy) inline display . . 24.3, p. 38

## Part VI. Using and customiz- ing `etoc`

### 25. Summary of the main style commands

Setting up local styles . . . 25.1, p. 41

Setting up toc display styles . . . .  
. . . . . 25.2, p. 41

Displaying tables of contents . . . .  
. . . . . 25.3, p. 41

Labels and references . . . 25.4, p. 41

The package default line styles: `\etoc-  
defaultlines` . . . . . 25.5, p. 42

One more example TOC layout . . .  
. . . . . 25.6, p. 45

### 26. Customizing `etoc`

Customizing the `etoc` pre-defined line  
styles . . . . . 26.1, p. 46

Customizing the toc display styles . .  
. . . . . 26.2, p. 48

## Part VII. Tips

### 27. ... and tricks

Hacking framed parboxes 27.1, p. 49

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. . . . . 27.3, p. 50

Displaying statistics . . .	27.4, p. 51	<b>28. Timestamp</b>
Compatibility with other packages . .		
. . . . .	27.5, p. 53	
		<b>Part VIII. The code</b>
T <sub>E</sub> Xnical matters . . . .	27.6, p. 54	
Errors and catastrophes . .	27.7, p. 54	<b>29. Implementation</b>

## 25.6. One more example TOC layout

The `\etocframedstyle` puts the title on the top rule in a centered position. This is not very convenient for this example so we included the title as part of the `\start` code at section level, to get it *inside* the frame.

```

\begingroup
\definecolor{subsecnum}{RGB}{13,151,225}
\definecolor{secbackground}{RGB}{0,177,235}
\definecolor{tocbackground}{RGB}{212,237,252}

\renewcommand{\etocbkgcolorcmd}{\color{tocbackground}}
\renewcommand{\etocleftrulecolorcmd}{\color{tocbackground}}
\renewcommand{\etocrighttrulecolorcmd}{\color{tocbackground}}
\renewcommand{\etocbottomrulecolorcmd}{\color{tocbackground}}
\renewcommand{\etoctoprerulecolorcmd}{\color{tocbackground}}

\renewcommand{\etocleftrule}{\vrule width 1cm}
\renewcommand{\etocrighttrule}{\vrule width .5cm}
\renewcommand{\etocbottomrule}{\hrule height 12pt}
\renewcommand{\etoctoprerule}{\hrule height 12pt}

\renewcommand{\etocinnertopsep}{0pt}
\renewcommand{\etocinnerbottomsep}{0pt}
\renewcommand{\etocinnerleftsep}{0pt}
\renewcommand{\etocinnerrightsep}{0pt}

\newcommand\shiftedwhiterule[2]{%
  \hbox to \linewidth{\color{white}%
    \hskip#1\leaders\vrule height1pt\hfil}\nointerlineskip\vskip#2}

\etocsetstyle{subsubsection}{\etocskipfirstprefix}
  {\shiftedwhiterule{\leftskip}{6pt}}
  {\sffamily\footnotesize
    \leftskip2.5cm\hangindent1cm\rightskip1cm\noindent
    \hbox to 1cm{\color{subsecnum}\etocnumber\hss}%
    \color{black}\etocname\leaders\hbox to .2cm{\hss.}\hfill
    \rlap{\hbox to 1cm{\hss\etocpage\hskip.2cm}}\par
    \nointerlineskip\vskip3pt}
  {}

\etocsetstyle{subsection}{\etocskipfirstprefix}
  {\shiftedwhiterule{1.5cm}{6pt}}
  {\sffamily\small
    \leftskip1.5cm\hangindent1cm\rightskip1cm\noindent
    \hbox to 1cm{\color{subsecnum}\etocnumber\hss}%
    \color{black}\etocname\leaders\hbox to .2cm{\hss.}\hfill

```

## 26. Customizing **etoc**

```
\rlap{\hbox to 1cm{\hss\etocpage\hskip.2cm}}\par
\nointerlineskip\vskip6pt}
{}

\newcommand{\coloredstuff}[2]{%
  \leftskip0pt\rightskip0pt\parskip0pt
  \fboxsep0pt % \colorbox uses \fboxsep also when no frame!
  \noindent\colorbox{secbackground}
    {\parbox{\linewidth}{%
      \vskip5pt
      {\noindent\color{#1}#2\par\nointerlineskip}
      \vskip3pt}}}%
  \par\nointerlineskip}

\etocsetstyle{section}
  {\coloredstuff{white}
   {\hfil \hyperref[toc:b]{\bfseries\large I am a twin of
    that other TOC (click me!)}\hfil}}
  {\vskip3pt\sffamily\small}
  {\coloredstuff{white}{\hbox to 1.5cm{\hss\etocnumber\hskip.2cm}%
   \etocname\hfil}\hbox{\etocpage\hskip.2cm}}\vskip6pt}
  {}

\etocframedstyle[1]{}
\tableofcontents \label{toc:clone} \ref{toc:globalcmds}
\endgroup
```

The TOC has been put in a [float](#) which appears on the next page. The coding is a bit involved<sup>41</sup> as it does not use any additional package. Also, it was written at some early stage and I have not revised it since.

A better solution would be to use some package to set up a background color possibly extending accross pages, as the framed style (which we used to get this background color) can only deal with material short enough to fit on one page.

Regarding colors, generally speaking all color commands inside **etoc** are initially defined to do nothing, and the choice to use or not colors is left to the user.

## 26. Customizing **etoc**

### 26.1. Customizing the **etoc** pre-defined line styles

We will simply list the relevant commands as defined in the package. Customizing them goes through suitable `\renewcommands`:

```
\newcommand*\etocfontminustwo{\normalfont \LARGE \bfseries}
\newcommand*\etocfontminusone{\normalfont \large \bfseries}
\newcommand*\etocfontzero{\normalfont \large \bfseries}
\newcommand*\etocfontone{\normalfont \normalsize \bfseries}
\newcommand*\etocfonttwo{\normalfont \normalsize}
\newcommand*\etocfontthree{\normalfont \footnotesize}

\newcommand*\etocsepminustwo{4ex plus .5ex minus .5ex}
```

---

<sup>41</sup>and reveals the author's preference for the T<sub>E</sub>X syntax...

I am a twin of that other TOC (click me!)	
22	Specifying the toc display style 33
22.1	The command <code>\etocruledstyle</code> . . . . . 33
22.2	The command <code>\etocmulticolstyle</code> . . . . . 34
22.2.1	The command <code>\etocstyle</code> . . . . . 34
22.3	The command <code>\etocruled</code> . . . . . 34
22.4	The commands <code>\etocframedstyle</code> and <code>\etocframed</code> . . . 35
22.5	Headings, titles, <code>\etocinnertopsep</code> . . . . . 35
22.6	The command <code>\etocsettocstyle</code> . . . . . 35
22.7	The compatibility mode <code>\etocstandarddisplaystyle</code> . . . 36
22.8	The command <code>\etocinline</code> . . . . . 36
23	Starred variants of the <code>\tableofcontents</code> etc... commands 36
24	Table of contents for this part 37
24.1	Testing the compatibility mode . . . . . 37
24.2	A framed display . . . . . 37
24.3	A (crazy) inline display . . . . . 38

```

\newcommand*\etocsepminusone{4ex plus .5ex minus .5ex}
\newcommand*\etocsepzero{2.5ex plus .4ex minus .4ex}
\newcommand*\etocsepone{1.5ex plus .3ex minus .3ex}
%%\newcommand*\etocseptwo{1ex plus .15ex minus .15ex} % modified in 1.07e
\newcommand*\etocseptwo{.5ex plus .1ex minus .1ex}
\newcommand*\etocsepthree{.25ex plus .05ex minus .05ex}

\newcommand*\etocminustwoleftmargin{1.5em plus 0.5fil}
\newcommand*\etocminustworightmargin{1.5em plus -0.5fil}
\newcommand*\etocminusoneleftmargin{1em}
\newcommand*\etocminusonerightmargin{1em}

\newcommand*\etocbaselinespreadminustwo{1}
\newcommand*\etocbaselinespreadminusone{1}
\newcommand*\etocbaselinespreadzero{1}
\newcommand*\etocbaselinespreadone{1}
\newcommand*\etocbaselinespreadtwo{1}
\newcommand*\etocbaselinespreadthree{.9}
\newcommand*\etoclineleaders
  {\hbox{\normalfont\normalsize\hbox to 2ex {\hss.\hss}}}

```

## 26. Customizing **etoc**

```
\newcommand*\etocabbrevpagename{p.~}  
\newcommand*\etocpartname{\partname} % utilisateurs de frenchb: attention  
% car donne "partie" sans majuscule.  
\newcommand*\etocbookname{Book} % to be modified according to language
```

No customizing of the standard line styles is possible from within **etoc**. As already explained, when `\etocstandardlines` has been issued, the package just makes itself very discrete and acts only at the global level, and the TOC entries are (hopefully) formatted as would have happened in the absence of **etoc**.<sup>42</sup>

The `\etocstandardlines` compatibility mode will work also with sectioning commands made known to **etoc** via `\etocsetlevel`, under the condition of course that these sectioning commands are accompanied with all the relevant definitions for typesetting toc entries in the L<sup>A</sup>T<sub>E</sub>X default manner (existence of the macros `\l@something . . .`).

Using the command `\etocsetstyle`, be it in the preamble or in the body of the document, has the secondary effect of switching off the compatibility mode.

### 26.2. Customizing the toc display styles

Again we list the relevant macros, what they do should be legible from their names. Note that `\renewcommand`'s and not `\setlength`'s have to be used for what appear to be lengths, and that color commands are not just color specifications, they must include `\color`, and are canceled by re-defining them to do `\relax`.

```
\newcommand*\etocabovetocskip{3.5ex plus 1ex minus .2ex}  
\newcommand*\etocbelowtocskip{3.5ex plus 1ex minus .2ex}
```

```
\newcommand*\etoccolumnsep{2em}  
\newcommand*\etocmulticolsep{0ex}  
\newcommand*\etocmulticolpretolerance{-1}  
\newcommand*\etocmulticoltolerance{200}  
\newcommand*\etocdefaultnbcol{2}  
\newcommand*\etocinnertopsep{2ex}  
\newcommand*\etoctoprule{\hrule}  
\newcommand*\etocbottomrulecolorcmd{\relax}
```

% for the framed style only:

```
\newcommand*\etocinnerleftsep{2em}  
\newcommand*\etocinnerrightsep{2em}  
\newcommand*\etocinnerbottomsep{3.5ex}
```

```
\newcommand*\etoclefttrule{\vrule}  
\newcommand*\etocrightrule{\vrule}  
\newcommand*\etocbottomrule{\hrule}  
\newcommand*\etoclefttrulecolorcmd{\relax}  
\newcommand*\etocrightrulecolorcmd{\relax}  
\newcommand*\etocbottomrulecolorcmd{\relax}
```

```
\newcommand*\etocbkgcolorcmd{\relax}
```

---

<sup>42</sup>with the KOMA-script classes, we noticed that `\etocstandarddisplaystyle` was apparently needed for the KOMA options `toc=left` to be active at the level of the line entries.



```
% hooks
\newcommand\etocframedmhook{\relax}
```

The `\etocframedmhook` is positioned immediately after the beginning of a minipage environment where the contents of the framed TOC are typeset.

The `\...colorcmd` things are initially set to be `\relax`, so there is no need to do `\usepackage{color}` if the document does not use colors. If the scope of a change to a color command such as `\etocbkgcolorcmd` has not been limited to a group and one then wishes to let it again be `\relax` one must use a `\renewcommand` and not `\let\etocbkgcolorcmd\relax`.

Regarding the dimensions of the top rule they can be specified in ex's or em's as in this example:

```
\renewcommand{\etoc_toprule}{\hrule height 1ex}
```

The package code is done in such a manner that it is the font size in instance at the end of typesetting the title argument to `\etocruledtoc` or `\etocframedtoc` which will be used for the meaning of the '1ex'. Of course also the other rule commands can have their dimensions in font relative units, but their values are decided on the basis of the font in effect just before the table of contents.

The top and bottom rules do not have to be rules and can be horizontal *leaders* (of a specified height) in the general T<sub>E</sub>X sense. However the left and right rules are not used as (horizontal) leaders but as objects of a given specified width. Note that *only* the Plain T<sub>E</sub>X syntax for rules is accepted here.

## Part VII.

# Tips

Here are some statistics for this part: it contains 2 sections and 7 subsections. The name of the first section is "... and tricks" and the corresponding number is "27". The name of the last section is "Timestamp" and its number is "28". The name of the first subsection is "Hacking framed parboxes" and the corresponding number is "27.1". The name of the last subsection is "Errors and catastrophes" and its number is "27.7".

## 27. ... and tricks

### 27.1. Hacking framed parboxes

```
\renewcommand\etoc_toprule{\hrule height 2pt depth 2pt}
\etocruled{\color{green}\fboxrule2pt\fboxsep1ex
  \fbox{\raisebox{-\fontdimen22\textfont2}
    {\color{blue}\parbox{.5\linewidth
      {\normalfont This text is perfectly centered
        vertically with respect to the
        surrounding horizontal rules.}}}}}
\ref{toc:globalcmds}
```

This text is perfectly centered vertically with respect to the surrounding horizontal rules.

<b>Specifying the toc display style</b> . . . . .	The compatibility mode <code>\etocstandard-</code>
. . . . . <b>22, p. 33</b>	<code>displaystyle</code> . . . . . 22.7, p. 36
The command <code>\etocruledstyle</code> . . . . .	The command <code>\etocinline</code> . . . . .
. . . . . 22.1, p. 33	. . . . . 22.8, p. 36
The command <code>\etocmulticolstyle</code> . . . . .	<b>Starred variants of the <code>\tableofcon-</code></b>
. . . . . 22.2, p. 34	<b>tents etc... commands</b> . . . . . <b>23, p. 36</b>
The command <code>\etocstyle</code> . . . . .	<b>Table of contents for this part</b> . . . . .
The command <code>\etocruled</code> 22.3, p. 34	. . . . . <b>24, p. 37</b>
The commands <code>\etocframedstyle</code> and	Testing the compatibility mode . . . . .
<code>\etocframed</code> . . . . . 22.4, p. 35	. . . . . 24.1, p. 37
Headings, titles, <code>\etocinnertopsep</code> . . . . .	A framed display . . . . . 24.2, p. 37
. . . . . 22.5, p. 35	A (crazy) inline display . . . . . 24.3, p. 38
The command <code>\etocsettocstyle</code> . . . . .	
. . . . . 22.6, p. 35	

## 27.2. Interverting the levels

Let us display and count all subsections occurring in this document (see [Part III](#) for other uses of this technique):

```
\etocsetnexttocdepth{2}
\begingroup
\etocsetlevel{part}{3}
\etocsetlevel{section}{3}
\etocsetstyle{subsection}
  {\small\begin{enumerate}[itemsep=0pt,label=,leftmargin=0pt]}
  {\normalfont\bfseries\item}
  {\roman{enumi}. \mdseries\etocname{}} (\etocnumber, p.\sim\etocpage)}
  {\end{enumerate}}
\renewcommand{\etoccolumnsep}{2.75em}
\renewcommand{\columnseprule}{1pt}
\etocmarkbothnouc{List of all subsections}
\etocmulticol[3]{\subsection{All subsections of this document}}
\endgroup
```

## 27.3. All subsections of this document

i. Limitations in the use of list environments for tables of contents (4.1, p. 6)	(5.3, p. 7)	<code>\etocobeytoctocdepth</code> , and <code>\etocignoretoctocdepth</code> (8.3, p. 11)
ii. <code>\etocsetstyle</code> for the line styles (5.1, p. 7)	v. The <code>\etocsetnexttocdepth</code> command (8.1, p. 11)	viii. The <code>hyperref</code> option <code>hidelinks</code> (9.1, p. 13)
iii. <code>\etocsettocstyle</code> for the toc display (5.2, p. 7)	vi. The <code>hyperref</code> option <code>bookmarksdepth</code> (8.2, p. 11)	ix. A Beautiful Thesis example (11.1, p. 14)
iv. Compatibility mode	vii. Further commands <code>\etocsettocdepth.toc</code> ,	x. A TOC with a back-

ground color (11.2, p. 15)	<b>xx.</b> The command <code>\etoc-multicolstyle</code> (22.2, p. 34)	<b>xxxiii.</b> Labels and references (25.4, p. 41)
<b>xi.</b> The <code>\etocname</code> and <code>\etocpage</code> commands (18.1, p. 28)	<b>xxi.</b> The command <code>\etoc-ruled</code> (22.3, p. 34)	<b>xxxiv.</b> The package default line styles: <code>\etoc-defaultlines</code> (25.5, p. 42)
<b>xii.</b> The <code>\etocskipfirst-prefix</code> command (18.2, p. 29)	<b>xxii.</b> The commands <code>\etoc-framedstyle</code> and <code>\etoc-framed</code> (22.4, p. 35)	<b>xxxv.</b> One more example TOC layout (25.6, p. 45)
<b>xiii.</b> The <code>\etocnumber</code> command (18.3, p. 29)	<b>xxiii.</b> Headings, titles, <code>\etoc-innertopsep</code> (22.5, p. 35)	<b>xxxvi.</b> Customizing the <b>etoc</b> pre-defined line styles (26.1, p. 46)
<b>xiv.</b> The <code>\etocthenname</code> , <code>\etocthenumber</code> , and <code>\etoc-thepage</code> commands (18.4, p. 30)	<b>xxiv.</b> The command <code>\etoc-settocstyle</code> (22.6, p. 35)	<b>xxxvii.</b> Customizing the toc display styles (26.2, p. 48)
<b>xv.</b> The <code>\etoclink</code> command (18.5, p. 30)	<b>xxv.</b> The compatibility mode <code>\etocstandarddisplaystyle</code> (22.7, p. 36)	<b>xxxviii.</b> Hacking framed parboxes (27.1, p. 49)
<b>xvi.</b> The <code>\etocthelinked-name</code> , <code>\etocthelinked-number</code> , <code>\etocthelinked-page</code> and <code>\etocthelink</code> commands. (18.6, p. 30)	<b>xxvi.</b> The command <code>\etocin-line</code> (22.8, p. 36)	<b>xxxix.</b> Interverting the levels (27.2, p. 50)
<b>xvii.</b> Testing the scope (20.1, p. 32)	<b>xxvii.</b> Testing the compatibility mode (24.1, p. 37)	<b>xl.</b> All subsections of this document (27.3, p. 50)
<b>xviii.</b> This is a (pale) red subsection for illustrative purposes (20.2, p. 32)	<b>xxviii.</b> A framed display (24.2, p. 37)	<b>xli.</b> Displaying statistics (27.4, p. 51)
<b>xix.</b> The command <code>\etoc-ruledstyle</code> (22.1, p. 33)	<b>xxix.</b> A (crazy) inline display (24.3, p. 38)	<b>xlII.</b> Compatibility with other packages (27.5, p. 53)
	<b>xxx.</b> Setting up local styles (25.1, p. 41)	<b>xlIII.</b> T <sub>E</sub> Xnical matters (27.6, p. 54)
	<b>xxxi.</b> Setting up toc display styles (25.2, p. 41)	<b>xliv.</b> Errors and catastrophes (27.7, p. 54)
	<b>xxxii.</b> Displaying tables of contents (25.3, p. 41)	

## 27.4. Displaying statistics

Each part of this document starts with a paragraph telling how many sections and subsections it has. Well, each one of this paragraph is a table of contents! We designed a macro `\thispartstats` to do that. It uses “storage” boxes to keep the information about the first and last section or subsection. Using boxes is the simplest manner to encapsulate the `hyperref` link for later use (whether there is one or none). However, one cannot modify then the font or the color (using the T<sub>E</sub>X primitive `\setbox` rather than the L<sup>A</sup>T<sub>E</sub>X `\sbox` would allow to change the color of the un-boxed saved box). If such a need arises, one must switch from boxes to macros, and store the `hyperref` data for later use as was done in the code presented in [section 17](#). We did this for the first paragraph of [Part III](#).

But first, the coding of `\thispartstats`:

```
\newsavebox\firstnamei \newsavebox\firstnumberi
\newsavebox\lastnamei \newsavebox\lastnumberi
\newsavebox\firstnameii \newsavebox\firstnumberii
\newsavebox\lastnameii \newsavebox\lastnumberii
\newcounter{mycounti} \newcounter{mycountii}
\newcommand*{\thispartstatsauxi}{} \newcommand*{\thispartstatsauxii}{}
\newcommand*{\oldtocdepth}{}

```

## List of all subsections

```

\newcommand*{\thispartstats}{%
  \setcounter{mycounti}{0}%
  \setcounter{mycountii}{0}%
  \def\thispartstatsauxi{%
    \sbox{\firstnamei}{\etocname}%
    \sbox{\firstnumberi}{\etocnumber}%
    \def\thispartstatsauxi{}}%
  \def\thispartstatsauxii{%
    \sbox{\firstnameii}{\etocname}%
    \sbox{\firstnumberii}{\etocnumber}%
    \def\thispartstatsauxii{}}%
  \begingroup
  \etocsetstyle{subsection} {} {}
    {\thispartstatsauxii
     \stepcounter{mycountii}%
     \sbox{\lastnameii}{\etocname}%
     \sbox{\lastnumberii}{\etocnumber}} {}%
  \etocsetstyle{section} {} {}
    {\thispartstatsauxi
     \stepcounter{mycounti}%
     \sbox{\lastnamei}{\etocname}%
     \sbox{\lastnumberi}{\etocnumber}}
    {Here are some statistics for this part: it contains \arabic{mycounti}
    section\ifnum\value{mycounti}>1 s\fi} and \arabic{mycountii}
    subsection\ifnum\value{mycountii}>1 s\fi. The name of the first section is
    \unhbox\firstnamei and the corresponding number is \unhbox\firstnumberi.
    The name of the last section is \unhbox\lastnamei and its number is
    \unhbox\lastnumberi. The name of the first subsection is \unhbox\firstnameii
    and the corresponding number is \unhbox\firstnumberii. The name of the last
    subsection is \unhbox\lastnameii and its number is \unhbox\lastnumberii.}%
  \etocinline % don't do a \par automatically (but this is not used, actually).
  \etocsettocstyle {}{}
  \etocsetnexttocdepth{2}%
  \localtableofcontents % to be used at the top level of a Part.
  \endgroup
}

```

And now, the variant which was used for [Part III](#), with macros rather than boxes:

```

\makeatletter
\newcommand*{\firstsubname} {} \newcommand*{\lastsubname} {}
\newcommand*{\firstsubnumber} {} \newcommand*{\lastsubnumber} {}
\newcommand*{\thisspecialstatsaux}{}
\newcommand*{\thisspecialstats}{%
  \setcounter{mycounti}{0}%
  \def\thisspecialstatsaux{% ou plus simple si on ne veut pas le lien.
    \let\firstsubname\etocthelinkedname
    \let\firstsubnumber\etocthelinkednumber
    \def\thisspecialstatsaux{}}
  \begingroup
  \etocsetstyle{subsection} {} {}
    {\thisspecialstatsaux
     \stepcounter{mycounti}%
     \let\lastsubname\etocthelinkedname
     \let\lastsubnumber\etocthelinkednumber }
    {Here are some statistics for this part. It contains \arabic{mycounti}
    sections. The name of
    its first is

```

```

\emph{\firstsubname{}} and the corresponding number is
{\firstsubnumber}. The name of the last section is
\emph{\lastsubname{}} and its number is
{\lastsubnumber}.}%
\etocsettocstyle {}{}
\etocinline
\etocsetnexttocdepth {1}%
\localtableofcontents
\endgroup
}
\makeatother

```

## 27.5. Compatibility with other packages

**etoc** loads the package `multicol`.<sup>43</sup> It is `hyperref` aware and hopefully `hyperref` compatible! It doesn't matter whether **etoc** or `hyperref` is loaded first.

The contents of the `.toc` file (if it exists) are read into memory by **etoc** once, at the time of `\usepackage{etoc}`. The `.toc` file will be opened for write operations only at the time of the first TOC displaying command.

**etoc** can not really cohabit with packages modifying the `\tableofcontents` command: some sort of truce can be achieved if **etoc** is loaded last, hence is the winner.

Do not modify the `\tableofcontents` command like this:

```
\let\oldtableofcontents\tableofcontents
```

```
\renewcommand\tableofcontents{\oldtableofcontents\mystuff}
```

as this will make the `\label/\ref` mechanism impossible. Rather you may do

```
\renewcommand\etocaftertochook{\mystuff}
```

although this could interfere with `\etocsetnexttocdepth` which uses this hook; also available: `\etocaftercontentshook` which is executed a bit earlier (but only if the `tocdepth` was not at the “none” level), just before the closing part of the toc display style (and thus still within a group.)

**etoc** used to be incompatible with package `tocvsec2`<sup>44</sup>; it now cohabits, sort of, as it deactivates `tocvsec2`'s modification of `\tableofcontents` (done in the style above) and also cancels its other toc-related macros, but reimplements partially their functionality with `\etocsettocdepth.toc`. By the way, at least two latex runs are necessary for new uses of this command in a document to have an effect in tables of contents.

When a `\localtableofcontents` is inserted by the user in the document, a line containing an **etoc** inner command and an identification number is added to the `.toc` file. The correct local table of contents will be displayed only on the next latex run.

**etoc** expects the document sectioning units to write their data into the file having extension `.toc`, in the form of lines containing the `\contentsline` command and its arguments. The macros `\etocname`, `\etocnumber`, and `\etocpage` contain the `hyperref` links, if present (note that the `linktoc=all` option of `hyperref` tells it to put a link also in the page number corresponding to a given toc entry). For example, the tables of contents of the present document are all fully linked.

<sup>43</sup> up to version 1.07a it also used package `xspace`, but this has been removed from later versions.

<sup>44</sup> <http://ctan.org/pkg/tocvsec2>

It is possible to customize (using package `tocloft` for example) throughout the document the macros `\l@section`, `\l@subsection` ... and the effect will be seen in the next table of contents typeset by **etoc** in compatibility mode.

It is possible to use simultaneously **etoc** and `tableof`<sup>45</sup>. For the advanced uses such as what is done in [section 17](#) it is important to know that `tableof` adds one level of grouping inside the `.toc` file itself. So when one needs to make some information `\global`, one can not wait to be at the level of the second argument of `\etocsettocstyle`, as `tableof` will already have closed the group then. The `\global` things (on volatile data) must be done at the latest in the *<finish>* part of the top (or last) sectioning level used. This only applies of course to `\tableofcontents` or `\localtableofcontents` following the `\nexttocwithtags{required}{forbidden}` command from `tableof`.

And when the commands `\tableof` or `\tablenotof` of package `tableof` are used, they typeset the table of contents according to the document class defaults: to benefit from the **etoc** styles, it is mandatory to use either `\tableofcontents`, or `\localtableofcontents` or one of the other **etoc** commands, and `tableof` (v1.1) will influence the outcome only if `\nexttocwithtags{required}{forbidden}` was added before the table of contents typesetting command.

## 27.6. T<sub>E</sub>Xnical matters

The `\etocname`, `\etocnumber`, `\etocpage` commands are protected against premature expansion. They contain suitable `hyperref` links if package `hyperref` is loaded and active for the TOC. The commands `\etoclink` and `\etocifnumbered` are also protected against premature expansion.

On the other hand `\etocthenname`, `\etocthenumber`, `\etocthepage` do not represent `hyperref` links, and are *not* protected against expansion.

The commands such as `\etocsetstyle`, `\etocsetlevel`, `\etocsettocstyle`, `\etocmulticolstyle`, `\etocruledstyle`, `\etocframedstyle` obey L<sup>A</sup>T<sub>E</sub>X's groups. All TOCs are typeset inside groups.

## 27.7. Errors and catastrophes

After using `\etocsetstyle` for one level, the remaining uncustomized levels use the **etoc** default styles (those which are activated by `\etocdefaultlines`). One has to make sure that all levels needed for the next table of contents are mutually compatible: in particular the **etoc** default styles expect to start in “vertical mode”.

When using multiple `\tableofcontents` commands in a document, one should beware from adding typesetting instructions directly in the `.toc` file, as they will be executed by **etoc** for all TOCs: even for a `\localtableofcontents` it doesn't matter if that instruction seems to concern material outside of its scope, it will get executed nevertheless. If absolutely necessary (but this should never be) these instructions should be done in such a way that they can be activated or deactivated easily from the document source, as need be.

As is usual with `toc` and labels, after each change, one has to run `latex` a certain number of times to let the produced document get its final appearance (at least twice).

---

<sup>45</sup><http://www.ctan.org/pkg/tableof>

## 28. Timestamp

This is the documentation as of 2013/10/13, printed from the source file with the time stamp 13-10-2013 at 23:44:43 CEST. The package version is v1.07g, of 2013/10/13.

# Part VIII. The code

## 29. Implementation

```

1 \ProvidesPackage{etoc}
2 [2013/10/13 v1.07g Completely customisable TOCs (jfb)]
3 \NeedsTeXFormat{LaTeX2e}
4 \RequirePackage{multicol}
5 \DeclareOption*{\PackageWarning{etoc}{Option ‘\CurrentOption’ is unknown.}}
6 \ProcessOptions\relax

placeholder for comments
7 \newtoks\Etoc@toctoks
8 \def\Etoc@par{\par}
9 \def\etocinline{\def\Etoc@par{}}
10 \let\etocnopar\etocinline
11 \newif\ifEtoc@jj % book
12 \newif\ifEtoc@j % part
13 \newif\ifEtoc@ % chapter
14 \newif\ifEtoc@i % section
15 \newif\ifEtoc@ii % subsection
16 \newif\ifEtoc@iii % subsubsection
17 \newif\ifEtoc@iv % paragraph
18 \newif\ifEtoc@v % subparagraph
19 \newif\ifEtoc@number
20 \newif\ifEtoc@hyperref
21 \newif\ifEtoc@parskip % 1.07d
22 \newif\ifEtoc@tocwithid
23 \newif\ifEtoc@standard
24 \newif\ifEtoc@part

placeholder for comments
25 \newif\ifEtoc@localtoc
26 \newif\ifEtoc@skipthisone
27 \newif\ifEtoc@stoptoc
28 \newif\ifEtoc@notactive
29 \newcounter{etoc@tocid}
30 \newif\ifEtoc@mustclosegroup
31 \def\etoc@{\etoc@}

1.07g uses a second counter; this could be avoided, but ok, let’s not be that strict.
32 \newcounter{etoc@tocdepth}% 1.07g

placeholder for comments
33 \@ifclassloaded{memoir}{\def\Etoc@minf{-\thr@@}}{\def\Etoc@minf{-\tw@}}
```

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```

34 \def\Etoc@@minustwo@@{-\tw@}
35 \let\Etoc@@minusone@@\m@ne
36 \let\Etoc@@zero@@ \z@
37 \let\Etoc@@one@@ \@ne
38 \let\Etoc@@two@@ \tw@
39 \let\Etoc@@three@@ \thr@@
40 \chardef\Etoc@@four@@ 4
41 \chardef\Etoc@@five@@ 5
42 \chardef\Etoc@@six@@ 6
43 \let\Etoc@localtop\Etoc@@minustwo@@
44 \def\Etoc@@minustwo@{minustwo}
45 \def\Etoc@@minusone@{minusone}
46 \def\Etoc@@zero@{zero}
47 \def\Etoc@@one@{one}
48 \def\Etoc@@two@{two}
49 \def\Etoc@@three@{three}
50 \def\Etoc@@four@{four}
51 \def\Etoc@@five@{five}

1.07g
52 \expandafter\def\csname Etoc@-3@@\endcsname {-\thr@@}
53 \expandafter\let\csname Etoc@-2@@\endcsname \Etoc@@minustwo@@
54 \expandafter\let\csname Etoc@-1@@\endcsname \Etoc@@minusone@@
55 \expandafter\let\csname Etoc@0@@\endcsname \Etoc@@zero@@
56 \expandafter\let\csname Etoc@1@@\endcsname \Etoc@@one@@
57 \expandafter\let\csname Etoc@2@@\endcsname \Etoc@@two@@
58 \expandafter\let\csname Etoc@3@@\endcsname \Etoc@@three@@
59 \expandafter\let\csname Etoc@4@@\endcsname \Etoc@@four@@
60 \expandafter\let\csname Etoc@5@@\endcsname \Etoc@@five@@
61 \expandafter\let\csname Etoc@6@@\endcsname \Etoc@@six@@
62 \let\Etoc@all@@ \Etoc@@five@@
63 \let\Etoc@none@@ \Etoc@minf

placeholder for comments
64 \def\Etoc@levellist{}
65 \def\Etoc@newlevel#1{%
66   \def\Etoc@levellist@elt{\noexpand\Etoc@levellist@elt\noexpand}%
67   \edef\Etoc@levellist{\Etoc@levellist\Etoc@levellist@elt#1}}
68 \def\etocsetlevel#1#2{%
69   \expandafter\Etoc@newlevel\csname l@#1\endcsname
70   \ifcase#2\relax
71     \expandafter\let \csname Etoc@#1@@\endcsname\Etoc@@zero@@
72     \expandafter\let \csname Etoc@#1@\endcsname\Etoc@@zero@
73   \or
74     \expandafter\let \csname Etoc@#1@@\endcsname\Etoc@@one@@
75     \expandafter\let \csname Etoc@#1@\endcsname\Etoc@@one@
76   \or
77     \expandafter\let \csname Etoc@#1@@\endcsname\Etoc@@two@@
78     \expandafter\let \csname Etoc@#1@\endcsname\Etoc@@two@
79   \or
80     \expandafter\let \csname Etoc@#1@@\endcsname\Etoc@@three@@
81     \expandafter\let \csname Etoc@#1@\endcsname\Etoc@@three@
82   \or
83     \expandafter\let \csname Etoc@#1@@\endcsname\Etoc@@four@@

```



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```

84     \expandafter\let \csname Etoc@#1@\endcsname\Etoc@@four@
85 \or
86     \expandafter\let \csname Etoc@#1@@\endcsname\Etoc@@five@@
87     \expandafter\let \csname Etoc@#1@\endcsname\Etoc@@five@
88 \or
89     \expandafter\let \csname Etoc@#1@@\endcsname\Etoc@@six@@
90 \else
91 \ifnum#2=\m@ne
92     \expandafter\let \csname Etoc@#1@@\endcsname\Etoc@@minusone@@
93     \expandafter\let \csname Etoc@#1@\endcsname\Etoc@@minusone@
94 \else
95 \ifnum#2=-\tw@
96     \expandafter\let \csname Etoc@#1@@\endcsname\Etoc@@minustwo@@
97     \expandafter\let \csname Etoc@#1@\endcsname\Etoc@@minustwo@
98 \else
99 \ifnum#2=-\thr@@
100     \expandafter\let \csname Etoc@#1@@\expandafter\endcsname
101                     \csname Etoc@-3@@\endcsname
102 \else
103     \PackageWarning{etoc}
104         {unexpected value ‘#2’ in \string\etocsetlevel.^{}%
105         Should be -2,-1, 0, 1, 2, 3, 4, 5, or 6. Set to 6 (=ignored)}%
106     \expandafter\let\csname Etoc@#1@@\endcsname\Etoc@@six@@
107 \fi\fi\fi\fi}
108 \etocsetlevel{book}{-2}
109 \etocsetlevel{part}{-1}
110 \etocsetlevel{chapter}{0}
111 \etocsetlevel{section}{1}
112 \etocsetlevel{subsection}{2}
113 \etocsetlevel{subsubsection}{3}
114 \etocsetlevel{paragraph}{4}
115 \etocsetlevel{subparagraph}{5}
placeholder for comments
116 \def\Etoc@setflags #1{%
117     \ifcase #1\relax
118         \global\Etoc@vfalse
119         \global\Etoc@ivfalse
120         \global\Etoc@iiifalse
121         \global\Etoc@iifalse
122         \global\Etoc@ifalse
123         \global\Etoc@true
124 \or
125         \global\Etoc@vfalse
126         \global\Etoc@ivfalse
127         \global\Etoc@iiifalse
128         \global\Etoc@iifalse
129         \global\Etoc@itrue
130 \or
131         \global\Etoc@vfalse
132         \global\Etoc@ivfalse
133         \global\Etoc@iiifalse
134         \global\Etoc@iitrue

```

## 29. Implementation

```

135 \or
136   \global\Etoc@vfalse
137   \global\Etoc@ivfalse
138   \global\Etoc@iiitrue
139 \or
140   \global\Etoc@vfalse
141   \global\Etoc@ivtrue
142 \or
143   \global\Etoc@vtrue
144 \else
145   \ifnum#1=\m@ne
146     \global\Etoc@vfalse
147     \global\Etoc@ivfalse
148     \global\Etoc@iiifalse
149     \global\Etoc@iifalse
150     \global\Etoc@ifalse
151     \global\Etoc@false
152     \global\Etoc@jtrue
153   \else
154     \global\Etoc@vfalse
155     \global\Etoc@ivfalse
156     \global\Etoc@iiifalse
157     \global\Etoc@iifalse
158     \global\Etoc@ifalse
159     \global\Etoc@false
160     \global\Etoc@jfalse
161     \global\Etoc@jjtrue
162   \fi
163 \fi}

placeholder for comments
164 \AtBeginDocument{%
165 \ifpackageloaded{parskip}{\Etoc@parskiptrue}{}%
166 \ifpackageloaded{hyperref}{\Etoc@hyperreftrue}
167   \def\Etoc@et@hop#1#2#3#4#5{#1{#3}{#4}{#5}#2}%
168   \long\def\Etoc@gobblesixorfive#1#2#3#4#5#6{}}
169   {\def\Etoc@et@hop#1#2#3#4{#1{#3}{#4}#2}%
170   \long\def\Etoc@gobblesixorfive#1#2#3#4#5{}}%
171 }

placeholder for comments
172 \def\Etoc@swa#1{%
173   \Etoc@et@hop
174     {\Etoc@savedcontentsline{#1}}
175     {\Etoc@prefix\Etoc@contents}}
176 \def\Etoc@swb#1{%
177   \Etoc@et@hop
178     {\Etoc@savedcontentsline{#1}}
179     {\Etoc@contents}}
180 \let\etocskipfirstprefix\@thirdofthree

placeholder for comments
181 \def\Etoc@etoccontentsline#1{%
182   \global\expandafter\let\expandafter\Etoc@tmp\csname Etoc@#1@@\endcsname
183   \Etoc@skipthisonefalse

```

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```
184 \let\Etoc@next\Etoc@gobblesixorfive
185 \ifnum\Etoc@tmp=\Etoc@@six@@
186   \Etoc@skipthisonetrue
187 \else
188   \ifEtoc@localtoc
189     \let\Etoc@prenext\relax
190     \ifEtoc@stoptoc
191       \Etoc@skipthisonetrue
192     \fi
193     \ifnum\Etoc@tmp<\Etoc@localtop
194       \def\Etoc@prenext{\global\Etoc@stoptoctrue}%
195       \Etoc@skipthisonetrue
196     \fi
197     \ifEtoc@notactive
198       \def\Etoc@prenext{\Etoc@setflags{\Etoc@tmp}}%
199       \Etoc@skipthisonetrue
200     \fi
201     \Etoc@prenext
202   \fi
203 \fi
204 \ifnum\c@tocdepth<\Etoc@tmp\relax\else
205 \ifEtoc@skipthisone\else
206 \global\let\Etoc@next\relax
207 \ifcase\Etoc@tmp
208   \ifEtoc@v \Etoc@end@five\fi
209   \ifEtoc@iv \Etoc@end@four\fi
210   \ifEtoc@iii \Etoc@end@three\fi
211   \ifEtoc@ii \Etoc@end@two\fi
212   \ifEtoc@i \Etoc@end@one\fi
213   \ifEtoc@ \else \def\Etoc@next{\Etoc@begin@zero}\fi
214   \def\Etoc@contents{\Etoc@contents@zero}%
215   \def\Etoc@prefix{\Etoc@prefix@zero}%
216 \or
217   \ifEtoc@v \Etoc@end@five\fi
218   \ifEtoc@iv \Etoc@end@four\fi
219   \ifEtoc@iii \Etoc@end@three\fi
220   \ifEtoc@ii \Etoc@end@two\fi
221   \ifEtoc@i \else \def\Etoc@next{\Etoc@begin@one}\fi
222   \def\Etoc@contents{\Etoc@contents@one}%
223   \def\Etoc@prefix{\Etoc@prefix@one}%
224 \or
225   \ifEtoc@v \Etoc@end@five\fi
226   \ifEtoc@iv \Etoc@end@four\fi
227   \ifEtoc@iii \Etoc@end@three\fi
228   \ifEtoc@ii \else \def\Etoc@next{\Etoc@begin@two}\fi
229   \def\Etoc@contents{\Etoc@contents@two}%
230   \def\Etoc@prefix{\Etoc@prefix@two}%
231 \or
232   \ifEtoc@v \Etoc@end@five\fi
233   \ifEtoc@iv \Etoc@end@four\fi
234   \ifEtoc@iii \else \def\Etoc@next{\Etoc@begin@three}\fi
235   \def\Etoc@contents{\Etoc@contents@three}%
```

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```

236     \def\Etoc@prefix{\Etoc@prefix@three}%
237 \or
238     \ifEtoc@v \Etoc@end@five\fi
239     \ifEtoc@iv \else \def\Etoc@next{\Etoc@begin@four}\fi
240     \def\Etoc@contents{\Etoc@contents@four}%
241     \def\Etoc@prefix{\Etoc@prefix@four}%
242 \or
243     \ifEtoc@v \else \def\Etoc@next{\Etoc@begin@five}\fi
244     \def\Etoc@contents{\Etoc@contents@five}%
245     \def\Etoc@prefix{\Etoc@prefix@five}%
246 \else
247     \ifnum\Etoc@tmp=\m@ne
248     \ifEtoc@v \Etoc@end@five\fi
249     \ifEtoc@iv \Etoc@end@four\fi
250     \ifEtoc@iii \Etoc@end@three\fi
251     \ifEtoc@ii \Etoc@end@two\fi
252     \ifEtoc@i \Etoc@end@one\fi
253     \ifEtoc@ \Etoc@end@zero\fi
254     \ifEtoc@j \else \def\Etoc@next{\Etoc@begin@minusone}\fi
255     \def\Etoc@contents{\Etoc@contents@minusone}%
256     \def\Etoc@prefix{\Etoc@prefix@minusone}%
257 \else
258     \ifEtoc@v \Etoc@end@five\fi
259     \ifEtoc@iv \Etoc@end@four\fi
260     \ifEtoc@iii \Etoc@end@three\fi
261     \ifEtoc@ii \Etoc@end@two\fi
262     \ifEtoc@i \Etoc@end@one\fi
263     \ifEtoc@ \Etoc@end@zero\fi
264     \ifEtoc@j \Etoc@end@minusone\fi
265     \ifEtoc@jj \else \def\Etoc@next{\Etoc@begin@minustwo}\fi
266     \def\Etoc@contents{\Etoc@contents@minustwo}%
267     \def\Etoc@prefix{\Etoc@prefix@minustwo}%
268     \fi
269 \fi
270     \ifnum\Etoc@tmp=\m@ne\Etoc@parttrue\else\Etoc@partfalse\fi
271     \Etoc@setflags{\Etoc@tmp}%
272 \fi\fi
273 \Etoc@next
274 \@firstoftwo{\Etoc@swa{#1}}{\Etoc@swb{#1}}

```

[2013/03/07]:

Up to 1.06 **etoc** defined only `\etocname`, `\etocnumber` and `\etocpage`. The `hyperref` added data is recycled in the simplest manner, prefixing it with `\leavevmode`. The included `\Hy@tocdestname` is left unexpanded. Due to the initial (enormously incredible and opposite to the credo of separating the content from the form)  $\text{\LaTeX}$  flaw of mixing (Parts having their own format, not to mention other classes) in the `.toc` file the number and the name we have to spend some time with delimited macros to dis-entangle this, and reconstruct the possible `hyperref` data. Note that if the page number is not hyperlinked, `\etocpage` does *not* add the link found possibly in the name.

Then 1.07 added `\etocthename`, `\etocthenumber`, `\etocthepage` which are left fragile and do not have the links data, and `\etoclink{\linkname}` which is robust and reconstructs an arbitrarily named link. A need (for things like building up a token list to be used in a `tikzpicture`) arose later to have some form of the link which could be saved by a simple command like one can

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do `\global\let\lastname\etocthename`, and avoid having to manipulate `\Hy@tocdestname`. So 1.07f adds `\etocthelinkedname`, `\etocthelinkednumber`, `\etocthelinkedpage`, `\etocthelink`: they use `\hyperlink` with an expanded `\Hy@tocdestname`.

One could now define `\etocname`, etc ... to be the robust versions of `\etocthelinkedname`, etc ..., but the original definitions are kept by sentimentalism. 1.07f also adds `\leavevmode` to `\etoclink` which should have been done earlier, as it was included in `\etocname` etc...

attention, `\@namedef{A}{B}` and not `\@namedef{A} {B}` !! on the other hand this gives a simple way to insert a space as the first token in the parameters. For `\Etoc@again` (which appears later in the code), a `\@firstofone` construct is however the simplest of all.

```

275 \def\Etoc@lxyz #1#2{%
276     \@namedef {etoclink} {\leavevmode}%           fall-back
277     \def\etocthelink      {}%                     fall-back
278     \@namedef {etocname} {\leavevmode #1}% fall-back (perhaps linked)
279     \def\etocthename      {#1}% (if link, will be removed later)
280     \def\etocthelinkedname {#1}% will probably get redefined
281     \@namedef {etocpage} {\leavevmode #2}%         (perhaps linked)
282     \Etoc@getthepage #2\etoc@ % defines also \etocthelinkedpage (and \etoclink)
283     \Etoc@getnb #1\relax\relax\etoc@ % gets number *and* name, and \etoclink
284     \ifEtoc@number\else
285         \ifEtoc@part
286             \Etoc@getit #1\hspace\relax\etoc@ % additional job for parts
287         \fi
288     \fi}
placeholder for comments
289 \def\Etoc@getthepage #1{%
290     \let\Etoc@next\Etoc@getthepage@nohyp
291     \ifEtoc@hyperref\ifx #1\hyper@linkstart
292         \let\Etoc@next\Etoc@getthepage@hyp
293     \fi\fi
294     \Etoc@next #1%
295 }
296 \def\Etoc@getthepage@nohyp #1\etoc@ {%
297     \def\etocthepage      {#1}%
298     \def\etocthelinkedpage {#1}%
299 }
300 \def\Etoc@getthepage@hyp #1#2#3#4#5\etoc@ {%
301     \@namedef{etoclink} {##1{\leavevmode #1{#2}{#3}{##1}#5}%
302     \edef\etocthelink {##1{\noexpand\hyperlink {#3}{##1}}}%
303     \def\etocthepage {#4}%
304     \toks@ {#4}%
305     \edef\etocthelinkedpage {\noexpand\hyperlink {#3}{\the\toks@}}%
306 }
307 %
308 \def\Etoc@getnb #1{%
309     \let\Etoc@next\Etoc@getnb@nohyp
310     \ifEtoc@hyperref\ifx #1\hyper@linkstart
311         \let\Etoc@next\Etoc@getnb@hyp
312     \fi\fi
313     \Etoc@next #1%
314 }
315 %
316 \def\Etoc@getit #1{%

```

## 29. Implementation

```

317 \let\Etoc@next\Etoc@getit@nohyp
318 \ifEtoc@hyperref\ifx #1\hyper@linkstart
319   \let\Etoc@next\Etoc@getit@hyp
320 \fi\fi
321 \Etoc@next #1%
322 }

placeholder for comments
323 \def\Etoc@getnb@nohyp #1#2#3\etoc@ {%
324   \def\Etoc@getname ##1\relax\relax\etoc@ {%
325     \@namedef {etocname }{\leavevmode ##1}%
326     \def\etocthename      {##1}%
327     \def\etocthelinkedname {##1}%
328   }%
329   \ifx #1\numberline
330     \@namedef {etocnumber }{\leavevmode #2}%
331     \def\etocthenumber      {#2}%
332     \def\etocthelinkednumber {#2}%
333     \Etoc@numbertrue
334     \Etoc@getname #3\etoc@
335   \else % then \etocthename and \etocthelinkedname already defined
336     \@namedef {etocnumber }{\leavevmode}%
337     \def\etocthenumber      {}%
338     \def\etocthelinkednumber {}%
339     \Etoc@numberfalse
340   \fi
341 }

placeholder for comments
342 \def\Etoc@getnb@hyp #1#2#3#4#5#6\etoc@ {%
343   \def\Etoc@getname ##1\relax\relax\etoc@ {%
344     \@namedef {etocname }{\leavevmode #1{#2}{#3}{##1}#5}%
345     \def\etocthename {##1}%
346     \toks@           {##1}%
347     \edef\etocthelinkedname {\noexpand\hyperlink {#3}{\the\toks@}}%
348   }%
349   \def\Etoc@getnbr ##1##2##3\etoc@ {%
350     \ifx ##1\numberline
351       \@namedef {etocnumber }{\leavevmode #1{#2}{#3}{##2}#5}%
352       \def\etocthenumber {##2}%
353       \toks@             {##2}%
354       \edef\etocthelinkednumber {\noexpand\hyperlink {#3}{\the\toks@}}%
355       \Etoc@numbertrue
356       \Etoc@getname ##3\etoc@
357     \else
358       \@namedef {etocnumber }{\leavevmode}%
359       \def\etocthenumber      {}%
360       \def\etocthelinkednumber {}%
361       \Etoc@numberfalse
362       \def\etocthename {#4}%
363       \toks@           {#4}%
364       \edef\etocthelinkedname {\noexpand\hyperlink {#3}{\the\toks@}}%
365     \fi
366   }%

```

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```

367 \@namedef {etoclink} ##1{\leavevmode #1{#2}{#3}{##1}#5}%
368 \edef\etocthelink ##1{\noexpand\hyperlink {#3}{##1}}%
369 \Etoc@getnbr #4\relax\relax\etoc@
370 }
placeholder for comments
371 \def\Etoc@getit@nohyp #1\hspace#2#3\etoc@ {%
372   \def\Etoc@getname ##1\hspace\relax\etoc@ {%
373     \@namedef {etocname} {\leavevmode ##1}%
374     \def\etocthename {##1}%
375     \def\etocthelinkedname {##1}%
376   }%
377   \ifx\relax#2\else
378     \@namedef {etocnumber} {\leavevmode #1}%
379     \def\etocthenumber {#1}%
380     \def\etocthelinkednumber {#1}%
381     \Etoc@numbertrue
382     \Etoc@getname #3\etoc@
383   \fi
384 }
placeholder for comments
385 \def\Etoc@getit@hyp #1#2#3#4#5#6\etoc@ {%
386   \def\Etoc@getname ##1\hspace\relax\etoc@ {%
387     \@namedef {etocname} {\leavevmode #1{#2}{#3}{##1}#5}%
388     \def\etocthename {##1}%
389     \toks@ {##1}%
390     \edef\etocthelinkedname {\noexpand\hyperlink {#3}{\the\toks@}}%
391   }%
392   \def\Etoc@getnbr ##1\hspace##2##3\etoc@ {%
393     \ifx\relax##2\else
394       \@namedef {etocnumber} {\leavevmode #1{#2}{#3}{##1}#5}%
395       \def\etocthenumber {##1}%
396       \toks@ {##1}%
397       \edef\etocthelinkednumber {\noexpand\hyperlink {#3}{\the\toks@}}%
398       \Etoc@numbertrue
399       \Etoc@getname ##3\etoc@
400     \fi
401   }%
402   \Etoc@getnbr #4\hspace\relax\etoc@
403 }
placeholder for comments
404 \let\etocthename \@empty
405 \let\etocthenumber \@empty
406 \let\etocthepage \@empty
407 \let\etocthelinkedname \@empty
408 \let\etocthelinkednumber \@empty
409 \let\etocthelinkedpage \@empty
410 \let\etocthelink \@empty
411 \DeclareRobustCommand*\etocname {}
412 \DeclareRobustCommand*\etocnumber {}
413 \DeclareRobustCommand*\etocpage {}
414 \DeclareRobustCommand*\etoclink {}
415 \DeclareRobustCommand*\etocifnumbered {}

```

## 29. Implementation

```

416   {\ifEtoc@number\expandafter\@firstoftwo\else\expandafter\@secondoftwo\fi}
placeholder for comments
417 \def\Etoc@readtoc#1{%
418   \ifeof #1
419     \let\Etoc@nextread\@gobble
420     \global\Etoc@toctoks=\expandafter{\the\Etoc@toctoks}%
421   \else
422     \let\Etoc@nextread\Etoc@readtoc
423     \read #1 to \Etoc@buffer
424     \Etoc@toctoks=\expandafter\expandafter\expandafter
425       {\expandafter\the\expandafter\Etoc@toctoks\Etoc@buffer}%
426   \fi
427   \Etoc@nextread{#1}%
428 }
429 \IfFileExists{\jobname .toc}
430   {\endlinechar=-1
431     \makeatletter
432     \newread\Etoc@tf
433     \openin\Etoc@tf\@filef@und
434     \Etoc@readtoc\Etoc@tf
435     \closein\Etoc@tf}
436   {\typeout{No file \jobname .toc.}}
1.07d: parskip and \@nobreakfalse stuff moved to \Etoc@tableofcontents
437 \def\Etoc@openouttoc{%
438   \ifEtoc@hyperref
439     \ifx\hyper@last\@undefined
440       \IfFileExists{\jobname .toc}
441         {\Hy@WarningNoLine
442           {old toc file detected, not used; run LaTeX again (cheers from etoc)}}%
443         \global\Etoc@toctoks={}%
444       }
445     {}%
446   \fi
447 \fi
448 \if@filesw
449   \newwrite \tf@toc
450   \immediate \openout \tf@toc \jobname .toc\relax
451 \fi
452 \gdef\Etoc@openouttoc{}%
453 }
placeholder for comments
454 \def\Etoc@toctoc{%
455   \global\Etoc@vfalse
456   \global\Etoc@ivfalse
457   \global\Etoc@iiifalse
458   \global\Etoc@iifalse
459   \global\Etoc@ifalse
460   \global\Etoc@false
461   \global\Etoc@jffalse
462   \global\Etoc@jjfalse
463 \ifEtoc@standard
464   \etoc@setstyle{@minustwo}{}{}{}{}%

```



## 29. Implementation

```

465 \etoc@setstyle{@minusone}{\}{\}{\}%
466 \etoc@setstyle{@zero}{\}{\}{\}%
467 \etoc@setstyle{@one}{\}{\}{\}%
468 \etoc@setstyle{@two}{\}{\}{\}%
469 \etoc@setstyle{@three}{\}{\}{\}%
470 \etoc@setstyle{@four}{\}{\}{\}%
471 \etoc@setstyle{@five}{\}{\}{\}%
472 \else
473 \def\Etoc@levellist@elt##1{\let##1\Etoc@lxyz}%
474 \Etoc@levellist
475 \let\booknumberline\numberline
476 \let\partnumberline\numberline
477 \let\chapternumberline\numberline
478 \fi
479 \the\Etoc@toctoks
480 \ifEtoc@notactive\else
481 \ifEtoc@v \Etoc@end@five\fi
482 \ifEtoc@iv \Etoc@end@four\fi
483 \ifEtoc@iii \Etoc@end@three\fi
484 \ifEtoc@ii \Etoc@end@two\fi
485 \ifEtoc@i \Etoc@end@one\fi
486 \ifEtoc@ \Etoc@end@zero\fi
487 \ifEtoc@j \Etoc@end@minusone\fi
488 \ifEtoc@jj \Etoc@end@minustwo\fi
489 \fi}

placeholder for comments
490 \def\etoc@@startlocaltoc#1#2{%
491 \let\Etoc@next\relax
492 \ifEtoc@localtoc
493 \ifEtoc@notactive
494 \ifnum #1=#2\relax
495 \ifEtoc@jj \let\Etoc@localtop\Etoc@@minusone@@ \fi
496 \ifEtoc@j \let\Etoc@localtop\Etoc@@zero@@ \fi
497 \ifEtoc@ \let\Etoc@localtop\Etoc@@one@@ \fi
498 \ifEtoc@i \let\Etoc@localtop\Etoc@@two@@ \fi
499 \ifEtoc@ii \let\Etoc@localtop\Etoc@@three@@ \fi
500 \ifEtoc@iii \let\Etoc@localtop\Etoc@@four@@ \fi
501 \ifEtoc@iv \let\Etoc@localtop\Etoc@@five@@ \fi
502 \ifEtoc@v \let\Etoc@localtop\Etoc@@six@@ \fi
503 \def\Etoc@next{\global\Etoc@notactivefalse
504 \global\Etoc@vfalse
505 \global\Etoc@ivfalse
506 \global\Etoc@iiifalse
507 \global\Etoc@iifalse
508 \global\Etoc@ifalse
509 \global\Etoc@false
510 \global\Etoc@jfalse
511 \global\Etoc@jjfalse}%
512 \fi
513 \fi\fi
514 \Etoc@next}
515 \let\etoc@startlocaltoc\@gobble

```

## 29. Implementation

1.07g suppresses the printing of --unknown etoc ref: run latex again-- as sometimes one uses \localtableofcontents to prepare something else, and one does not want at any output of text at all even in an intermediate run.

Also 1.07g has \etocaftertochook to help with \invisiblelocaltableofcontents (and then I did \etocsetnexttocdepth).

```

516 \def\Etoc@localtableofcontents#1{%
517   \edef\Etoc@tmp{#1}%
518   \ifnum\Etoc@tmp<\@ne
519     \PackageWarning{etoc}
520       {Unknown toc id: run LaTeX to get references right}%
521 %\leavevmode --unknown etoc ref: run latex again--\par (REMOVED IN 1.07g)
522   \let\Etoc@next\@gobble\else\let\Etoc@next\@firstofone\fi
523   \Etoc@next
524   {\edef\etoc@startlocaltoc##1{%
525     \noexpand\etoc@@startlocaltoc{##1}{#1}}
526   \Etoc@localtoctrue
527   \let\Etoc@localtop\Etoc@@minustwo@@
528   \global\Etoc@stoptocfalse
529   \global\Etoc@notactivetrue
530   \Etoc@tableofcontents}%
531   \endgroup\ifEtoc@mustclosegroup\endgroup\fi
532   \etocaftertochook % 1.07g
533 }

[2013/03/07]: I discover a \@namedef trick to construct the \Etoc@again space delimited macro:
\@namedef {Etoc@again} {...stuff...}
Original version was (copied from analogous stuff in source2e):
{\def\1{\Etoc@again}\expandafter\gdef\1 {...stuff...}}
and in the end (now that I think about it) I simply use \@firstofone.
534 \def\Etoc@getrefno #1#2\etoc@ {#1}
535 \def\Etoc@getref #1{\@ifundefined{r@#1}{0}{\expandafter\expandafter\expandafter
536   \Etoc@getrefno\csname r@#1\endcsname\relax\etoc@}}
537 \def\Etoc@ref#1{\Etoc@localtableofcontents{\Etoc@getref{#1}}}
538 \def\Etoc@label#1{\label{#1}\futurelet\Etoc@nexttoken\Etoc@t@bleofcontents}
539 \@firstofone{\def\Etoc@again} {\futurelet\Etoc@nexttoken\Etoc@t@bleofcontents}

placeholder for comments
540 \def\Etoc@t@bleofcontents{%
541   \ifx\Etoc@nexttoken\label
542     \def\Etoc@next{\expandafter\Etoc@label\@gobble}\else
543     \ifx\Etoc@nexttoken\@sptoken
544       \let\Etoc@next\Etoc@again\else
545       \ifEtoc@tocwithid
546         \def\Etoc@next{\Etoc@localtableofcontents{\c@etoc@tocid}}%
547       \else
548         \ifx\Etoc@nexttoken\ref
549           \def\Etoc@next{\expandafter\Etoc@ref\@gobble}%
550         \else
551           \def\Etoc@next{\Etoc@localtocfalse
552             \global\Etoc@notactivefalse
553             \Etoc@tableofcontents
554             \endgroup
555             \ifEtoc@mustclosegroup\endgroup\fi
556             \etocaftertochook % 1.07g

```

## 29. Implementation

```

557                                     }%
558     \fi
559 \fi\fi\fi\Etoc@next}

1.07g for consistency Etoc@ prefix added.
560 \def\Etoc@table@fcontents{%
561     \refstepcounter{etoc@tocid}%
562     \Etoc@tocwithidfalse
563     \futurelet\Etoc@nexttoken\Etoc@t@bleofcontents}
564 \def\Etoc@localtable@fcontents{%
565     \refstepcounter{etoc@tocid}%
566     \addtocontents{toc}
567     {\string\etocstartlocaltoc{\arabic{etoc@tocid}}}%
568     \Etoc@tocwithidtrue
569     \futurelet\Etoc@nexttoken\Etoc@t@bleofcontents}

1.07g defines \etocstableofcontents to be able to undo the evil and brutal doings of some pack-
ages with \tableofcontents.
570 \let\etocaftertitlehook \@empty
571 \let\etocaftercontentshook \@empty
572 \def\etocstableofcontents{%
573     \Etoc@openouttoc
574     \Etoc@par
575     \begingroup % closed in \Etoc@t@bleofcontents or \Etoc@localtableofcontents
576     \def\etoc@startlocaltoc##1{\etoc@@startlocaltoc{##1}{\c@etoc@tocid}}%
577     \@ifstar
578     {\def\Etoc@aftertitlehook{}\Etoc@table@fcontents}
579     {\let\Etoc@aftertitlehook\etocaftertitlehook\Etoc@table@fcontents}}
580 \let\tableofcontents\etocstableofcontents
581 \newcommand*\localtableofcontents{%
582     \Etoc@openouttoc
583     \Etoc@par
584     \begingroup % closed in \Etoc@t@bleofcontents or \Etoc@localtableofcontents
585     \@ifstar
586     {\def\Etoc@aftertitlehook{}\Etoc@localtable@fcontents}
587     {\let\Etoc@aftertitlehook\etocaftertitlehook\Etoc@localtable@fcontents}}

placeholder for comments
588 \newcommand\etocsettocstyle[2]{%
589 \def\Etoc@tableofcontents
590 {\ifnum\c@tocdepth>\Etoc@minf
591     \let\Etoc@@next\@firstofone\else
592     \let\Etoc@@next\@gobble
593 \fi
594 \Etoc@@next{\Etoc@storetocdepth % 1.07g
595     #1\ifEtoc@parskip\parskip\z@skip\fi %1.07d
596     \Etoc@aftertitlehook
597     \let\Etoc@savedcontentsline\contentsline
598     \let\contentsline\Etoc@etoccontentsline
599     \Etoc@toctoc
600     \let\Etoc@@next\relax
601     \ifEtoc@tocwithid\else
602     \ifEtoc@localtoc
603     \ifEtoc@notactive
604     \def\Etoc@@next{\Etoc@localtocfalse

```

## 29. Implementation

```

605 \global\Etoc@notactivefalse
606 \Etoc@toctoc}%
607 \fi\fi
608 \fi
609 \Etoc@@next
610 \Etoc@resettocdepth % 1.07g
611 \etocaftercontentshook
612 #2\@nobreakfalse}} % 1.07d: \@nobreakfalse moved here
placeholder for comments
613 \def\etocsetstyle{\Etoc@standardfalse\etoc@setstyle}
614 \long\def\etoc@setstyle#1#2#3#4#5{%
615 \long\expandafter\def
616 \csname Etoc@begin@\csname Etoc@#1@\endcsname\endcsname {#2}%
617 \long\expandafter\def
618 \csname Etoc@prefix@\csname Etoc@#1@\endcsname\endcsname {#3}%
619 \long\expandafter\def
620 \csname Etoc@contents@\csname Etoc@#1@\endcsname\endcsname {#4}%
621 \long\expandafter\def
622 \csname Etoc@end@\csname Etoc@#1@\endcsname\endcsname {#5}}
placeholder for comments
623 \def\etocfontminustwo {\normalfont \LARGE \bfseries}
624 \def\etocfontminusone {\normalfont \large \bfseries}
625 \def\etocfontzero {\normalfont \large \bfseries}
626 \def\etocfontone {\normalfont \normalsize \bfseries}
627 \def\etocfonttwo {\normalfont \normalsize}
628 \def\etocfontthree {\normalfont \footnotesize}
placeholder for comments
629 \def\etocsepminustwo {4ex \@plus .5ex \@minus .5ex}
630 \def\etocsepminusone {4ex \@plus .5ex \@minus .5ex}
631 \def\etocsepzero {2.5ex \@plus .4ex \@minus .4ex}
632 \def\etocsepone {1.5ex \@plus .3ex \@minus .3ex}
633 %%\newcommand*\etocseptwo{1ex \@plus .15ex \@minus .15ex} % modified in 1.07e
634 \def\etocseptwo {.5ex \@plus .1ex \@minus .1ex}
635 \def\etocsepthree {.25ex \@plus .05ex \@minus .05ex}
placeholder for comments
636 \def\etocbaselinespreadminustwo {1}
637 \def\etocbaselinespreadminusone {1}
638 \def\etocbaselinespreadzero {1}
639 \def\etocbaselinespreadone {1}
640 \def\etocbaselinespreadtwo {1}
641 \def\etocbaselinespreadthree {.9}
placeholder for comments
642 \def\etocminustwoleftmargin {1.5em plus 0.5fil}
643 \def\etocminustworightmargin {1.5em plus -0.5fil}
644 \def\etocminusoneleftmargin {1em}
645 \def\etocminusonerightmargin {1em}
646 \def\etocclineleaders
647 {\hbox{\normalfont\normalsize\hb@xt@2ex {\hss.\hss}}}
648 \def\etocabbrevpagename {p.~}
649 \def\etocpartname {\partname}
650 \def\etocbookname {Book}

```

## 29. Implementation

placeholder for comments The macro `\etocdefaultlines` was initially called `\etococlines`. Now `\etococlines` just does `\Etoc@standardfalse`. Version 1.07e has rewritten entirely the stuff related to penalties and `\addvspace`, as this was not satisfactory in the earlier versions, which were written at a early stage in the development of the package. Actually I am not fully satisfied with these line styles.

```
651 \def\etocdefaultlines{\Etoc@standardfalse %
652 %% 'book' in memoir class:
653 \etoc@setstyle{@minustwo}
654   {\addpenalty\@M\etocskipfirstprefix}
655   {\addpenalty\@secpenalty}
656   {\begingroup
657     \etocfontminustwo
658     \addvspace{\etocsepminustwo}%
659     \parindent \z@
660     \leftskip \etocminustwoleftmargin
661     \rightskip \etocminustworightmargin
662     \parfillskip \@flushglue
663     \vbox{\etocifnumbered{\etocbookname\enspace\etocnumber:\quad}}{\etocname
664       \baselineskip\etocbaselinespreadminustwo\baselineskip
665       \par}%
666     \addpenalty\@M\addvspace{\etocsepminusone}%
667     \endgroup}
668   }%
669 %% 'part':
670 \etoc@setstyle{@minusone}
671   {\addpenalty\@M\etocskipfirstprefix}
672   {\addpenalty\@secpenalty}
673   {\begingroup
674     \etocfontminusone
675     \addvspace{\etocsepminusone}%
676     \parindent \z@
677     \leftskip \etocminusoneleftmargin
678     \rightskip \etocminusonerightmargin
679     \parfillskip \@flushglue
680     \vbox{\etocifnumbered{\etocpartname\enspace\etocnumber.\quad}}{\etocname
681       \baselineskip\etocbaselinespreadminusone\baselineskip
682       \par}%
683     \addpenalty\@M\addvspace{\etocsepzero}%
684     \endgroup}
685   }%
686 %% 'chapter':
687 \etoc@setstyle{@zero}
688   {\addpenalty\@M\etocskipfirstprefix}
689   {\addpenalty\@itempenalty}
690   {\begingroup
691     \etocfontzero
692     \addvspace{\etocsepzero}%
693     \parindent \z@ \parfillskip \@flushglue
694     \vbox{\etocifnumbered{\etocnumber.\enspace}}{\etocname
695       \baselineskip\etocbaselinespreadzero\baselineskip
696       \par}%
697     \endgroup}
```

## 29. Implementation

```
698 {\addpenalty{-\@highpenalty}\addvspace{\etocsepminusone}}}%
699 %% 'section':
700 \etoc@setstyle{@one}
701 {\addpenalty\@M\etocskipfirstprefix}
702 {\addpenalty\@itempenalty}
703 {\begingroup
704   \etocfontone
705   \addvspace{\etocsepone}%
706   \parindent \z@ \parfillskip \z@
707   \setbox\z@\vbox{\parfillskip\@flushglue
708                     \etocname\par
709                     \setbox\tw@\lastbox
710                     \global\setbox\@ne\hbox{\unhbox\tw@ \ }}%
711   \dimen\z@=\wd\@ne
712   \setbox\z@=\etoclineleaders
713   \advance\dimen\z@\wd\z@
714   \etocifnumbered
715     {\setbox\tw@\hbox{\etocnumber, \etocabbrevpagename\etocpage}}
716     {\setbox\tw@\hbox{\etocabbrevpagename\etocpage}}%
717   \advance\dimen\z@\wd\tw@
718   \ifdim\dimen\z@ < \linewidth
719     \vbox{\etocname~%
720           \leaders\box\z@\hfil\box\tw@
721           \baselineskip\etocbaselinespreadone\baselineskip
722           \par}
723   \else
724     \vbox{\etocname~%
725           \leaders\copy\z@\hfil\break
726           \hbox{} \leaders\box\z@\hfil\box\tw@
727           \baselineskip\etocbaselinespreadone\baselineskip
728           \par}
729   \fi
730   \endgroup}
731 {\addpenalty\@secpenalty\addvspace{\etocsepzero}}}%
732 %% 'subsection':
733 \etoc@setstyle{@two}
734 {\addpenalty\@medpenalty\etocskipfirstprefix}
735 {\addpenalty\@itempenalty}
736 {\begingroup
737   \etocfonttwo
738   \addvspace{\etocseptwo}%
739   \parindent \z@ \parfillskip \z@
740   \setbox\z@\vbox{\parfillskip\@flushglue
741                     \etocname\par\setbox\tw@\lastbox
742                     \global\setbox\@ne\hbox{\unhbox\tw@}}}%
743   \dimen\z@=\wd\@ne
744   \setbox\z@=\etoclineleaders
745   \advance\dimen\z@\wd\z@
746   \etocifnumbered
747     {\setbox\tw@\hbox{\etocnumber, \etocabbrevpagename\etocpage}}
748     {\setbox\tw@\hbox{\etocabbrevpagename\etocpage}}%
749   \advance\dimen\z@\wd\tw@
```

## 29. Implementation

```

750 \ifdim\dimen\z@ < \linewidth
751     \vbox{\etocname~%
752         \leaders\box\z@\hfil\box\tw@
753         \baselineskip\etocbaselinespreadtwo\baselineskip
754         \par}
755 \else
756     \vbox{\etocname~%
757         \leaders\copy\z@\hfil\break
758         \hbox{}\leaders\box\z@\hfil\box\tw@
759         \baselineskip\etocbaselinespreadtwo\baselineskip
760         \par}
761 \fi
762 \endgroup}
763 {\addpenalty\@secpenalty\addvspace{\etocsepone}}%
764 %% 'subsubsection':
765 \etoc@setstyle{@three}
766 {\addpenalty\@M
767 \etocfontthree
768 \vspace{\etocsepthree}%
769 \noindent
770 \etocskipfirstprefix}
771 {\allowbreak\,--\,}
772 {\etocname}
773 {\hfil
774 \begingroup
775 \baselineskip\etocbaselinespreadthree\baselineskip
776 \par
777 \endgroup
778 \addpenalty{-\@highpenalty}}%
779 \etoc@setstyle{@four}{\}\}\}\}%
780 \etoc@setstyle{@five}{\}\}\}\}%
781 } % end of \etocdefaultlines!
782 \def\etocabovetocskip{3.5ex \@plus 1ex \@minus .2ex}
783 \def\etocbelowtocskip{3.5ex \@plus 1ex \@minus .2ex}
784 \def\etoccolumnsep{2em}
785 \def\etocmulticolsep{0ex}
786 \def\etocmulticolpretolerance{-1}
787 \def\etocmulticoltolerance{200}
788 \def\etocdefaultnbcol{2}
789 \def\etocinnertopsep{2ex}
790 \newcommand\etocmulticolstyle[2][\etocdefaultnbcol]{%
791 \etocsettocstyle
792 {\let\etocoldpar\par
793 \addvspace{\etocabovetocskip}%
794 \ifnum #1>\@ne\let\Etoc@next\@firstoftwo
795 \else \let\Etoc@next\@secondoftwo\fi
796 \Etoc@next{%
797 \multicolpretolerance\etocmulticolpretolerance
798 \multicoltolerance\etocmulticoltolerance

```

## 29. Implementation

```

799 \setlength{\columnsep}{\etoccolumnsep}%
800 \setlength{\multicolsep}{\etocmulticolsep}%
801 \begin{multicols}{#1}[#2\etocoldpar\addvspace{\etocinnertopsep}]]
802 {#2\par\addvspace{\etocinnertopsep}%
803 \pretolerance\etocmulticolpretolerance
804 \tolerance\etocmulticoltolerance}}
805 {\ifnum #1>\@ne\let\Etoc@next\@firstofone
806 \else \let\Etoc@next\@gobble\fi
807 \Etoc@next{\end{multicols}}}%
808 \addvspace{\etocbelowtocskip}}
placeholder for comments
809 \def\etocinnerbottomsep{3.5ex}
810 \def\etocinnerleftsep{2em}
811 \def\etocinnerrightsep{2em}
812 \def\etoctoprule{\hrule}
813 \def\etocleftrule{\vrule}
814 \def\etocrightrule{\vrule}
815 \def\etocbottomrule{\hrule}
816 \def\etoctoprulecolorcmd{\relax}
817 \def\etocbottomrulecolorcmd{\relax}
818 \def\etocleftrulecolorcmd{\relax}
819 \def\etocrightrulecolorcmd{\relax}
placeholder for comments
820 \def\etoc@ruledheading #1{%
821 \hb@xt@\linewidth{\color@begingroup
822 \hss #1\hss\hskip-\linewidth
823 \etoctoprulecolorcmd\leaders\etoctoprule\hss
824 \phantom{#1}}%
825 \leaders\etoctoprule\hss\color@endgroup}%
826 \nointerlineskip\vskip\etocinnertopsep}
placeholder for comments
827 \newcommand*\etocruledstyle[2][\etocdefaultnbcol]{%
828 \etocsettocstyle
829 {\addvspace{\etocabovetocskip}%
830 \ifnum #1>\@ne\let\Etoc@next\@firstoftwo
831 \else \let\Etoc@next\@secondoftwo\fi
832 \Etoc@next
833 {\multicolpretolerance\etocmulticolpretolerance
834 \multicoltolerance\etocmulticoltolerance
835 \setlength{\columnsep}{\etoccolumnsep}%
836 \setlength{\multicolsep}{\etocmulticolsep}%
837 \begin{multicols}{#1}[\etoc@ruledheading{#2}]]
838 {\etoc@ruledheading{#2}\nobreak
839 \pretolerance\etocmulticolpretolerance
840 \tolerance\etocmulticoltolerance}}
841 {\ifnum #1>\@ne\let\Etoc@next\@firstofone
842 \else \let\Etoc@next\@gobble\fi
843 \Etoc@next{\end{multicols}}}%
844 \addvspace{\etocbelowtocskip}}
placeholder for comments
845 \long\def\etocframedmphook{\relax}
846 \def\etocbkgcolorcmd{\relax}

```



## 29. Implementation

```

847 \def\Etoc@relax{\relax}
848 \newbox\etoc@framed@titlebox
849 \newbox\etoc@framed@contentsbox
850 \newcommand*\etocframedstyle[2][\etocdefaultnbcoll]{%
851 \etocsettocstyle{%
852   \addvspace{\etocabovetocskip}%
853   \sbox\z@{\#2}%
854   \dimen\z@=\dp\z@
855   \ifdim\wd\z@<\linewidth \dp\z@=\z@ \else \dimen\z@=\z@ \fi
856   \setbox\etoc@framed@titlebox=\hb@xt@\linewidth{\color@begingroup
857     \hss
858     \ifx\etocbkgcolorcmd\Etoc@relax\else
859       \sbox\tw@\color{white}%
860       \vrule\@width\wd\z@\@height\ht\z@\@depth\dimen\z@}%
861     \ifdim\wd\z@<\linewidth \dp\tw@=\z@\fi
862     \box\tw@
863     \hskip-\wd\z@
864     \fi
865     \copy\z@
866     \hss
867     \hskip-\linewidth
868     \etoctoprulecolorcmd\leaders\etoctoprule\hss%
869     \hskip\wd\z@
870     \etoctoprulecolorcmd\leaders\etoctoprule\hss\color@endgroup}%
871   \setbox\z@\hbox{\etocleftrule\etocrightrule}%
872   \dimen\tw@=\linewidth\advance\dimen\tw@-\wd\z@
873   \advance\dimen\tw@-\etocinnerleftsep
874   \advance\dimen\tw@-\etocinnerrightsep
875   \setbox\etoc@framed@contentsbox=\vbox\bgroup
876     \hsize\dimen\tw@
877     \kern\dimen\z@
878     \vskip\etocinnertopsep
879     \hbox\bgroup
880     \begin{minipage}{\hsize}%
881     \etocframedmphook
882     \ifnum #1>\@ne\let\Etoc@next\@firstoftwo
883     \else \let\Etoc@next\@secondoftwo\fi
884     \Etoc@next
885     {\multicolpretolerance\etocmulticolpretolerance
886     \multicoltolerance\etocmulticoltolerance
887     \setlength{\columnsep}{\etoccolumnsep}%
888     \setlength{\multicolsep}{\etocmulticolsep}%
889     \begin{multicols}{#1}}
890     {\pretolerance\etocmulticolpretolerance
891     \tolerance\etocmulticoltolerance}}
892     {\ifnum #1>\@ne\let\Etoc@next\@firstofone
893     \else \let\Etoc@next\@gobble\fi
894     \Etoc@next\end{multicols}\unskip}%
895   \end{minipage}%
896   \egroup
897   \vskip\etocinnerbottomsep
898   \egroup

```

## 29. Implementation

```

899 \vbox{\hsize\linewidth
900     \ifx\etocbkgcolorcmd\Etoc@relax\else
901         \kern\ht\etoc@framed@titlebox
902         \kern\dp\etoc@framed@titlebox
903         \hb@xt@\linewidth{\color@begingroup
904             \etocleftrulecolorcmd\etocleftrule
905             \etocbkgcolorcmd
906             \leaders\vrule
907                 \@height\ht\etoc@framed@contentsbox
908                 \@depth\dp\etoc@framed@contentsbox
909             \hss
910             \etocrightrulecolorcmd\etocrightrule
911             \color@endgroup}\nointerlineskip
912             \vskip-\dp\etoc@framed@contentsbox
913             \vskip-\ht\etoc@framed@contentsbox
914             \vskip-\dp\etoc@framed@titlebox
915             \vskip-\ht\etoc@framed@titlebox
916         \fi
917     \box\etoc@framed@titlebox\nointerlineskip
918     \hb@xt@\linewidth{\color@begingroup
919     {\etocleftrulecolorcmd\etocleftrule}%
920     \hss\box\etoc@framed@contentsbox\hss
921     \etocrightrulecolorcmd\etocrightrule\color@endgroup}
922     \nointerlineskip
923     \vskip\ht\etoc@framed@contentsbox
924     \vskip\dp\etoc@framed@contentsbox
925     \hb@xt@\linewidth{\color@begingroup\etocbottomrulecolorcmd
926         \leaders\etocbottomrule\hss\color@endgroup}}
927     \addvspace{\etocbelowtocskip}}
placeholder for comments
928 \newcommand\etoc@multicoltoc[2][\etocdefaultnbcol]{%
929     \etocmulticolstyle[#1]{#2}%
930     \tableofcontents}
931 \newcommand\etoc@multicoltoCi[2][\etocdefaultnbcol]{%
932     \etocmulticolstyle[#1]{#2}%
933     \tableofcontents*}
934 \newcommand\etoc@local@multicoltoc[2][\etocdefaultnbcol]{%
935     \etocmulticolstyle[#1]{#2}%
936     \localtableofcontents}
937 \newcommand\etoc@local@multicoltoCi[2][\etocdefaultnbcol]{%
938     \etocmulticolstyle[#1]{#2}%
939     \localtableofcontents*}
placeholder for comments
940 \newcommand*\etoc@ruledtoc[2][\etocdefaultnbcol]{%
941     \etocruledstyle[#1]{#2}%
942     \tableofcontents}
943 \newcommand*\etoc@ruledtoCi[2][\etocdefaultnbcol]{%
944     \etocruledstyle[#1]{#2}%
945     \tableofcontents*}
946 \newcommand*\etoc@local@ruledtoc[2][\etocdefaultnbcol]{%
947     \etocruledstyle[#1]{#2}%
948     \localtableofcontents}

```

## 29. Implementation

```
949 \newcommand*\etoc@local@ruledtoci[2][\etocdefaultnbcol]{%
950   \etocruledstyle[#1]{#2}%
951   \localtableofcontents*}
  placeholder for comments
952 \newcommand*\etoc@framedtoc[2][\etocdefaultnbcol]{%
953   \etocframedstyle[#1]{#2}%
954   \tableofcontents}
955 \newcommand*\etoc@framedtoci[2][\etocdefaultnbcol]{%
956   \etocframedstyle[#1]{#2}%
957   \tableofcontents*}
958 \newcommand*\etoc@local@framedtoc[2][\etocdefaultnbcol]{%
959   \etocframedstyle[#1]{#2}%
960   \localtableofcontents}
961 \newcommand*\etoc@local@framedtoci[2][\etocdefaultnbcol]{%
962   \etocframedstyle[#1]{#2}%
963   \localtableofcontents*}
  placeholder for comments
964 \def\etocmulticol{\begingroup
965   \Etoc@mustclosegrouptrue
966   \@ifstar
967   {\etoc@multicoltoctoci}
968   {\etoc@multicoltoctoc}}
969 \def\etocruled{\begingroup
970   \Etoc@mustclosegrouptrue
971   \@ifstar
972   {\etoc@ruledtoci}
973   {\etoc@ruledtoc}}
974 \def\etocframed{\begingroup
975   \Etoc@mustclosegrouptrue
976   \@ifstar
977   {\etoc@framedtoci}
978   {\etoc@framedtoc}}
979 \def\etoclocalmulticol{\begingroup
980   \Etoc@mustclosegrouptrue
981   \@ifstar
982   {\etoc@local@multicoltoctoci}
983   {\etoc@local@multicoltoctoc}}
984 \def\etoclocalruled{\begingroup
985   \Etoc@mustclosegrouptrue
986   \@ifstar
987   {\etoc@local@ruledtoci}
988   {\etoc@local@ruledtoc}}
989 \def\etoclocalframed{\begingroup
990   \Etoc@mustclosegrouptrue
991   \@ifstar
992   {\etoc@local@framedtoci}
993   {\etoc@local@framedtoc}}
  placeholder for comments
994 \def\etocarticlestyle{%
995   \etocsettocstyle
996   {\section *{\contentsname
997     \@mkboth {\MakeUppercase \contentsname}
```

## 29. Implementation

```
998             {\MakeUppercase \contentsname}}}  
999     {}  
1000 \def\etocarticlestylenomarks{%  
1001     \etocsettocstyle  
1002     {\section *{\contentsname}}  
1003     {}  
    placeholder for comments  
1004 \def\etocbookstyle{%  
1005     \etocsettocstyle  
1006     {\if@twocolumn \@restonecoltrue \onecolumn \else \@restonecolfalse \fi  
1007     \chapter *{\contentsname  
1008         \@mkboth {\MakeUppercase \contentsname}  
1009         {\MakeUppercase \contentsname}}}  
1010     {\if@restonecol \twocolumn \fi}}  
1011 \def\etocbookstylenomarks{%  
1012     \etocsettocstyle  
1013     {\if@twocolumn \@restonecoltrue \onecolumn \else \@restonecolfalse \fi  
1014     \chapter *{\contentsname}}  
1015     {\if@restonecol \twocolumn \fi}}  
1016 \let\etocreportstyle\etocbookstyle  
1017 \let\etocreportstylenomarks\etocbookstylenomarks  
1018 \def\etocmemoirtocformat #1#2{%  
1019     \def\Etoc@addsuitablecontentsline{\addcontentsline {toc}{#1}{#2}}%  
1020     \renewcommand*\etocaftertitlehook{%  
1021         \ifmem@em@starred@listof  
1022         \else\phantomsection\aftergroup\Etoc@addsuitablecontentsline\fi}}  
1023 \def\etocmemoirstyle{%  
1024     \etocsettocstyle  
1025     {\ensureonecol \par \begingroup \@nameuse {@tocmaketitle}  
1026         \Etoc@aftertitlehook\let\Etoc@aftertitlehook\relax  
1027         \parskip \cftparskip \@nameuse {cfttocbeforelisthook}}  
1028     {\@nameuse {cfttocafterlisthook}\endgroup\restorefromonecol}}  
    placeholder for comments  
1029 \def\etocscrartclstyle{%  
1030     \etocsettocstyle  
1031     {\let\if@dynlist\if@tocleft  
1032         \iftocfeature {toc}{onecolumn}  
1033         {\iftocfeature {toc}{leveldown}  
1034             {}  
1035             {\if@twocolumn \aftergroup \twocolumn \onecolumn \fi }}  
1036         {}%  
1037         \tocbasic@listhead {\listoftocname}%  
1038         \begingroup \expandafter \expandafter \expandafter  
1039         \endgroup \expandafter  
1040         \ifx  
1041             \csname microtypesetup\endcsname \relax  
1042         \else  
1043             \iftocfeature {toc}{noprotrusion}{}  
1044             {\microtypesetup {protrusion=false}%  
1045             \PackageInfo {tocbasic}%  
1046             {character protrusion at toc deactivated}}%  
1047         \fi
```

## 29. Implementation

```

1048      \setlength {\parskip }{\z@ }%
1049      \setlength {\parindent }{\z@ }%
1050      \setlength {\parfillskip }{\z@ \@plus 1fil}%
1051      \csname tocbasic@@before@hook\endcsname
1052      \csname tb@toc@before@hook\endcsname}
1053      {\csname tb@toc@after@hook\endcsname
1054      \csname tocbasic@@after@hook\endcsname}}
1055 \let\etocscrbookstyle\etocscrartclstyle
1056 \let\etocscrreprtstyle\etocscrartclstyle

placeholder for comments
1057 \def\etocstandarddisplaystyle{\etocarticlestyle}
1058 \newcommand*\etocmarkboth[1]{%
1059   \@mkboth{\MakeUppercase{#1}}{\MakeUppercase{#1}}}
1060 \newcommand*\etocmarkbothnouc[1]{\@mkboth{#1}{#1}}
1061 \newcommand\etocstyle[3][section]{\etocmulticolstyle[#2]%
1062   {\csname #1\endcsname *{#3}}}%
1063 \newcommand\etocstylewithmarks[4][section]{\etocmulticolstyle[#2]%
1064   {\csname #1\endcsname *{#3}\etocmarkboth{#4}}}%
1065 \newcommand\etocstylewithmarksnouc[4][section]{\etocmulticolstyle[#2]%
1066   {\csname #1\endcsname *{#3}\etocmarkbothnouc{#4}}}%

placeholder for comments
1067 \def\Etoc@redefetocstyle#1{%
1068   \renewcommand\etocstylewithmarks[4][#1]
1069   {\etocmulticolstyle[##2]%
1070     {\csname ##1\endcsname *{##3\etocmarkboth{##4}}}}
1071   \renewcommand\etocstylewithmarksnouc[4][#1]
1072   {\etocmulticolstyle[##2]%
1073     {\csname ##1\endcsname *{##3\etocmarkbothnouc{##4}}}}
1074   \renewcommand\etocstyle[3][#1]{%
1075     \etocmulticolstyle[##2]{\csname ##1\endcsname *{##3}}}%
1076 \@ifclassloaded{scrartcl}
1077   {\renewcommand*\etocstandarddisplaystyle{\etocscrartclstyle}}%
1078 \@ifclassloaded{book}
1079   {\renewcommand*\etocfontone{\normalfont\normalsize}
1080   \renewcommand*\etocstandarddisplaystyle{\etocbookstyle}
1081   \Etoc@redefetocstyle{chapter}}%
1082 \@ifclassloaded{report}
1083   {\renewcommand*\etocfontone{\normalfont\normalsize}
1084   \renewcommand*\etocstandarddisplaystyle{\etocreportstyle}
1085   \Etoc@redefetocstyle{chapter}}%
1086 \@ifclassloaded{scrbook}
1087   {\renewcommand*\etocfontone{\normalfont\normalsize}
1088   \renewcommand*\etocstandarddisplaystyle{\etocscrbookstyle}
1089   \Etoc@redefetocstyle{chapter}}%
1090 \@ifclassloaded{scrreprt}
1091   {\renewcommand*\etocfontone{\normalfont\normalsize}
1092   \renewcommand*\etocstandarddisplaystyle{\etocscrreprtstyle}
1093   \Etoc@redefetocstyle{chapter}}%
1094 \@ifclassloaded{memoir}
1095   {\renewcommand*\etocfontone{\normalfont\normalsize}
1096   \etocmemoirtocstyle{chapter}{\contentsname}%
1097   \renewcommand*\etocstandarddisplaystyle{\etocmemoirstyle}

```

## 29. Implementation

```

1098 \Etoc@redefetocstyle{chapter}}{}
placeholder for comments
1099 \def\Etoc@addtocontents #1#2%
1100 {\ifEtoc@hyperref
1101 \addtocontents {toc}{\protect\contentsline
1102 {#1}{#2}%
1103 {\thepage }{\@currentHref }}%
1104 \else
1105 \addtocontents {toc}{\protect\contentsline
1106 {#1}{#2}{\thepage }}%
1107 \fi}
1108 \def\Etoc@addcontentsline@ #1#2#3%
1109 {\@namedef{toclevel@#1}{#3}%
1110 \addcontentsline {toc}{#1}{#2}}
1111 \DeclareRobustCommand*\etoccontentsline{
1112 {\@ifstar{\Etoc@addcontentsline@}{\Etoc@addtocontents}}

Added for version 1.07g [2013/10/13]. Motivated by a demand about tocvsec2. But it is im-
possible to make tocvsec2 compatible, if not re-doing all ‘toc’ macros in tocvsec2 (v1.3,
2011/08/07). I do not retain the stack idea, which does not convince me as useful. The empty
line in the .toc file is put there by tocvsec2 (see its code line 143).

I take this opportunity to add to the toc file \let\etoc@startlocaltoc\@gobble in case etoc
is not detected, I should possibly have done that long ago (like I did in tableof).
1113 \def\Etoc@storetocdepth {\global\c@etoc@tocdepth\c@tocdepth }
1114 \def\Etoc@resettocdepth {\global\c@tocdepth\c@etoc@tocdepth }
1115 \def\etocobeytoctocdepth
1116 {\def\Etoc@settocdepth {\afterassignment\Etoc@settocdepth\global\c@tocdepth}}
1117 \def\Etoc@@settocdepth {\ifnum\c@tocdepth>\c@etoc@tocdepth
1118 \global\c@tocdepth\c@etoc@tocdepth\fi }
1119 \def\etocignoretoctocdepth {\let\Etoc@settocdepth\count@ }
1120 \def\etocsettocdepth {\futurelet\Etoc@nexttoken\Etoc@set@tocdepth }
1121 \def\Etoc@set@tocdepth {\ifx\Etoc@nexttoken\bgroup
1122 \expandafter\Etoc@set@tocdepth@
1123 \else\expandafter\Etoc@set@toctocdepth@
1124 \fi }
1125 \def\Etoc@set@tocdepth@ #1{\@ifundefined {Etoc@#1@@}
1126 {\PackageWarning{etoc}
1127 {Unknown sectioning unit #1, \protect\etocsettocdepth\space ignored}}
1128 {\global\c@tocdepth\csname Etoc@#1@@\endcsname}%
1129 }
1130 \def\Etoc@set@toctocdepth@ #1#\Etoc@set@toctocdepth@@ }%

1.07g The \expandafter\protect\csname is because of @@minustwo@@ which we don’t want
to expand to -\tw@, because we want alphabetical levels to remain so; and all others are non-
expandable. I could have used a \mathchardef for @@minustwo@@.
1131 \def\Etoc@set@toctocdepth@@ #1{%
1132 \@ifundefined{Etoc@#1@@}
1133 {\PackageWarning{etoc}
1134 {Unknown sectioning unit #1, \protect\etocsettocdepth.toc ignored}}
1135 {\addtocontents {toc}
1136 {\protect\Etoc@settocdepth\expandafter\protect\csname Etoc@#1@@\endcsname}}}%
1137 }

placeholder for comments.

```

## 29. Implementation

```
1138 \def\Etoc@tocvsec@err #1{\PackageError {etoc}
1139     {the command \protect#1\space is incompatible with etoc}
1140     {use \protect\etocsettocdepth.toc as replacement (check the manual)}}%
1141 }%
1142 \AtBeginDocument {%
1143     \@ifpackageloaded {tocvsec2}
1144     {\def\maxtocdepth #1{\Etoc@tocvsec@err \maxtocdepth }%
1145     \def\settocdepth #1{\Etoc@tocvsec@err \settocdepth }%
1146     \def\resettocdepth {\@ifstar {\Etoc@tocvsec@err \resettocdepth }%
1147     {\Etoc@tocvsec@err \resettocdepth }%
1148     }%
1149     \def\save@tocdepth #1#2#3{% % if etoc is added to file previously
1150     \let\reset@tocdepth\relax % using tocvsec2
1151     \let\remax@tocdepth\relax
1152     \let\tableofcontents\etoc\tableofcontents
1153     \PackageWarning {etoc}
1154     {package tocvsec2 detected and its modification of^^]
1155     \protect\tableofcontents\space reverted. Use
1156     \protect\etocsettocdepth.toc as a replacement^^]
1157     for the tocvsec2 toc-related commands}}}%
1158 }%
1159 \addtocontents {toc}{\protect\@ifundefined{etocsetstyle}%
1160     {\let\protect\Etoc@settocdepth\count@
1161     \let\protect\etoc@startlocaltoc\protect\@gobble }{}}%

1.07g
1162 \def\invisibletableofcontents {\etocsetnexttocdepth {-3}\tableofcontents }%
1163 \def\invisiblelocaltableofcontents
1164     {\etocsetnexttocdepth {-3}\localtableofcontents }%
1165 \def\etocsetnexttocdepth #1{%
1166     \@ifundefined{Etoc@#1@@}
1167     {\PackageWarning{etoc}
1168     {Unknown sectioning unit #1, \protect\etocsetnexttocdepth\space ignored}}
1169     {\edef\etocaftertochook {\global\c@tocdepth\the\c@tocdepth\space
1170     \let\noexpand\etocaftertochook\noexpand\@empty }%
1171     \global\c@tocdepth\csname Etoc@#1@@\endcsname}%
1172 }%

Initializations.
1173 \def\etocstandardlines {\Etoc@standardtrue}
1174 \def\etocnoclines {\Etoc@standardfalse}
1175 \etocdefaultlines
1176 \etocstandardlines
1177 \etocstandarddisplaystyle
1178 \etocobeytocdepth
1179 \let\etocaftertochook\@empty
1180 \endinput
```