

The `tugboat` package*

The *TUGboat* team
(Distributed by Robin Fairbairns)

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tugboat.dtx - main source for LaTeX TUGboat classes.	

1 Document preambles

```

1 <ltugboatcls | ltugproccls | ltugcommn>\NeedsTeXFormat{LaTeX2e}[1994/12/01]
2 <*dtx>
3 \ProvidesFile                {tugboat.dtx}
4 </dtx>
5 <ltugboatcls>\ProvidesClass   {ltugboat}
6 <ltugproccls>\ProvidesClass   {ltugproc}
7 <ltugboatsty>\ProvidesPackage{ltugboat}
8 <ltugprocsty>\ProvidesPackage{ltugproc}
9 <ltugcommn>  \ProvidesPackage{ltugcommn}
10                                     [2007/09/19 v2.4
11 <ltugboatcls>                        TUGboat journal class%
12 <ltugproccls>                        TUG conference proceedings class%
13 <ltugboatsty | ltugprocsty>          TUG compatibility package%
14 <ltugcommn>                          TUGboat 'common macros' package%
15 <*dtx>
16                                     TUG macros source file%
17 </dtx>
18                                     ]
19 <*dtx>
20 \newif\ifoldlongtable
21 </dtx>

```

2 Introduction

This file contains all the macros for typesetting *TUGboat* with both plain \TeX and $\LaTeX 2_{\epsilon}$.

2.1 Summary of control sequences

Abbreviations. Just a listing with indications of expansion where that may not be obvious. For full definitions, see real code below (Section 3.4).

\backslash AllTeX	(\mathbb{A}) \TeX
\backslash AMS	American Mathematical Society
\backslash AmSTeX	
\backslash aw	A-W (abbreviation for Addison-Wesley)
\backslash AW	Addison-Wesley
\backslash BibTeX	

<code>\CandT</code>	Computers & Typesetting
<code>\ConTeXt</code>	ConT _E Xt
<code>\Cplusplus</code>	C++
<code>\DTD</code>	
<code>\DVI</code>	
<code>\DVD</code>	
<code>\DVIPDFMx</code>	DVIPDFM <i>x</i>
<code>\DVItOVDU</code>	DVItOVDU
<code>\eTeX</code>	ε -T _E X
<code>\Ghostscript</code>	
<code>\Hawaii</code>	Hawai‘i
<code>\HTML</code>	
<code>\ISBN</code>	ISBN
<code>\ISO</code>	
<code>\ISSN</code>	ISSN
<code>\JTeX</code>	
<code>\JoT</code>	The Joy of T _E X
<code>\LaTeX</code>	
<code>\MacOSX</code>	Mac OS X
<code>\MathML</code>	
<code>\Mc</code>	M with raised c
<code>\MF</code>	METAFONT
<code>\mf</code>	METAFONT
<code>\MFB</code>	The Metafont book
<code>\MP</code>	METAPOST
<code>\mp</code>	MetaPost (in text only: remains ‘ \mp ’ in maths)
<code>\OMEGA</code>	Omega ‘logo’ (Ω)
<code>\OCP</code>	Omega compiled process
<code>\OTP</code>	Omega translation process
<code>\mtex</code>	multilingual T _E X
<code>\NTS</code>	New Typesetting System
<code>\pcMF</code>	pcMF
<code>\PCTeX</code>	
<code>\pcTeX</code>	
<code>\Pas</code>	Pascal
<code>\PiCTeX</code>	
<code>\plain</code>	plain (in typewriter font)
<code>\POBox</code>	P. O. Box
<code>\PS</code>	PostScript (with hyphenation)
<code>\SC</code>	Steering Committee
<code>\SGML</code>	SGML
<code>\SliTeX</code>	
<code>\slMF</code>	Metafont (slanted) — deprecated: use <code>\textsl</code> instead
<code>\stTeX</code>	T _E X for the Atari ST
<code>\SVG</code>	
<code>\TANGLE</code>	
<code>\TB</code>	The T _E Xbook

<code>\TeX</code>	(Although nearly every package defines this, most—including plain—are missing the space-factor adjustment)
<code>\TeXhax</code>	
<code>\TeXMaG</code>	(defunct)
<code>\TeXtures</code>	
<code>\TeXXeT</code>	
<code>\Thanh</code>	
<code>\TFM</code>	TFM
<code>\TUB</code>	<i>TUGboat</i>
<code>\TUG</code>	TeX Users Group
<code>\UNIX</code>	
<code>\UTF</code>	
<code>\VAX</code>	
<code>\VorTeX</code>	
<code>\XeT</code>	
<code>\XeTeX</code>	reflected and lowered first ‘E’
<code>\XML</code>	
<code>\WEB</code>	
<code>\WEAVE</code>	

Macros for things that are slightly more significant.

<code>\NoBlackBoxes</code>	turns off marginal rules marking overfull boxes
<code>\BlackBoxes</code>	turns them back on
<code>\newline</code>	horizontal glue plus a break
<code>\ifundefined#1</code>	checks argument with <code>\csname</code> against <code>\relax</code>
<code>\topsmash</code>	smashes above baseline (from AMSTeX)
<code>\botsmash</code>	smashes below baseline (from AMSTeX)
<code>\smash</code>	smashes both (from plain)
<code>\ulap</code>	lap upwards
<code>\dlap</code>	lap downwards
<code>\xlap</code>	reference point at center horizontally; 0 width
<code>\ylap</code>	reference point at center vertically; 0 height, depth
<code>\zlap</code>	combination <code>\xlap</code> and <code>\ylap</code>
<code>\basezero</code>	to avoid insertion of baselineskip and lineskip glue
<code>\nullhrule</code>	empty <code>\hrule</code>
<code>\nullvrule</code>	empty <code>\vrule</code>
<code>\makestrut[#1;#2]</code>	ad hoc struts; #1=height, #2=depth
<code>\today</code>	today’s date
<code>\SetTime</code>	converts <code>\time</code> to hours, minutes
<code>\now</code>	displays time in hours and minutes
<code>\Now</code>	shows current date and time
<code>\ifPrelimDraft</code>	flag to indicate status as preliminary draft
<code>\rtitlex</code>	<i>TUGboat</i> volume and number info for running head
<code>\midrtitlex</code>	information for center of running head
<code>\HorzR@gisterRule</code>	pieces of registration marks (‘trimmarks’)
<code>\DownShortR@gisterRule</code>	

<code>\UpShortR@gisterRule</code>	
<code>\ttopregister</code>	top registration line with ‘T’ in center
<code>\tbotregister</code>	bottom registration line with inverted ‘T’ in center
<code>\topregister</code>	register actually used
<code>\botregister</code>	
<code>\raggedskip</code>	parameters used for ragged settings
<code>\raggedstretch</code>	
<code>\raggedparfill</code>	
<code>\raggedspaces</code>	
<code>\raggedright</code>	
<code>\raggedleft</code>	
<code>\raggedcenter</code>	
<code>\normalspaces</code>	
<code>\raggedbottom</code>	
<code>\bull</code>	square bullet
<code>\cents</code>	‘cents’ sign
<code>\Dag</code>	superscripted dagger
<code>\careof</code>	c/o
<code>\sfrac</code>	slashed fraction (arguments optionally separated by a slash)
<code>\cs</code>	control sequence name
	<code>\cs{name}→\name</code>
<code>\env</code>	environment name
	<code>\env{name}→\begin{name}</code>
<code>\meta</code>	meta-argument name
	<code>\meta{name}→⟨name⟩</code>
<code>\dash</code>	en-dash surrounded by thinspaces; only breakable AFTER
<code>\Dash</code>	em-dash, as above
<code>\hyph</code>	permit automatic hyphenation after an actual hyphen
<code>\slash</code>	‘breakable’ slash
<code>\nth</code>	for obtaining ‘1 st ’, ‘2 nd ’, 3 rd , etc.
<code>\tubissue</code>	gets \TUB followed by volume and issue numbers
<code>\xEdNote</code>	Editor’s Note:
<code>\Review:</code>	Review: (for title of book review article)
<code>\reviewitem</code>	begin data for item being reviewed
<code>\revauth</code>	with one argument, author(s) of item being reviewed
<code>\revtitle</code>	with one argument, title of ...
<code>\revpubinfo</code>	with one argument, other info pertaining to ...
<code>\endreviewitem</code>	end data for item being reviewed
<code>\booktitle</code>	with one argument, format book title in text
<code>\Input</code>	\input with some other bookkeeping for case where multiple articles are put together
<code>\TBremark</code>	reminder to <i>TUGboat</i> editorial staff
<code>\TBEnableRemarks</code>	enable \TBremarks (normally suppressed)
<code>\pagexref</code>	used to write out page numbers to screen and

<code>\pagexrefON</code>	external files
<code>\pagexrefOFF</code>	
<code>\xrefto</code>	used for symbolic cross-reference to other pages
<code>\xreftoON</code>	in <i>TUGboat</i>
<code>\xreftoOFF</code>	
<code>\TBdriver</code>	marks code which only takes effect when articles are run together in a driver file
<code>\signaturemark</code>	items for signatures
<code>\signaturewidth</code>	

3 L^AT_EX 2_ε *TUGboat* class file

3.1 Setup and options

Check for reloading. Hmmmm... Does this happen with L^AT_EX 2_ε classes? Probably, in fact, as well that it doesn't, since the `\tugstyinit` referenced here doesn't exist; however, it's possible that we might need a similar mechanism in the future, so we retain its skeleton, without fleshing out the `\tugstyinit` bones.

```

22 (*!tugboatcls)
23 \csname tugstyloaded\endcsname
24 \def\tugstyloaded@{\tugstyinit\endinput}

```

Acquire a name for this class if we don't already have one (by virtue of having been loaded by `tugproc.cls`). This name will be used in error messages and the like.

```

25 \providecommand{\@tugclass}{!tugboat}

```

Warnings/error messages/information messages — if we're using L^AT_EX 2_ε we can use the `\Class*` commands:

```

26 \def\TBInfo{\ClassInfo{\@tugclass}}
27 \def\TBError{\ClassError{\@tugclass}}
28 \def\TBWarning{\ClassWarning{\@tugclass}}
29 \def\TBWarningNL{\ClassWarningNoLine{\@tugclass}}

```

Some trivial options, just flicking switches, etc.

```

30 \newif\ifpreprint
31 \def\preprint{\preprinttrue}
32 \DeclareOption{draft}{%
33   \AtEndOfClass{%
34     \setcounter{page}{1001}%
35     \BlackBoxes
36     \def\MakeRegistrationMarks{%
37       \PrelimDrafttrue
38     }%
39   }
40 \DeclareOption{preprint}{%
41   \preprinttrue
42 }
43 \DeclareOption{final}{%
44   \AtEndOfClass{%
45     \NoBlackBoxes
46     \PrelimDraftfalse

```

```

47 }%
48 }

```

The rules dictate that the output should be set using a 10pt base font.

```

49 \DeclareOption{11pt}{%
50   \TBWarning{The \@tugclass\space class only supports 10pt fonts:
51     \MessageBreak option \CurrentOption\space ignored}%
52 }
53 \DeclareOption{12pt}{\csname ds@11pt\endcsname}

```

Similarly, ignore one/two-side/column

```

54 \DeclareOption{oneside}{\TBWarning{Option \CurrentOption\space ignored}}
55 \DeclareOption{twoside}{\ds@oneside}
56 \DeclareOption{onecolumn}{\ds@oneside}
57 \DeclareOption{twocolumn}{\ds@oneside}

```

There are these people who seem to think `tugproc` is an option rather than a class... (Note that it's already been filtered out if we were calling from `ltugproc`.)

```

58 \DeclareOption{tugproc}{%
59   \TBWarning{Option \CurrentOption\space ignored: use class ltugproc
60     instead of \@tugclass}%
61 }

```

Option `rawcite` (the default) specifies the default citation mechanism (as built-in to L^AT_EX); option `harvardcite` specifies the author-date citation mechanism defined in section 3.22 below.

```

62 \DeclareOption{rawcite}{\let\if@Harvardcite\iffalse}
63 \DeclareOption{harvardcite}{\let\if@Harvardcite\iftrue}

```

Option `extralabel` (the default) specifies that the publication years of two successive references with otherwise identical labels will be tagged with distinguishing letters; option `noextralabel` causes those letters to be suppressed. Note that (a) no two references will in any case have the same labels in the default (plain) `rawcite` setup, and that (b) the distinguishing letters appear in the labels themselves — the even remotely intelligent reader should be able to work out the correspondence one with the other...

```

64 \DeclareOption{extralabel}{\let\UseExtraLabel\@firstofone}
65 \DeclareOption{noextralabel}{\let\UseExtraLabel\@gobble}

```

The section-numbering style, so that we can allow the same heading layout as in the plain macros.

```

66 \DeclareOption{numbersec}{\let\if@numbersec\iftrue}
67 \DeclareOption{nonumber}{\let\if@numbersec\iffalse}

```

Any other options, we pass on to `article.cls` before we load it:

```

68 \DeclareOption*{\PassOptionsToClass{\CurrentOption}{article}}

```

Request default options (draft mode, standard citation, double-sided printing), process all options, and then get the base document class on top of which we reside.

```

69 \ExecuteOptions{draft,extralabel,numbersec,rawcite}
70 \ProcessOptions
71 \LoadClass[twoside]{article}

```

Various fonts used throughout. Some effort has been made to suppress these things with explicit sizes in the macro name (`\tensl` is an example below), but keeping in step with the documentation is one thing that restricts such a move.

```
72 \def\sectitlefont{\fontfamily\sfdefault\fontseries{bx}\fontshape{n}%
73     \fontsize\@xviipt\stbaselineskip\selectfont}
74 \def\tensl{\fontseries{m}\fontshape{sl}\fontsize\@xpt\@xipt
75     \selectfont}
```

This font selection command is used *only* for the ‘Editor’s Note’ introduction to notes; sadly it makes explicit reference to CMR, and Barbara Beeton has agreed that the reference may be constructed to use the current family such that, if no upright italic is defined, ordinary italics are used. A project for later...

```
76 \def\EdNoteFont{\fontfamily{cmr}\fontseries{m}\fontshape{ui}%
77     \selectfont}
78 \ltugboatcls)
```

If Ulrik Vieth’s `mflogo.sty` is around, we’ll use it. Otherwise (pro tem, at least) we’ll warn the user and define the absolute minimum of machinery that *TUGboat* requires (that which was used prior to the invention of L^AT_EX 2_ε).

```
79 \*common)
80 \IfFileExists{mflogo.sty}%
81     {\RequirePackage{mflogo}}%
82 \ltugcomn) {\TBWarning
83 \ltugcomn) {\PackageWarning{ltugcomn}
84     {Package mflogo.sty not available --\MessageBreak
85     Proceeding to emulate mflogo.sty}
86 \DeclareRobustCommand\logofamily{%
87     \not@math@alphabet\logofamily\relax
88     \fontencoding{U}\fontfamily{logo}\selectfont}
89 \DeclareTextFontCommand{\textlogo}{\logofamily}
90 \def\MF{\textlogo{META}\-\textlogo{FONT}\@}
91 \def\MP{\textlogo{META}\-\textlogo{POST}\@}
92 \DeclareFontFamily{U}{logo}{%
93 \DeclareFontShape{U}{logo}{m}{n}{%
94     <8><9>gen*logo%
95     <10><10.95><12><14.4><17.28><20.74><24.88>logo10%
96 }{}
97 \DeclareFontShape{U}{logo}{m}{sl}{%
98     <8><9>gen*logosl%
99     <10><10.95><12><14.4><17.28><20.74><24.88>logosl10%
100 }{}
101 \DeclareFontShape{U}{logo}{m}{it}{%
102     <->ssub*logo/m/sl%
103 }{}%
104 }
```

3.2 Resetting at start of paper

`\ResetCommands` We store a set of commands that should be executed at the start of each paper, before any paper-specific customisation. These commands (stored in the token register `\ResetCommands`) include things such as resetting section and footnote numbers, re-establishing default settings of typesetting parameters, and so on. The user (or more typically, editor) may execute the commands by using the `\StartNewPaper`

command `\StartNewPaper`. Things I’ve not yet thought of may be added to the list of commands, by

```

105 \newtoks\ResetCommands
106 \ResetCommands{%
107   \setcounter{part}{0}%
108   \setcounter{section}{0}%
109   \setcounter{footnote}{0}%
110   \authornumber\z@
111 }
112 \newcommand{\AddToResetCommands}[1]{%
113   \AddToResetCommands\expandafter{\AddToResetCommands#1}%
114 }

```

3.3 Helpful shorthand (common code with Plain styles)

`\makeescape`, `\makecomment` allow users to change the category code of a single character a little more easily. These require that the character be addressed as a control sequence: e.g., `\makeescape{/` will make `/` an escape character.

```

115 <!!latex>
116 \def\makeescape#1{\catcode'#1=0 }
117 \def\makebgroup#1{\catcode'#1=1 }
118 \def\makeegroup#1{\catcode'#1=2 }
119 \def\makemath #1{\catcode'#1=3 }
120 </!!latex>
121 <!!latex>
122 \def\makeescape#1{\catcode'#1=\z@}
123 \def\makebgroup#1{\catcode'#1=\@ne}
124 \def\makeegroup#1{\catcode'#1=\tw@}
125 \def\makemath #1{\catcode'#1=\thr@@}
126 </!!latex>
127 \def\makealign #1{\catcode'#1=4 }
128 \def\makeeol #1{\catcode'#1=5 }
129 \def\makeparm #1{\catcode'#1=6 }
130 \def\makesup #1{\catcode'#1=7 }
131 \def\makesub #1{\catcode'#1=8 }
132 \def\makeignore#1{\catcode'#1=9 }
133 \def\makespace #1{\catcode'#1=10 }
134 \def\makeletter#1{\catcode'#1=11 }
135 \chardef\other=12
136 \let\makeother\@makeother
137 \def\makeactive#1{\catcode'#1=13 }
138 \def\makecomment#1{\catcode'#1=14 }

```

`\savecat#1` and `\restorecat#1` will save and restore the category of a given character. These are useful in cases where one doesn’t wish to localize the settings and therefore be required to globally define or set things.

```

139 \def\savecat#1{%
140   \expandafter\xdef\csname\string#1savedcat\endcsname{\the\catcode'#1}}
141 \def\restorecat#1{\catcode'#1=\csname\string#1savedcat\endcsname}
142 <!!latex> \savecat\@
143 <!!latex> \makeletter\@

```

`\SaveCS#1` and `\RestoreCS#1` save and restore ‘meanings’ of control sequences. Again this is useful in cases where one doesn’t want to localize or where

global definitions clobber a control sequence which is needed later with its ‘old’ definition.

```

144 \def\SaveCS#1{\expandafter\let\csname saved@@#1\expandafter\endcsname
145   \csname#1\endcsname}
146 \def\RestoreCS#1{\expandafter\let\csname#1\expandafter\endcsname
147   \csname saved@@#1\endcsname}

```

To distinguish between macro files loaded

```

148 \def\plaintubstyle{plain}
149 \def\latexstyle{latex}

```

Control sequences that were first defined in L^AT_EX 2_ε of 1995/06/01 (or later), but which we merrily use. Only define if necessary:

```

150 \providecommand\hb@xt@{\hbox to}
151 \providecommand\textsuperscript[1]{\ensuremath{\m@th
152   ^{\mbox{\fontsize\sf@size\z@
153     \selectfont #1}}}}

```

(Note that that definition of `\textsuperscript` isn’t robust, but probably doesn’t need to be... What’s more, it doesn’t appear in the mythical 2.09 version of the package.)

3.4 Abbreviations and logos

Font used for the METAFONT logo, etc.

```

154 \def\AllTeX{(\La\kern-.075em)\kern-.075emTeX}
155 \def\AMS{American Mathematical Society}
156 \def\AmS{${\mathcal{A}}$\kern-.1667em\lower.5ex\hbox
157   {${\mathcal{M}}$}\kern-.125em${\mathcal{S}}$}
158 \def\AmSLaTeX{\AmS-\LaTeX}
159 \def\AmSTeX{\AmS-\TeX}
160 \def\ANSI{\acro{ANSI}}
161 \def\ASCII{\acro{ASCII}}
162 \def\aw{A\kern.1em-W}
163 \def\AW{Addison\kern.1em-\penalty\z@\hskip\z@skip Wesley}
164 %
165 % make \BibTeX work in slanted contexts too; it’s common in titles, and
166 % especially burdensome to hack in .bib files.
167 \def\BibTeX{%
168   \ifdim \fontdimen1\font>0pt
169     B{\SMC\SMC IB}%
170   \else
171     \textsc{Bib}\kern-.08em
172   \fi
173   \TeX}
174 %
175 \def\CandT{\textsl{Computers \& Typesetting}}

```

We place our `\kern` after `\-` so that it disappears if the hyphenation is taken:

```

176 \newcommand\ConTeXt{C\kern-.0333em\kern-.0667emTeX\kern-.0333em}
177 \newcommand\Cplusplus{C\raisebox{.7ex}{$_{++}$}}
178 \def\CSS{\acro{CSS}}
179 \def\CTAN{\acro{CTAN}}
180 \def\DTD{\acro{DTD}}

```

```

181 \def\DVD{\acro{DVD}}
182 \def\DVI{\acro{DVI}}
183 \def\DVIPDFMx{\acro{DVIPDFM}$x$}
184 \def\DVIttoVDU{DVItto\kern-.12em VDU}
185 \DeclareRobustCommand\TeX{\ensuremath{\varepsilon}-\kern-.125em\TeX}
186 \def\FAQ{\acro{FAQ}}
187 \def\FTP{\acro{FTP}}
188 \def\Ghostscript{Ghost\script}
189 \def\GNU{\acro{GNU}}
190 \def\GUI{\acro{GUI}}
191 \def\Hawaii{Hawai'i}
192 \def\HTML{\acro{HTML}}
193 \def\HTTP{\acro{HTTP}}
194 \def\IEEE{\acro{IEEE}}
195 \def\ISBN{\acro{ISBN}}
196 \def\ISO{\acro{ISO}}
197 \def\ISSN{\acro{ISSN}}
198 \def\JPEG{\acro{JPEG}}
199 \def\JTeX{\leavevmode\hbox{\lower.5ex\hbox{J}\kern-.18em\TeX}}
200 \def\JoT{\textsl{The Joy of \TeX}}
201 \def\LAMSTeX{L\raise.42ex\hbox{\kern-.3em
202     $\m@th$\fontsize\sfontsize\z@\selectfont
203     $\m@th\mathcal{A}$}%
204     \kern-.2em\lower.376ex\hbox{$\m@th\mathcal{M}$}\kern-.125em
205     {$\m@th\mathcal{S}$}-\TeX}
206 % This code
207 % is hacked from its definition of \cs{LaTeX}; it allows slants (for
208 % example) to propagate into the raised (small) 'A':
209 % \begin{macrocode}
210 \newcommand{\La}%
211     {\L\kern-.36em
212     {\setbox0\hbox{T}%
213     \vbox to\ht0{\hbox{$\m@th$%
214         \csname S@f@size\endcsname
215         \fontsize\sfontsize\z@
216         \math@fontsfalse\selectfont
217         A}%
218         \vss}%
219     }}

```

We started with the intention that we wouldn't redefine `\LaTeX` when we're running under it, so as not to trample on an existing definition. However, this proves less than satisfactory; a single logo may be OK for the run of documents, but for *TUGboat*, we find that something noticeably better is necessary; see section 3.11.

```

220 \iflatex\def\LaTeX{\La\kern-.15em\TeX}
221 \def\MacOSX{Mac\,\acro{OS},X}
222 \def\MathML{Math\acro{ML}}
223 \def\Mc{\setbox\TestBox=\hbox{M}M\vbox
224     to\ht\TestBox{\hbox{c}\vfil}} % for Robert McGaffey

```

If we're running under $\text{\LaTeX} 2_{\epsilon}$, we're using (at least pro tem) Ulrik Vieth's `mflogo.sty` if it's present. Otherwise, we're using a short extract of Vieth's stuff. Either way, we don't need to specify `\MF` or `\MP`

```

225 \def\mf{\textsc{Metafont}}
226 \def\MFB{\textsl{The \MF book}}
227 \let\TB@mp\mp
228 \DeclareRobustCommand\mp{\ifmmode\TB@mp\else MetaPost\fi}
229 %
230 % In order that the \cs{OMEGA} command will switch to using the TS1
231 % variant of the capital Omega character if \texttt{textcomp.sty} is
232 % loaded, we define it in terms of the \cs{textohm} command. Note
233 % that this requires us to interpose a level of indirection, rather
234 % than to use \cs{let}\dots
235 %
236 % \begin{macrocode}
237 \DeclareTextSymbol{\textohm}{OT1}{'012}
238 \DeclareTextSymbolDefault{\textohm}{OT1}
239 \newcommand\OMEGA{\textohm}
240 \DeclareRobustCommand\OCP{\OMEGA\acro{CP}}
241 \DeclareRobustCommand\OTP{\OMEGA\acro{TP}}
242 \def\mtex{T\kern-.1667em\lower.424ex\hbox{\^E}\kern-.125emX\@}

```

Revised definition of \NTS based on that used by Phil Taylor.

```

243 \DeclareRobustCommand\NTS{\ensuremath{\mathcal{N}\mkern-4mu
244 \raisebox{-0.5ex}{\mathcal{T}}}\mkern-2mu \mathcal{S}}
245 \def\Pas{Pascal}
246 \def\pcMF{\leavevmode\raise.5ex\hbox{p\kern-.3\p@ c}MF\@}
247 \def\PCTeX{PC\thinspace\TeX}
248 \def\pcTeX{\leavevmode\raise.5ex\hbox{p\kern-.3\p@ c}\TeX}
249 \def\PDF{\acro{PDF}}
250 \def\PiC{P\kern-.12em\lower.5ex\hbox{I}\kern-.075emC\@}
251 \def\PiCTeX{\PiC\kern-.11em\TeX}
252 \def\PGF{\acro{PGF}}
253 \def\plain{\texttt{plain}}
254 \def\PNG{\acro{PNG}}
255 \def\POBox{P.\thinspace O.\~Box }
256 \def\PS{{Post}\-Script}}
257 \def\PSTricks{\acro{PST}ricks}
258 \def\RTF{\acro{RTF}}
259 \def\SC{Steering Committee}
260 \def\SGML{\acro{SGML}}
261 \def\SliTeX{\textrm{S}\kern-.06em\textsc{l}\kern-.035emi}%
262 \kern-.06em\TeX}
263 \def\slMF{\textsl{MF}} % should never be used
264 \def\stTeX{\textsc{st}\kern-0.13em\TeX}
265 \def\STIX{\acro{STIX}}
266 \def\SVG{\acro{SVG}}
267 \def\TANGLE{\texttt{TANGLE}\@}
268 \def\TB{\textsl{The \TeX book}}
269 \def\TIFF{\acro{TIFF}}
270 \def\TP{\textsl{TeX}: \textsl{The Program}}
271 \DeclareRobustCommand\TeX{T\kern-.1667em\lower.424ex\hbox{E}\kern-.125emX\@}
272 \def\TeXhax{\TeX hax}
273 \def\TeXMaG{\TeX M\kern-.1667em\lower.5ex\hbox{A}%
274 \kern-.2267emG\@}
275 \def\TeXtures{\textit{Textures}}
276 \let\Textures=\TeXtures
277 \def\TeXXeT{\TeX-{}-\XeT}

```

```

278 \def\TFM{\acro{TFM}}
279 \def\Thanh{H\`an~Th\`e\llap{\raise 0.5ex\hbox{\`{}}}\`Th\`anh}
280 \def\TikZ{Ti{\em k}Z}
281 \def\TTN{\textsl{TTN}\@}
282 \def\TTN{\textsl{\TeX} and TUG News}}
283 \let\texttub\textsl % redefined in other situations
284 \def\TUB{\texttub{TUGboat}}
285 \def\TUG{\TeX\ \UG}
286 \def\tug{\acro{TUG}}
287 \def\UG{Users Group}
288 \def\UNIX{\acro{UNIX}}
289 \def\UTF{\acro{UTF}}
290 \def\VAX{V\kern-.12em A\kern-.1em X\@}
291 \def\VorTeX{V\kern-2.7\p@\lower.5ex\hbox{0\kern-1.4\p@ R}\kern-2.6\p@\TeX}
292 \def\XeT{X\kern-.125em\lower.424ex\hbox{E}\kern-.1667emT\@}
293 \def\XML{\acro{XML}}
294 \def\WEB{\texttt{WEB}\@}
295 \def\WEAVE{\texttt{WEAVE}\@}

```

XeTeX requires reflecting the first E, hence we complain if the graphics package is not present. (For plain documents, this can be loaded via Eplain.) Also, at Barbara's suggestion, if the current font is slanted, we rotate by 180 instead of reflecting so there is at least a chance to look ok. (The magic values here seem more or less ok for cmsl and cmti.)

```

296 \def\tubreflect#1{%
297   \ifundefined{reflectbox}{%
298     \TBerror{A graphics package must be loaded for \string\XeTeX}%
299   }{%
300     \ifdim \fontdimen1\font>0pt
301       \raise 1.75ex \hbox{\kern.1em\rotatebox{180}{#1}}\kern-.1em
302     \else
303       \reflectbox{#1}%
304     \fi
305   }%
306 }
307 \def\tubhideheight#1{\setbox0=\hbox{#1}\ht0=0pt \dp0=0pt \box0 }
308 \def\XeTeX{\leavevmode
309   \tubhideheight{\hbox{X%
310     \setbox0=\hbox{\TeX}\setbox1=\hbox{E}%
311     \lower\dp0\hbox{\raise\dp1\hbox{\kern-.125em\tubreflect{E}}}%
312     \kern-.1667em \TeX}}}%
313 %
314 \def\XHTML{\acro{XHTML}}
315 \def\XSLT{\acro{XSLT}}

```

3.5 General typesetting rules

```

316 \newlinechar=`^^J
317 \normallineskiplimit=\p@
318 \clubpenalty=10000
319 \widowpenalty=10000
320 \def\NoParIndent{\parindent=\z@}
321 \newdimen\normalparindent
322 \normalparindent=20\p@

```

```

323 \def\NormalParIndent{\global\parindent=\normalparindent}
324 \NormalParIndent
325 \def\BlackBoxes{\overfullrule=5\p@}
326 \def\NoBlackBoxes{\overfullrule=\z@}
327 \def\newline{\hskip\z@\@plus\pagewd\break}

```

Hyphen control: first, we save the hyphenpenalties in `\allowhyphens`. This allows us to permit hyphens temporarily in things like `\netaddresses`, which typically occur when `\raggedright` is set, but which need to be allowed to break at their artificial discretionaries.

```

328 \edef\allowhyphens{\noexpand\hyphenpenalty\the\hyphenpenalty\relax
329 \noexpand\exhyphenpenalty\the\exhyphenpenalty\relax}
330 \def\nohyphens{\hyphenpenalty\@M\exhyphenpenalty\@M}

```

3.6 Utility registers and definitions

We define a few scratch registers (and the like) for transient use; they're all paired: an internal one (`\T@st*`) and an external one (`\Test*`).

Comment: Exercise for an idle day: find whether all these are necessary, or whether we can use the L^AT_EX temporaries for some (or all) of the `\T@st*` ones.

Comment: (bb) All these registers are used in the plain version, `tugboat.sty`.

```

331 \newbox\T@stBox          \newbox\TestBox
332 \newcount\T@stCount     \newcount\TestCount
333 \newdimen\T@stDimen     \newdimen\TestDimen
334 \newif\ifT@stIf        \newif\ifTestIf

```

Control sequence existence test, stolen from T_EXbook exercise 7.7 (note that this provides functionality that in some sense duplicates something within L^AT_EX).

```

335 \def\ifundefined#1{\expandafter\ifx\csname#1\endcsname\relax }

```

L^AT_EX conventions which are also useful here.

```

336 <!!latex>
337 \let\@input\input
338 \def\iinput#1{\@input#1 }
339 \def\@inputcheck{\if\@nextchar\bgroup
340 \expandafter\iinput\else\expandafter\@input\fi}
341 \def\input{\futurelet\@nextchar\@inputcheck}
342 </!!latex>

```

Smashes repeated from AMS-T_EX; plain T_EX implements only full `\smash`.

```

343 \newif\iftop@           \newif\ifbot@
344 \def\topsmash{\top@true\bot@false\smash@}
345 \def\botsmash{\top@false\bot@true\smash@}
346 \def\smash{\top@true\bot@true\smash@}
347 \def\smash@{\relax\ifmmode\def\next{\mathpalette\mathsm@sh}%
348 \else\let\next\makesm@sh\fi \next }
349 \def\finism@sh{\iftop@ht\z@\z@\fi\ifbot@dp\z@\z@\fi\box\z@}

```

Vertical ‘laps’; cf. `\llap` and `\rlap`

```

350 \long\def\ulap#1{\vbox to \z@{\vss#1}}
351 \long\def\dlap#1{\vbox to \z@{\#1\vss}}

```

And centered horizontal and vertical ‘laps’

```
352 \def\xlap#1{\hb@xt@{z@{\hss#1\hss}}
353 \long\def\ylap#1{\vbox to {z@{\vss#1\vss}}
354 \long\def\zlap#1{\ylap{\xlap{#1}}}
```

Avoid unwanted vertical glue when making up pages.

```
355 \def\basezero{\baselineskip\z@skip \lineskip\z@skip}
```

Empty rules for special occasions

```
356 \def\nullhrule{\hrule \@height\z@ \@depth\z@ \@width\z@ }
357 \def\nullvrule{\vrule \@height\z@ \@depth\z@ \@width\z@ }
```

Support ad-hoc strut construction.

```
358 \def\makestrut[#1;#2]{\vrule \@height#1 \@depth#2 \@width\z@ }
```

Construct box for figure pasteup, etc.; height = #1, width = #2, rule thickness = #3

```
359 \def\drawoutlinebox[#1;#2;#3]{\T@stDimen=#3
360 \vbox to#1{\hrule \@height\T@stDimen \@depth\z@ }
361 \vss\hb@xt@#2{\vrule \@width\T@stDimen
362 \hfil\makestrut[#1;\z@]%
363 \vrule \@width\T@stDimen}\vss
364 \hrule \@height\T@stDimen \@depth\z@}}
```

Today’s date, to be printed on drafts. Based on T_EXbook, p.406.

```
365 \*!latex>
366 \def\today{\number\day\space \ifcase\month\or
367 Jan \or Feb \or Mar \or Apr \or May \or Jun \or
368 Jul \or Aug \or Sep \or Oct \or Nov \or Dec \fi
369 \number\year}
370 </!latex>
```

Current time; this may be system dependent!

```
371 \newcount\hours
372 \newcount\minutes
373 \def\SetTime{\hours=\time
374 \global\divide\hours by 60
375 \minutes=\hours
376 \multiply\minutes by 60
377 \advance\minutes by-\time
378 \global\multiply\minutes by-1 }
379 \SetTime
380 \def\now{\number\hours:\ifnum\minutes<10 0\fi\number\minutes}
381 \def\Now{\today\ \now}
382 \newif\ifPrelimDraft
383 \def\midrttitle{\ifPrelimDraft {\textsl{preliminary draft, \Now}}\fi}
```

3.7 Ragged right and friends

`\raggedskip` Plain T_EX’s definition of `\raggedright` doesn’t permit any stretch, and results in too many overfull boxes. We also turn off hyphenation. This code lies somewhere between that of Plain T_EX and of L^AT_EX.

```
\raggedstretch
\raggedparfill
\raggedspaces
384 \newdimen\raggedskip \raggedskip=\z@
385 \newdimen\raggedstretch \raggedstretch=5em % ems of font set now (10pt)
386 \newskip\raggedparfill \raggedparfill=\z@ plus 1fil
387 \def\raggedspaces{\spaceskip=.3333em \relax \xspaceskip=.5em \relax }
```

`\raggedright` Some applications may have to add stretch, in order to avoid all overfull boxes.
`\raggedleft` We define the following uses of the above skips, etc.
`\raggedcenter` 388 `\def\raggedright{%`
`\normalspaces` 389 `\nohyphens`
390 `\rightskip=\raggedskip\@plus\raggedstretch \raggedspaces`
391 `\parfillskip=\raggedparfill`
392 `}`
393 `\def\raggedleft{%`
394 `\nohyphens`
395 `\leftskip=\raggedskip\@plus\raggedstretch \raggedspaces`
396 `\parfillskip=\z@skip`
397 `}`
398 `\def\raggedcenter{%`
399 `\nohyphens`
400 `\leftskip=\raggedskip\@plus\raggedstretch`
401 `\rightskip=\leftskip \raggedspaces`
402 `\parindent=\z@ \parfillskip=\z@skip`
403 `}`
404 `\def\normalspaces{\spaceskip\z@skip \xspaceskip\z@skip}`

Miscellaneous useful stuff. Note that L^AT_EX 2_ε defines a robust `\,`, but that we provide a new definition of `~` by redefining its robust underpinnings¹ (based on the version in AMS- \TeX — the L^AT_EX 2_ε version has `\leavevmode` and doesn't care about surrounding space).

405 `\DeclareRobustCommand{\nobreakspace}{%`
406 `\unskip\nobreak\ \ignorespaces}`

Plain \TeX defines `\newbox` as `\outer`. We solemnly preserve the following, which removes the `\outerness`; of course, we carefully exclude it from what we generate... (`\outerness` is a spawn of the devil, is it not? Barbara Beeton responded to the previous sentence “`\outerness` has its place: it avoids register buildup, hence running out of memory”. In another context, David Carlisle remarked that an error control mechanism that causes more confusing errors than it prevents is rather a poor one. This is perhaps not the place to conduct a serious debate...)

407 `\def\boxcs#1{\box\cscname#1\endcscname}`
408 `\def\setboxcs#1{\setbox\cscname#1\endcscname}`
409 `\def\newboxcs#1{\expandafter\newbox\cscname#1\endcscname}`
410 `\let\gobble\@gobble`
411 `\def\vellipsis{%`
412 `\leavevmode\kern0.5em`
413 `\raise\p@\vbox{\baselineskip6\p@\vskip7\p@\hbox{.}\hbox{.}\hbox{.}}`
414 `}`
415 `\def\bull{\vrule \@height 1ex \@width .8ex \@depth -.2ex }`
416 `\def\cents{\rm\raise.2ex\rlap{\kern.05em$\scriptstyle/$}c}`
417 `\def\Dag{\raise .6ex\hbox{$\scriptstyle\dagger$}}`
418 `\def\careof{\leavevmode\hbox{\raise.75ex\hbox{c}\kern-.15em`
419 `\kern-.125em\smash{\lower.3ex\hbox{o}}}\ \ignorespaces}`
420 `\DeclareRobustCommand\sfrac[1]{\@ifnextchar/{\@sfrac{#1}}%`
421 `{\@sfrac{#1}/}}`
422 `\def\@sfrac#1/#2{\leavevmode\kern.1em\raise.5ex`

¹`\DeclareRobustCommand` doesn't mind redefinition, fortunately


```

423 \hbox{$\m@th\mbox{\fontsize\sf@size\z@
424 \selectfont#1}$}\kern-.1em
425 /\kern-.15em\lower.25ex
426 \hbox{$\m@th\mbox{\fontsize\sf@size\z@
427 \selectfont#2}$}}
428 \DeclareRobustCommand\cs[1]{\texttt{\char'\#1}}
429 \DeclareRobustCommand\meta[1]{% don't stay bold in description items
430 \ensuremath{\langle}\mdseries\emph{#1}\ensuremath{\rangle}}
431 \DeclareRobustCommand\env[1]{%
432 \cs{begin}\texttt{\char'\{#1\char'\}}}
433 \def\thinspace{\hskip 0.16667em\relax}

```

We play a merry game with dashes, providing all conceivable options of breakability before and after.

```

434 \def\endash{--}
435 \def\emdash{\endash-}
436 \def\d@sh#1#2{\unskip#1\thinspace#2\thinspace\ignorespaces}
437 \def\dash{\d@sh\nobreak\endash}
438 \def\Dash{\d@sh\nobreak\emdash}
439 \def\ldash{\d@sh\empty{\hbox{\endash}\nobreak}}
440 \def\rdash{\d@sh\nobreak\endash}
441 \def\Ldash{\d@sh\empty{\hbox{\emdash}\nobreak}}
442 \def\Rdash{\d@sh\nobreak\emdash}

```

Hacks to permit automatic hyphenation after an actual hyphen, or after a slash.

```

443 \def\hyph{-\penalty\z@\hskip\z@skip }
444 \def\slash{/\penalty\z@\hskip\z@skip }

```

Adapted from comp.text.tex posting by Donald Arseneau, 26 May 93.
 \LaTeX 2 ϵ -isation added by Robin Fairbairns. Destroys both the TestCounts.

```

445 \def\nth#1{%
446 \def\reserved@a##1##2\@nil{\ifcat##1n%
447 0%
448 \let\reserved@b\ensuremath
449 \else##1##2%
450 \let\reserved@b\relax
451 \fi}%
452 \TestCount=\reserved@a#1\@nil\relax
453 \ifnum\TestCount <0 \multiply\TestCount by\m@ne \fi % subdue negatives
454 \T@stCount=\TestCount
455 \divide\T@stCount by 100 \multiply\T@stCount by 100
456 \advance\TestCount by-\T@stCount % n mod 100
457 \ifnum\TestCount >20 \T@stCount=\TestCount
458 \divide\T@stCount by 10 \multiply\T@stCount by 10
459 \advance\TestCount by-\T@stCount % n mod 10
460 \fi
461 \reserved@b{#1}%
462 \textsuperscript{\ifcase\TestCount th% 0th
463 \or st% 1st
464 \or nd% 2nd
465 \or rd% 3rd
466 \else th% nth
467 \fi}%
468 }

```

3.8 Reviews

Format information on reviewed items for book review articles. For the L^AT_EX 2_ε version, we follow Fairbairns' maxim, and define something that can even look like a L^AT_EX macro...

```

469 \def\Review{\@ifnextchar:{\@Review}\@Review:}}
470 \def\@Review:{\@ifnextchar[%]
471   {\@Rev}%
472   {\@Rev[Book review]}}
473 \def\@Rev[#1]#2{{\ignorespaces#1\unskip:\enspace\ignorespaces
474                  \slshape\mdseries#2}}
475 \def\reviewitem{\addvspace{\BelowTitleSkip}}%
476 \def\revauth##1{\def\therevauth{##1, }\ignorespaces}%
477 \def\revtitle##1{\def\therevtitle{{\slshape##1}. }\ignorespaces}%
478 \def\revpubinfo##1{\def\therevpubinfo{##1.}\ignorespaces}%
479 }
480 \def\endreviewitem{{\noindent\interlinepenalty=10000
481   \therevauth\therevtitle\therevpubinfo\endgraf}%
482   \vskip\medskipamount
483 }
484 \def\booktitle#1{{\slshape#1/}}

```

3.9 Dates, volume and issue numbers, etc.

Dates and other items which identify the volume and issue. `\issueseqno` is a sequential issue number starting from the first issue published; volume 15,4 has `\issueseqno=45`.

`\vol 19, 1.`

To use: `\issdate March 1998.`

`\issueseqno=58`

Starting with volume 23 (nominal 2002), we have `\issyear` instead of `\issdate`, because issues don't have months any more.

For production, these are set in a separate file, `tugboat.dates`, which is issue-specific.

Comment: I would like to make the code read a file `tugboat.dates` in the current directory or its parent. This is easy except under 'odd' operating systems (VMS is an example that springs to mind, RISCos may be even worse) whose syntax is out of the ordinary.

```

485 \newcount\issueseqno          \issueseqno=-1
486 \def\v@lx{\gdef\volx{Volume~\volno~(\volyr), No.~\issno}}
487 \def\volyr{}
488 \def\volno{}
489 \def\vol #1,#2.{\gdef\volno{#1\unskip}%
490               \gdef\issno{\ignorespaces#2\unskip}%
491               \setbox\TestBox=\hbox{\volyr}%
492               \ifdim \wd\TestBox > .2em \v@lx \fi }
493 \def\issyear #1.{\gdef\issdt{#1}\gdef\volyr{#1}%
494               \gdef\bigissdt{#1}%
495               \setbox\TestBox=\hbox{\volno}%
496               \ifdim \wd\TestBox > .2em \v@lx \fi }
497 \def\issdate #1#2 #3.{\gdef\issdt{#1#2 #3}\gdef\volyr{#3}%

```

```

498     \gdef\bigissdt{#1{\smc\uppercase{#2}} #3}%
499     \setbox\TestBox=\hbox{\volno}%
500     \ifdim \wd\TestBox > .2em \v@l{x} \fi }
501 \vol 0, 0.
502 \issdate Thermidor, 2060.

```

(The curious should know that *Thermidor* was one of the French revolutionary month names...)

For L^AT_EX use, define a version of the issue declaration that can take or leave the old plain syntax

```

503 \!latex\def\tubissue#1(#2)%
504 \*latex
505 \def\tubissue#1{\ifnextchar(%)
506   {\@tubissue@b{#1}}
507   {\@tubissue@a{#1}}}
508 \def\@tubissue@b#1(#2){\@tubissue@a{#1}{#2}}
509 \def\@tubissue@a#1#2%
510 \!latex
511 {\TUB~#1, no.~#2}

```

TUGboat conventions include the sequential issue number in the file name. Permit this to be incorporated into file names automatically. If issue number = 11, `\Input filnam` will read `tb11filnam.tex`

```

512 \def\infil@{\jobname}
513 \def\Input #1 {\ifnum\issueseqno<0
514   \def\infil@{#1}%
515   \else
516     \def\infil@{tb\number\issueseqno#1}
517   \fi
518   \edef\jobname{\infil@}\@readFLN
519   \@@input \infil@\relax
520   \if@RMKopen
521     \immediate\closeout\@TBremarkfile\@RMKopenfalse
522   \fi
523 }

```

`\TBremarks` are things that need to be drawn to the attention of the editors; the conscientious author will include such things in the article file. By default, remarks are suppressed, but their appearance may be enabled by the `\TBEEnableRemarks` command, which can be included in the configuration file `ltugboat.cfg` (or `ltugproc.cfg`, if that's what we're at).

```

524 \newif\if@RMKopen      \@RMKopenfalse
525 \newwrite\@TBremarkfile
526 \def\@TBremark#1{%
527   \if@RMKopen
528   \else
529     \@RMKopentrue\immediate\openout\@TBremarkfile=\infil@.rmk
530   \fi
531   \toks@={#1}%
532   \immediate\write\@TBremarkfile{^^J\the\toks@}%
533   \immediate\write16{^^JTBremark:: \the\toks@^^J}%
534 }

```

We initialise `\TBremark` to ignore its argument (this used to involve a `\TBremarkOFF` which was cunningly defined exactly the same as `\gobble`)

```
535 \let\TBremark=\gobble
```

`\TBenableRemarks` simply involves setting `\TBremark` to use the functional `\@TBremark` defined above.

```
536 \def\TBenableRemarks{\let\TBremark\@TBremark}
```

For marking locations in articles that pertain to remarks in another file of editorial comments

```
537 \def\TUBedit#1{}
```

For using different filenames in the production process than those supplied by authors

```
538 \def\TUBfilename#1#2{\expandafter\def\csname file@@#1\endcsname{#2}}
```

```
539 \newread\@altfilenames
```

```
540 \def\@readFLN{\immediate\openin\@altfilenames=jobname.fln
```

```
541 \ifeof\@altfilenames\let\@result\relax}else
```

```
542 \def\@result{\@input\jobname.fln }\fi
```

```
543 \immediate\closein\@altfilenames
```

```
544 \@result}
```

```
545 \@readFLN
```

```
546 \everyjob=\expandafter{\the\everyjob\@readFLN}
```

```
547 \InputIfFileExists{jobname.fln}%
```

```
548 {\TBInfo{Reading alternative file file jobname.fln}}{}
```

The following needs to work entirely in \TeX 's mouth

```
549 \def\@tubfilename#1{\expandafter\ifx\csname file@@#1\endcsname\relax
```

```
550 #1\else\csname file@@#1\endcsname\fi}
```

```
551 \def\fileinput#1{\@input\@tubfilename{#1} }
```

Write out (both to a file and to the log) the starting page number of an article, to be used for cross references and in contents. `\pagexref` is used for articles fully processed in the *TUGboat* run. `\PageXref` is used for 'extra' pages, where an item is submitted as camera copy, and only running heads (at most) are run.

```
552 \<!!latex>
```

```
553 \def\pagexrefON#1{%
```

```
554 \write-1{\def\expandafter\noexpand\csname#1\endcsname{\number\pageno}}%
```

```
555 \write\ppoutfile{%
```

```
556 \def\expandafter\noexpand\csname#1\endcsname{\number\pageno}}%
```

```
557 }
```

```
558 \def\PageXrefON#1{%
```

```
559 \immediate\write-1{\def\expandafter
```

```
560 \noexpand\csname#1\endcsname{\number\pageno}}%
```

```
561 \immediate\write\ppoutfile{\def\expandafter
```

```
562 \noexpand\csname#1\endcsname{\number\pageno}}%
```

```
563 \<!!latex>
```

```
564 \<!!latex>
```

```
565 \def\pagexrefON#1{%
```

```
566 \write-1{\def\expandafter\noexpand\csname#1\endcsname{\number\c@page}}%
```

```
567 \write\ppoutfile{%
```

```
568 \def\expandafter\noexpand\csname#1\endcsname{\number\c@page}}%
```

```
569 }
```

```
570 \def\PageXrefON#1{%
```

```

571 \immediate\write-1{\def\expandafter
572 \noexpand\csname#1\endcsname{\number\c@page}}}%
573 \immediate\write\ppoutfile{\def\expandafter
574 \noexpand\csname#1\endcsname{\number\c@page}}}%
575 \end{latex}
576 \def\pagexrefOFF#1{}
577 \let\pagexref=\pagexrefOFF
578 \def\PageXrefOFF#1{}
579 \let\PageXref=\PageXrefOFF
580 \def\xrefTOON#1{%
581 \ifundefined{#1}%
582 ???\TBremark{Need cross reference for #1.}%
583 \else\csname#1\endcsname\fi}
584 \def\xrefTOFF#1{???}
585 \let\xrefTO=\xrefTOFF

```

\TBdriver ‘marks code for use when articles are run together in a driver file’. Since we don’t yet have a definition of that arrangement, we don’t have a definition of \TBdriver. Its argument (which one presumes was intended as the code for this unusual state) is just gobbled.

```

586 \let\TBdriver\gobble

```

Some hyphenation exceptions:

```

587 \hyphenation{Del-a-ware Dijk-stra Duane Eijk-hout
588 Flor-i-da Free-BSD Ghost-script Ghost-view
589 Hara-lam-bous Jac-kow-ski Karls-ruhe
590 Mac-OS Math-Sci-Net
591 Net-BSD Open-BSD Open-Office
592 Pfa-Edit Post-Script Rich-ard Skoup South-all
593 VM-ware Win-Edt
594 acro-nym ap-pen-dix asyn-chro-nous
595 bit-map bit-mapped bit-maps buf-fer buf-fers bool-ean
596 col-umns cus-tom-iz-able
597 data-base data-bases
598 de-riv-a-tive de-riv-a-tives de-riv-a-ble der-i-va-tion
599 fall-ing
600 half-way
601 key-note
602 long-est
603 ma-gyar man-u-script man-u-scripts mne-mon-ic mne-mon-ics
604 name-space name-spaces
605 off-line over-view
606 pal-ettes par-a-digm par-a-dig-mat-ic par-a-digms
607 pipe-line pipe-lines
608 plug-in plug-ins pro-gram-mable
609 se-vere-ly spell-ing spell-ings stand-alone strong-est
610 sub-ex-pres-sion syn-chro-ni-city syn-chro-nous
611 time-stamp time-stamped
612 Vieth vis-ual vis-ual-ly
613 which-ever white-space white-spaces wide-spread wrap-around
614 }
615 \end{latex}\restorecat\@
616 \end{common}
617 \end{classtail}

```

```
618 \PrelimDrafttrue
```

3.10 Page dimensions, glue, penalties etc

```
619 \textheight 54pc
620 \textwidth 39pc
621 \columnsep 1.5pc
622 \columnwidth 18.75pc
623 \parindent \normalparindent
624 \parskip \z@ % \@plus\p@
625 \leftmargini 2em
626 \leftmarginv .5em
627 \leftmarginvi .5em
628 \oddsidemargin \z@
629 \evensidemargin \z@
630 \topmargin -2.5pc
631 \headheight 12\p@
632 \headsep 20\p@
633 \marginparwidth 48\p@
634 \marginparsep 10\p@
635 \partopsep=\z@
636 \topsep=3\p@\@plus\p@\@minus\p@
637 \parsep=3\p@\@plus\p@\@minus\p@
638 \itemsep=\parsep
639 \twocolumn
640 \newdimen\pagewd \pagewd=39pc
641 \newdimen\trimwd \trimwd=\pagewd
642 \newdimen\trimlgt \trimlgt=11in
643 \newdimen\headmargin \headmargin=3.5pc
```

In L^AT_EX 2_ε, twoside option is forced on when `article.cls` is loaded.

3.11 Messing about with the L^AT_EX logo

Barbara Beeton’s pleas for L^AT_EX logos that look right in any font shape provoked me to generate the following stuff that is configurable.

Here’s the command for the user to define hir own new version. The arguments are font family, series and shape, and then the two kern values used in placing the raised ‘A’ of L^AT_EX.

```
644 \newcommand\DeclareLaTeXLogo[5]{\expandafter\def
645 \csname @LaTeX@#1/#2/#3\endcsname{{#4}{#5}}}
```

The default values are as used in the source of L^AT_EX itself:

```
646 \def\@LaTeX@default{{.36}{.15}}
```

More are defined in the initial version, for bold CM sans (which is used as `\SecTitleFont`), and CM italic medium and bold, and Bitstream Charter (which Nelson Beebe likes to use):

```
647 \DeclareLaTeXLogo{cmss}{bx}{n}{.3}{.15}
648 \DeclareLaTeXLogo{cmr}{m}{it}{.3}{.27}
649 \DeclareLaTeXLogo{cmr}{bx}{it}{.3}{.27}
650 \DeclareLaTeXLogo{bch}{m}{n}{.2}{.08}
651 \DeclareLaTeXLogo{bch}{m}{it}{.2}{.08}
```

Redefine `\LaTeX` to choose the parameters for the current font, or to use the default value otherwise:

```
652 \DeclareRobustCommand\LaTeX{\expandafter\let\expandafter\reserved@a
653   \csname @LaTeX@f@family/\f@series/\f@shape\endcsname
654   \ifx\reserved@a\relax\let\reserved@a\@LaTeX@default\fi
655   \expandafter\@LaTeX\reserved@a}
```

Here's the body of what was originally `\LaTeX`, pulled out with its roots dripping onto the smoking ruin of original `LaTeX`, and then bits stuck in on the side.

`\@LaTeX@default` provides parameters as one finds in the original; other versions are added as needed.

```
656 \newcommand\@LaTeX[2]{L\kern-#1em
657   {\sbox\z@ T%
658     \vbox to\ht0{\hbox{$\m@th$%
659       \csname S@f@size\endcsname
660       \fontsize\sf@size\z@
661       \math@fontsfalse\selectfont
662       A}%
663     \vss}%
664   }%
665   \kern-#2em%
666   \TeX}
```

3.12 Authors, contributors, addresses, signatures

Each article may have several authors (of course), so we permit an `\author` command for each of them. The names are then stored in a set of `\csnames` called `\author1`, `\author2`, ... Similarly, there are several `\address<n>` and `\netaddress<n>` and `\PersonalURL<n>` commands set up for each article.

Comment: I would like to make provision for several authors at the same address, but (short of preempting the `*` marker, which it would be nice to retain so as to preserve compatibility with the `plain` style) I'm not sure how one would signal it.

```
667 \def\theauthor#1{\csname theauthor#1\endcsname}
668 \def\theaddress#1{\csname theaddress#1\endcsname}
669 \def\thenetaddress#1{\csname thenetaddress#1\endcsname}
670 \def\thePersonalURL#1{\csname thePersonalURL#1\endcsname}
```

The standard way of listing authors is to iterate from 1 to `\count@` and to pick the author names as we go.

```
671 \<!!latex>\newcount\@tempcnta
672 \def\@defaultauthorlist{%
673   \@getauthorlist\@firstofone
674 }
```

`\@getauthorlist` processes the author list, passing every bit of stuff that needs to be typeset to its argument.

```
675 \def\@getauthorlist#1{%
676   \count@\authornumber
677   \advance\count@ by -2
678   \@tempcnta0
```

Loop to output the first $n - 2$ of the n authors (the loop does nothing if there are two or fewer authors)

```

679 \loop
680   \ifnum\count@>0
681     \advance\@tempcnta by \@ne
682     #1{\ignorespaces\theauthor{\number\@tempcnta}\unskip, }%
683     \advance\count@ by \m@ne
684 \repeat
685 \count@\authornumber
686 \advance\count@ by -\@tempcnta
687 \ifnum\authornumber>0

```

If there are two or more authors, we output the penultimate author's name here, followed by 'and'

```

688   \ifnum\count@>1
689     \count@\authornumber
690     \advance\count@ by \m@ne
691     #1{\ignorespaces\theauthor{\number\count@}\unskip\ and }%
692 \fi

```

Finally (if there were any authors at all) output the last author's name:

```

693   #1{\ignorespaces\theauthor{\number\authornumber}\unskip}
694 \fi
695 }

```

Signature blocks. The author can (in principle) define a different sort of signature block using `\signature`, though this could well cause the editorial group to have collective kittens (unless it had been discussed in advance...)

```

696 \def\signature#1{\def\@signature{#1}}
697 \def\@signature{\@defaultsignature}

```

`\@defaultsignature` loops through all the authors, outputting the details we have about that author, or (if we're in a sub-article) outputs the contributor's name and closes the group opened by `\contributor`. It is (as its name implies) the default body for `\makesignature`

```

698 \def\@defaultsignature{%
699   \let\thanks\@gobble
700   \ifnum\authornumber<0
701     \medskip
702     \frenchspacing
703     \signaturemark
704     \theauthor{\number\authornumber}\\
705     \theaddress{\number\authornumber}\\
706     \allowhyphens
707     \thenetaddress{\number\authornumber}\\
708     \thePersonalURL{\number\authornumber}\\
709   \else

```

`\authornumber ≥ 0`, so we are in the body of an ordinary article

```

710     \count@=0
711     \loop
712     \ifnum\count@<\authornumber

```



```

713         \medskip
714         \advance\count@ by \@ne
715         \signaturemark
716         \theauthor{\number\count@}\
717         \theaddress{\number\count@}\
718         {%
719             \allowhyphens
720             \thenetaddress{\number\count@}\
721             \thePersonalURL{\number\count@}\
722         }%
723     \repeat
724 \fi
725 }%
726 }
727 \newdimen\signaturewidth \signaturewidth=12pc

```

The optional argument to `\makesignature` is useful in some circumstances (e.g., multi-contributor articles)

```

728 \newcommand\makesignature[1][\medskipamount]{%

```

check the value the user has put in `\signaturewidth`: it may be at most 1.5pc short of `\columnwidth`

```

729 \@tempdima\signaturewidth
730 \advance\@tempdima 1.5pc
731 \ifdim \@tempdima>\columnwidth
732     \signaturewidth \columnwidth
733     \advance\signaturewidth -1.5pc
734 \fi
735 \par
736 \penalty9000
737 \vspace{#1}%
738 \rightline{%
739     \vbox{\hsize\signaturewidth \ninepoint \raggedright
740         \parindent \z@ \everypar={\hangindent 1pc }
741         \parskip \z@skip
742         \def\|{\unskip\hfil\break}%
743         \def\\{\endgraf}%
744         \def\phone{\rm Phone: }
745         \rm\@signature}%
746     }%
747 \ifnum\authornumber<0 \endgroup\fi
748 }
749 \def\signaturemark{\leavevmode\llap{$\diamond$\enspace}}

```

The code used to define the following:

```

{\makeactive\@
\gdef\signatureat{\makeactive\@def@{\char"40\discretionary}{-}{-}}
\makeactive\%
\gdef\signaturepercent{\makeactive\%\def@{\char"25\discretionary}{-}{-}}
}

```

However, they were never used within the class (or within `ltugproc.cls`). They have therefore been deleted; the identically defined `\netaddrat` and

`\netaddrpercent` may be used in the unlikely event that they're needed elsewhere.

Now all the awful machinery of author definitions. `\authornumber` records the number of authors we have recorded to date.

```
750 \newcount\authornumber
751 \authornumber=0
```

`\author` 'allocates' another author name (by bumping `\authornumber`) and also sets up the address and netaddress for this author to produce a warning and to prevent oddities if they're invoked. This last assumes that invocation will be in the context of `\signature` (`ltugboat.cls`) or `\maketitle` (`ltugproc.cls`); in both cases, invocation is followed by a line break (tabular line break `\\` in `ltugproc`, `\endgraf` in `\makesignature` in `ltugboat`).

```
752 \def\author{%
753   \global\advance\authornumber\@ne
754   \TB@author
755 }
```

`\contributor` is for a small part of a multiple-part article; it begins a group that will be ended in `\makesignature`

```
756 \def\contributor{%
757   \begingroup
758   \authornumber\m@ne
759   \TB@author
760 }
```

Both 'types' of author fall through here to set up the author name and to initialise author-related things. `\EDITORno*` commands allow the editor to record that there's good reason for an *address* or *netaddress* not to be there (the *personalURL* is optional anyway).

```
761 \def\TB@author#1{%
762   \expandafter\def\csname theauthor\number\authornumber\endcsname
763     {\ignorespaces#1\unskip}%
764   \expandafter\def\csname theaddress\number\authornumber\endcsname
765     {\TBWarningNL{Address for #1\space missing}\@gobble}%
766   \expandafter\def\csname thenetaddress\number\authornumber\endcsname
767     {\TBWarningNL{Net address for #1\space missing}\@gobble}%
768   \expandafter\let\csname thePersonalURL\number\authornumber\endcsname
769     \@gobble
770 }
771 \def\EDITORnoaddress{%
772   \expandafter\let\csname theaddress\number\authornumber\endcsname
773     \@gobble
774 }
775 \def\EDITORnonetaddress{%
776   \expandafter\let\csname thenetaddress\number\authornumber\endcsname
777     \@gobble
778 }
```

`\address` simply copies its argument into the `\theaddress<n>` for this author.

```
779 \def\address#1{%
780   \expandafter\def\csname theaddress\number\authornumber\endcsname
781     {\leavevmode\ignorespaces#1\unskip}}
```

`\network` is for use within the optional argument of `\netaddress`; it defines the *name* of the network the user is on.

Comment: I think this is a fantasy, since everyone (in practice, nowadays) quotes an internet address. In principle, there are people who will quote X.400 addresses (but they're few and far between) and I have (during 1995!) seen an address with an UUCP bang-path component on `comp.text.tex`, but *really*!

```
782 \def\network#1{\def\@network{#1: }}

```

`\netaddress` begins a group, executes an optional argument (which should not, presumably, contain global commands) and then relays to `\@relay@netaddress` with both `@` and `%` made active (so that they can be discretionary points in the address). If we're using L^AT_EX 2_ε, we use the default-argument form of `\newcommand`; otherwise we write it out in all its horribleness.

```
783 \newcommand\netaddress[1][\relax]{%
784   \begingroup
785   \def\@network{}%

```

Unfortunately, because of the catcode hackery, we have still to do one stage of relaying within our own code, even if we're using L^AT_EX 2_ε.

```
786   #1\@sanitize\makespace\ \makeactive\@
787   \makeactive\.\makeactive\%\@relay@netaddress}%

```

`\@relay@netaddress` finishes the job. It sets `\thenetaddress` for this author to contain the network name followed by the address. As a result of our kerfuffle above, `@` and `%` are active at the point we're entered. We ensure they're active when `\thenetaddress` gets expanded, too. (**WOT?!**)

```
788 \def\@relay@netaddress#1{%
789   \ProtectNetChars
790   \expandafter\protected@xdef
791     \csname thenetaddress\number\authornumber\endcsname
792     {\protect\leavevmode\textrm{\@network}%
793     {\protect\NetAddrChars\net
794       \ignorespaces#1\unskip}}}%
795 \endgroup
796 }

```

`\personalURL` is in essence the same as `\netaddress`, apart from (1) the lack of the eccentric optional argument, and (2) the activation of `'/`.

We could imagine needing an `\URL` command in general. If so, we must remember that the code here would naturally permit a break between the last two characters of `http://`, and some sort of special action must be taken to ensure that it doesn't happen.

```
797 \def\personalURL{\begingroup
798   \@sanitize\makespace\ \makeactive\@
799   \makeactive\.\makeactive\%\makeactive\/\@personalURL}%
800 \def\@personalURL#1{%
801   \ProtectNetChars
802   \expandafter\protected@xdef
803     \csname thePersonalURL\number\authornumber\endcsname{%
804     \protect\leavevmode
805     {%

```

```

806     \protect\URLchars\net
807     \ignorespaces#1\unskip
808   }%
809 }%
810 \endgroup
811 }

```

Define the activation mechanism for ‘@’, ‘%’, ‘.’ and ‘/’, for use in the above. Note that, since the code has ‘%’ active, we have ‘*’ as a comment character, which has a tendency to make things look peculiar...

```

812 {%
813   \makecomment\*
814   \makeactive\@
815   \gdef\netaddrat{\makeactive\@*
816     \def@{\discretionary{\char"40}{\char"40}}
817     \makeactive\%
818     \gdef\netaddrpercent{\makeactive\%*
819       \def%{\discretionary{\char"25}{\char"25}}
820       \makeactive\.
821       \gdef\netaddrdot{\makeactive\.*
822         \def.{\discretionary{\char"2E}{\char"2E}}

```

\NetAddrChars is what *we* use (we’re constrained to retain the old interface to this stuff, but it *is* clunky...). Since URLs are a new idea, we are at liberty not to define a separate \netaddrslash command, and we only have \URLchars.

```

823   \gdef\NetAddrChars{\netaddrat \netaddrpercent \netaddrdot}
824   \makeactive\/
825   \gdef\URLchars{*
826     \NetAddrChars
827     \makeactive\/*
828     \def/{\discretionary{\char"2F}{\char"2F}}

```

\ProtectNetChars includes protecting ‘/’, since this does no harm in the case of net addresses (where it’s not going to be active) and we thereby gain by not having yet another csname.

```

829   \gdef\ProtectNetChars{*
830     \def@{\protect@}*
831     \def%{\protect%}*
832     \def.{\protect.}*
833     \def/{\protect/}*
834   }
835 }

```

L^AT_EX 2_ε (in its wisdom) suppresses \DeclareOldFontCommand when in compatibility mode, so that in that circumstance we need to use a declaration copied from latex209.def rather than the way we would normally do the thing (using the command L^AT_EX 2_ε defines for the job).

```

836 \if@compatibility
837   \DeclareRobustCommand\net{\normalfont\ttfamily\mathgroup\sympewriter}
838 \else
839   \DeclareOldFontCommand{\net}{\ttfamily\upshape\mdseries}{\mathtt}
840 \fi
841 \def\authorlist#1{\def\@author{#1}}
842 \def\@author{\@defaultauthorlist}

```

`\if@articletitle` `\maketitle` takes an optional “*”; if present, the operation is not defining the title of a paper, merely that of a “business” section (such as the participants at a meeting) that has no credited author or other title. In this case, the command flushes out the latest `\sectitle` (or whatever) but does nothing else.

Provide machinery to skip extra space, even one or more full columns, above the top of an article to leave space to paste up a previous article that has finished on the same page. This is a fall back to accommodate the fact that multiple articles cannot yet be run together easily with L^AT_EX 2_ε.

```

843 \newif\if@articletitle
844 \def\maketitle{\@ifstar
845   {\@articletitlefalse\@r@maketitle}%
846   {\@articletitletrue\@r@maketitle}%
847 }
848 \def\@r@maketitle{\par
849   \ifdim\PreTitleDrop > \z@
850     \loop
851       \ifdim \PreTitleDrop > \textheight
852         \vbox{}\vfil\@eject
853         \advance\PreTitleDrop by -\textheight
854       \repeat
855     \vbox to \PreTitleDrop{}
856     \global\PreTitleDrop=\z@
857   \fi
858   \begingroup
859   \setcounter{footnote}{0}
860   \def\thefootnote{\fnsymbol{footnote}}
861   \@maketitle
862   \@thanks
863   \endgroup
864   \setcounter{footnote}{0}
865   \gdef\@thanks{}
866 }
```

3.13 Section titles

The following macros are used to set the large *TUGboat* section heads (e.g. “General Delivery”, “Fonts”, etc.)

Define the distance between articles which are run together:

```

867 \def\secsep{\vskip 5\baselineskip}
```

Note that `\stbaselineskip` is used in the definition of `\sectitlefont`, in L^AT_EX 2_ε, so that it has (at least) to be defined before `\sectitlefont` is used (we do the whole job).

```

868 \newdimen\stbaselineskip          \stbaselineskip=18\p@
869 \newdimen\stfontheight
870 \settoheight{\stfontheight}{\sectitlefont 0}
```

Declaring section titles; the conditional `\ifSecTitle` records the occurrence of a `\sectitle` command. If (when) a subsequent `\maketitle` occurs, the section title box will get flushed out; as a result of this, one could in principle have a set of `\sectitle` commands in a semi-fixed steering file, and inclusions of files inserted

only as and when papers have appeared. Only the last `\sectitle` will actually be executed.

```

871 \newif\ifSecTitle
872 \SecTitlefalse
873 \newif\ifWideSecTitle
874 \newcommand\sectitle{%
875   \SecTitletrue
876   \@ifstar
877     {\WideSecTitletrue\def\s@ctitle}%
878     {\WideSecTitlefalse\def\s@ctitle}%
879 }

```

`\PreTitleDrop` records the amount of column-space we need to eject before we start any given paper. It gets zeroed after that ejection has happened.

```

880 \newdimen\PreTitleDrop   \PreTitleDrop=\z@

```

The other parameters used in `\@sectitle`; I don't think there's the slightest requirement for them to be registers (since they're constant values, AFAIK), but converting them to macros would remove the essentially useless functionality of being able to change them using assignment, which I'm not about to struggle with just now...

`\AboveTitleSkip` and `\BelowTitleSkip` are what you'd expect; `\strulethickness` is the value to use for `\fboxrule` when setting the title.

```

881 \newskip\AboveTitleSkip   \AboveTitleSkip=12\p@
882 \newskip\BelowTitleSkip   \BelowTitleSkip=8\p@
883 \newdimen\strulethickness   \strulethickness=.6\p@

```

`\@sectitle` actually generates the section title (in a rather generous box). It gets called from `\maketitle` under conditional `\ifSecTitle`; by the time `\@sectitle` takes control, we already have `\SecTitlefalse`. This implementation uses L^AT_EX's `\framebox` command, on the grounds that one doesn't keep a dog and bark for oneself...

```

884 \def\@sectitle #1{%
885   \par
886   \penalty-1000

```

If we're setting a wide title, the stuff will be at the top of a page (let alone a column) but inside a box, so that the separator won't be discardable: so don't create the separator in this case.

```

887   \ifWideSecTitle\else\secsep\fi
888   {%
889     \fboxrule\strulethickness
890     \fboxsep\z@
891     \noindent\framebox[\hsize]{%
892       \vbox{%
893         \raggedcenter
894         \let\\\@sectitle@newline
895         \sectitlefont
896         \makestrut[2\stfontheight;\z@]%
897         #1%
898         \makestrut[\z@;\stfontheight]\endgraf
899       }%
900     }%

```

```

901 }%
902 \nobreak
903 \vskip\baselineskip
904 }

```

`\@sectitle@newline` For use inside `\sectitle` as `\.`. Works similarly to `\.` in the “real world” — uses an optional argument

```

905 \newcommand{\@sectitle@newline}[1][\z@]{%
906   \ifdim#1>\z@
907     \makestrut[\z@;#1]%
908   \fi
909   \unskip\break
910 }

```

We need to trigger the making of a section title in some cases where we don’t have a section title proper (for example, in material taken over from TTN).

```

911 \def\@makesectitle{\ifSecTitle
912   \global\SecTitlefalse
913   \ifWideSecTitle
914     \twocolumn[\@sectitle{\s@ctitle}]%
915     \global\WideSecTitlefalse
916   \else
917     \@sectitle{\s@ctitle}%
918   \fi
919 \else
920   \vskip\AboveTitleSkip
921   \kern\topskip
922   \hrule \@height\z@ \@depth\z@ \@width 10\p@
923   \kern-\topskip
924   \kern-\strulethickness
925   \hrule \@height\strulethickness \@depth\z@
926   \kern\medskipamount
927   \nobreak
928 \fi
929 }

```

`\@maketitle` Finally, the body of `\maketitle` itself.

```

930 \def\@maketitle{%
931   \@makesectitle
932   \if@articletitle{%
933     \nohyphens \interlinepenalty\@M
934     \setbox0=\hbox{%
935       \let\thanks\@gobble
936       \let\=\quad
937       \let\and=\quad
938       \ignorespaces\@author}%
939     {%
940       \noindent\bf\raggedright\ignorespaces\@title\endgraf
941     }%
942     \ifdim \wd0 < 5\p@           % omit if author is null
943     \else

```

Since we have `\BelowTitleSkip + 4pt = \baselineskip`, we say:

```

944     \nobreak \vskip 4\p@

```

```

945     {%
946         \leftskip=\normalparindent
947         \raggedright
948         \def\and{\unskip\\}%
949         \noindent\@author\endgraf
950     }%
951     \fi
952     \nobreak
953     \vskip\BelowTitleSkip
954 } \fi%
955 \global\@afterindentfalse
956 \aftergroup\@afterheading
957 }

```

Dedications are ragged right, in italics.

```

958 \newenvironment{dedication}%
959 { \raggedright\noindent\itshape\ignorespaces}%
960 { \endgraf\medskip}

```

The abstract and longabstract environments both use `\section*`.

```

961 \renewenvironment{abstract}%
962 {%
963     \begin{SafeSection}%
964     \section*{Abstract}%
965 }%
966 {\end{SafeSection}}
967 \newenvironment{longabstract}%
968 {%
969     \begin{SafeSection}%
970     \section*{Abstract}%
971     \bgroup\small
972 }%
973 {%
974     \endgraf\egroup
975     \end{SafeSection}%
976     \vspace{.25\baselineskip}
977     \begin{center}
978     {$--*--$}
979     \end{center}
980     \vspace{.5\baselineskip}}

```

3.14 Headings

Redefine style of section headings to match plain *TUGboat*. Negative before skip suppresses following parindent. (So negate the stretch and shrink too).

These macros are called `*head` in the plain styles.

Relaying via `\TB@startsection` detects inappropriate use of `\section*`. Of course, if (when) *we* use it, we need to avoid that relaying; this can be done by `\letting \TB@startsection` to `\TB@safe@startsection`, within a group.

First the version for use in the default case, when class option `NUMBERSEC` is in effect.

```

981 \if@numbersec
982   \def\section{\TB@startsection{{section}%

```



```

983             1%
984             \z@
985             {-8\p@}%
986             {4\p@}%
987             {\normalsize\bf\raggedright\hyphenpenalty=\@M}}
988 \def\subsection{\TB@startsection{subsection}%
989             2%
990             \z@
991             {-8\p@}%
992             {4\p@}%
993             {\normalsize\bf\raggedright\hyphenpenalty=\@M}}
994 \def\subsubsection{\TB@startsection{subsubsection}%
995             3%
996             \z@
997             {-8\p@}%
998             {4\p@}%
999             {\normalsize\bf\raggedright\hyphenpenalty=\@M}}
1000 \def\paragraph{\TB@startsection{paragraph}%
1001             4%
1002             \z@
1003             {2.5ex\@plus 1ex}%
1004             {-1em}%
1005             {\normalsize\bf}}

```

Now the version if class option NONUMBER is in effect, i.e., if `\if@numbersec` is false.

```

1006 \else
1007   \setcounter{secnumdepth}{0}
1008   \def\section{\TB@nolabel
1009       \TB@startsection{section}%
1010       1%
1011       \z@
1012       {-8\p@}%
1013       {4\p@}%
1014       {\normalsize\bf\raggedright\hyphenpenalty=\@M}}
1015   \def\subsection{\TB@nolabel
1016       \TB@startsection{subsection}%
1017       2%
1018       \z@
1019       {-8\p@}%
1020       {-0.5em\@plus-\fontdimen3\font}%
1021       {\normalsize\bf\raggedright\hyphenpenalty=\@M}}
1022   \def\subsubsection{\TB@nolabel
1023       \TB@startsection{subsubsection}%
1024       3%
1025       \parindent
1026       {-8\p@}%
1027       {-0.5em\@plus-\fontdimen3\font}%
1028       {\normalsize\bf\raggedright\hyphenpenalty=\@M}}
1029 \fi

```

`\TB@startsection` traps * versions of sectioning commands, if numbering isn't in effect. Its argument is the complete set of `\@startsection` arguments.

```

1030 \if@numbersec

```

```

1031 \def\TB@startsection#1{\@startsection#1}%
1032 \else
1033 \def\TB@startsection#1{%
1034 \ifstar
1035 {\TBWarning{*--form of \expandafter\string\csname\@firstofsix#1%
1036 \endcsname\space
1037 \MessageBreak
1038 conflicts with nonumber class option}%
1039 \@startsection#1}%
1040 {\@startsection#1}%
1041 }
1042 \fi
1043 \def\@firstofsix#1#2#3#4#5#6{#1}

```

`\TB@safe@startsection` is to be used where `\section*` (etc.) appear in places where the request is OK (because it's built in to some macro we don't fiddle with).

```

1044 \def\TB@safe@startsection#1{\@startsection#1}

```

The `SafeSection` environment allows use of `*-`forms of sectioning environments. It's not documented for the general public: it's intended as an editor's facility.

```

1045 \newenvironment{SafeSection}%
1046 {\let\TB@startsection\TB@safe@startsection}%
1047 {}

```

And now for the exciting sectioning commands that L^AT_EX defines but we don't have a definition for (whatever else, we don't want Lamport's originals, which come out 'like the blare of a bugle'²).

The three inappropriate ones are subparagraph (indistinguishable from paragraph), and chapter and part. The last seemed almost to be defined in an early version of these macros, since there was a definition of `\l@part`. I've not got down to where that came from (or why). If class option `NONUMBER` is in effect, we also suppress `\paragraph`, since it has no parallel in the plain style.

```

1048 \if@numbersec
1049 \def\subparagraph{\TB@nosection\subparagraph\paragraph}
1050 \else
1051 \def\paragraph{\TB@nosection\paragraph\subsubsection}
1052 \def\subparagraph{\TB@nosection\subparagraph\subsubsection}
1053 \fi
1054 \def\chapter{\TB@nosection\chapter\section}
1055 \def\part{\TB@nosection\part\section}
1056 \def\TB@nosection#1#2{\TBWarning{class does not support \string#1,
1057 \string#2\space used instead}\#2}

```

`\l@<sectioning-name>` is for table of contents (of an article).

We define new macros to allow easily changing the font used for toc entries (for *TUGboat*, we usually want roman, not bold), and the space between entries. Nelson Beebe's articles are almost the only ones that ever have toc's.

```

1058 \def\TBtocsectionfont{\normalfont}
1059 \newskip\TBtocsectionspace \TBtocsectionspace=1.0em\@plus\p@

```

²Thurber, *The Wonderful O*

Don't ask me (RF) why `\l@part` is there; I commented it out because I couldn't understand why it had been left there for me. To be finally deleted in a future release of these macros...

```

1060 %\def\l@part#1#2{\addpenalty{\@secpenalty}%
1061 % \addvspace{2.25em\@plus\p@}%
1062 % \begingroup
1063 % \@tempdima 3em \parindent\z@ \rightskip\z@ \parfillskip\z@
1064 % {\large \bf \leavevmode #1\hfil \hbox to\@pnumwidth{\hss #2}}\par
1065 % \nobreak
1066 % \endgroup}
1067 %
1068 \def\l@section#1#2{\addpenalty{\@secpenalty}%
1069 \addvspace{\TBtocsectionspace}%
1070 \@tempdima 1.5em
1071 \begingroup
1072 \parindent\z@ \rightskip\z@ % article style makes \rightskip > 0
1073 \parfillskip\z@
1074 \TBtocsectionfont
1075 \leavevmode\advance\leftskip\@tempdima\hskip-\leftskip#1\nobreak\hfil
1076 \nobreak\hb@xt@\@pnumwidth{\hss #2}\par
1077 \endgroup}

```

3.15 Appendices

Appendices (which are really just another sort of section heading) raise a problem: if the sections are unnumbered, we plainly need to restore the section numbering, which in turn allows labelling of section numbers again (`\TBnolimelabel` happens before the `\refstepcounter`, so its effects get lost ... what a clever piece of design that was). So here we go:

```

1078 \renewcommand\appendix{\par
1079 \renewcommand\thesection{\@Alph{c@section}}%
1080 \setcounter{section}{0}%
1081 \if@numbersec
1082 \else
1083 \setcounter{secnumdepth}{1}%
1084 \fi

```

Now: is this the start of an appendix environment? This can be detected by looking at `\@currentenv`; if we are, we need to relay to `\@appendix@env` to pick up the optional argument.

```

1085 \def\@tempa{appendix}
1086 \ifx\@tempa\@currentenv
1087 \expandafter\@appendix@env
1088 \fi
1089 }

```

Here we deal with `\begin{appendix}[\langle app-name \rangle]`

```

1090 \newcommand\app@prefix@section{}
1091 \newcommand\@appendix@env[1][Appendix]{%
1092 \renewcommand\@secntformat[1]{\csname app@prefix@##1\endcsname
1093 \csname the##1\endcsname\quad}%
1094 \renewcommand\app@prefix@section{#1 }%
1095 }

```

Ending an appendix environment is pretty trivial...

```
1096 \let\endappendix\relax
```

3.16 References

If the sections aren't numbered, the natural tendency of the author to cross-reference (which, after all, is one of the things L^AT_EX is for ever being advertised as being good at) can cause headaches for the editor. (Yes it can; believe me ... there's always one.)

The following command is used by each of the sectioning commands to make a following `\ref` command bloop at the author. Even if the author then ignores the complaint, the poor old editor may find the offending `\label` rather more easily.

(Note that macro name is to be read as “*noli me label*” (I don't know the mediaeval Latin for ‘label’).

Comment To come (perhaps): detection of the act of labelling, and an analogue of `\ifG@refundefined` for this sort of label

```
1097 \def\TB@nolimelabel{%
1098   \def\@currentlabel{%
1099     \protect\TBWarning{%
1100       Invalid reference to numbered label on page \thepage
1101       \MessageBreak made%
1102     }%
1103     \textbf{?!?}%
1104   }%
1105 }
```

3.17 Title references

This is a first cut at a mechanism for referencing by the title of a section; it employs the delightfully simple idea Sebastian Rahtz has in the `nameref` package (which is part of `hyperref`). As it stands, it lacks some of the bells and whistles of the original, but they could be added; this is merely proof-of-concept.

The name label comes from the moveable bit of the section argument; we subvert the `\@sect` and `\@ssect` commands (the latter deals with starred section commands) to grab the relevant argument.

```
1106 \let\TB@@sect\@sect
1107 \let\TB@@ssect\@ssect
1108 \def\@sect#1#2#3#4#5#6[#7]#8{%
1109   \def\@currentlabelname{#7}%
1110   \TB@@sect{#1}{#2}{#3}{#4}{#5}{#6}[{#7}]{#8}%
1111 }
1112 \def\@ssect#1#2#3#4#5{%
1113   \def\@currentlabelname{#5}%
1114   \TB@@ssect{#1}{#2}{#3}{#4}{#5}%
1115 }
```

The `\newlabel` command that gets written to the `.aux` file needs to be redefined to have three components to its argument:

```
1116 \def\label#1{%
```

```

1117 \@bsphack
1118 \let\label\@gobble
1119 \let\index\@gobble
1120 \if@filesw
1121   \protected@write\@auxout{%
1122     {\string\newlabel{#1}{%
1123       {\@currentlabel}{\thepage}{\@currentlabelname}}}%
1124   }%
1125 \fi
1126 \@esphack
1127 }%
1128 }

```

Of course, in the case of a sufficiently mad author, there will be no sectioning commands, so we need to

```

1129 \let\@currentlabelname\@empty

```

References are pretty straightforward, but need three extra utility commands (analogous to the `\@firstof...`, etc., defined in the kernel).

```

1130 \DeclareRobustCommand\ref[1]{\expandafter\@setref
1131   \csname r@#1\endcsname\@firstofthree{#1}}
1132 \DeclareRobustCommand\pageref[1]{\expandafter\@setref
1133   \csname r@#1\endcsname\@secondofthree{#1}}
1134 \DeclareRobustCommand\nameref[1]{\expandafter\@setref
1135   \csname r@#1\endcsname\@thirdofthree{#1}}
1136 \long\def\@firstofthree#1#2#3{#1}
1137 \long\def\@secondofthree#1#2#3{#2}
1138 \long\def\@thirdofthree#1#2#3{#3}

```

3.18 Float captions

By analogy with what we’ve just done to section titles and the like, we now do our best to discourage hyphenation within captions. We also typeset them in `\small`.

```

1139 \long\def\@makecaption#1#2{%
1140   \vskip\abovecaptionskip
1141   \box\@tempboxa{\small #1: #2}%
1142   \ifdim \wd\@tempboxa >\hsize
1143     \raggedright\hyphenpenalty=\@M \parindent=1em
1144     {\small \noindent #1: #2\par}%
1145   \else
1146     \global \@minipagefalse
1147     \hb@xt@\hsize{\hfil\box\@tempboxa\hfil}%
1148   \fi
1149   \vskip\belowcaptionskip}

```

Also use `\small` for the caption labels, and put the label itself (Figure xx) in bold.

```

1150 \def\fnun@figure{\small \bf \figurename\nobreakspace\thefigure}
1151 \def\fnun@table{\small \bf \tablename\nobreakspace\thetable}

```

3.19 Size changing commands

Apart from their ‘normal’ effects, these commands change the glue around displays.

```

1152 \renewcommand\normalsize{%
1153   \@setfontsize\normalsize\@xpt\@xipt
1154   \abovedisplayskip=3\p@\@plus 3\p@\@minus\p@
1155   \belowdisplayskip=\abovedisplayskip
1156   \abovedisplayshortskip=\z@\@plus 3\p@
1157   \belowdisplayshortskip=\p@\@plus 3\p@\@minus\p@
1158 }
1159
1160 \renewcommand\small{%
1161   \@setfontsize\small\@ixpt{11}%
1162   \abovedisplayskip=2.5\p@\@plus 2.5\p@\@minus\p@
1163   \belowdisplayskip=\abovedisplayskip
1164   \abovedisplayshortskip=\z@\@plus 2\p@
1165   \belowdisplayshortskip=\p@\@plus 2\p@\@minus\p@
1166 }
1167 \renewcommand\footnotesize{%
1168   \@setfontsize\footnotesize\@viipt{9.5}%
1169   \abovedisplayskip=3\p@\@plus 3\p@\@minus\p@
1170   \belowdisplayskip=\abovedisplayskip
1171   \abovedisplayshortskip=\z@\@plus 3\p@
1172   \belowdisplayshortskip=\p@\@plus 3\p@\@minus\p@
1173 }

```

3.20 Lists and other text inclusions

```

1174 \def\@listi{%
1175   \leftmargin\leftmargini\parsep=\p@\@plus\p@\@minus\p@
1176   \itemsep=\parsep
1177   \listparindent=1em
1178 }
1179
1180 \def\@listii{%
1181   \leftmargin\leftmarginii
1182   \labelwidth=\leftmarginii \advance\labelwidth-\labelsep
1183   \topsep=2\p@\@plus\p@\@minus\p@
1184   \parsep=\p@\@plus\p@\@minus\p@
1185   \itemsep=\parsep
1186   \listparindent=1em
1187 }
1188
1189 \def\@listiii{%
1190   \leftmargin=\leftmarginiii
1191   \labelwidth=\leftmarginiii \advance\labelwidth-\labelsep
1192   \topsep=\p@\@plus\p@\@minus\p@
1193   \parsep=\z@
1194   \itemsep=\topsep
1195   \listparindent=1em
1196 }
1197 \def\quote{\list{}{\rightmargin.5\leftmargin}\item[]}

```

From Dominik Wujastyk's font article. First paragraph of a quotation will not be indented, and right margin is decreased for narrow columns.

```

1198 \renewcommand{\quotation}{\list{}{\listparindent 1.5em
1199   \rightmargin.5\leftmargin\parsep \z@\@plus\p@}\item[]}

```

3.21 Some fun with verbatim

The plain *TUGboat* style allows [optional] arguments to its `\verbatim` command. This will allow the author (or editor) to specify a range of exciting features; we would definitely like the numbered verbatim style for code (that facility is reserved for a future version of this package), and the present little bit of code imposes the `\ruled` option on the built-in `verbatim` environment. (Note that we don't yet deal with `verbatim*`, which is in itself an option to the plain original.)

We start by saving various bits and bobs whose operation we're going to subvert.

```
1200 %\let\@TB@verbatim\@verbatim
1201 \let\@TBverbatim\verbatim
1202 \let\@TBendverbatim\endverbatim
```

Impose an optional argument on the environment.

We start the macro with `\par` to avoid a common error: if the optional argument is `\small`, and the document has no blank line before the verbatim block, we don't want that preceding paragraph to be set with `\small`'s line spacing.

(`\obeylines` added to prevent the `\futurelet` from propagating into the body of the verbatim, thus causing lines that start with odd characters (like `#` or even `\`) to behave peculiarly.)

```
1203 \def\verbatim{\par\obeylines
1204   \futurelet\reserved@a\@switch@sqbverbatim}
1205 \def\@switch@sqbverbatim{\ifx\reserved@a[%]
1206   \expandafter\@sqbverbatim\else
1207   \def\reserved@b{\@sqbverbatim[]}\expandafter\reserved@b\fi}
1208 \def\@sqbverbatim[#1]{%
```

The optional argument consists entirely of functions that modify the appearance of the environment. Following the plain style, we define the functions we can execute in the optional argument here.

The command `\ruled` tells us that there should be rules above and below the verbatim block.

```
1209   \def\ruled{\let\if@ruled\iftrue}%
```

Then we just execute the ones we've got, and relay to a (hacked) copy of the built-in environment.

```
1210   #1\@TBverbatim}
```

The built-in environment itself relays to `\@verbatim`, which we've subverted to impose our views on appearance.

```
1211 \def\@verbatim{%
```

First, we deal with `\ruled`:

```
1212   \if@ruled\trivlist\item\hrule\kern5\p@\nobreak\fi
```

Now, the code out of the original verbatim environment:

```
1213   \trivlist \item\relax
1214   \if@minipage\else\vskip\parskip\fi
1215   \leftskip\@totalleftmargin\rightskip\z@skip
1216   \parindent\z@\parfillskip\@flushglue\parskip\z@skip
1217   \@@par
1218   \@tempwafalse
```

```

1219 \def\par{%
1220   \if@tempswa
1221     \leavevmode \null \@@par\penalty\interlinepenalty
1222   \else
1223     \@tempswatrue
1224     \ifhmode\@@par\penalty\interlinepenalty\fi
1225   \fi}%
1226 \obeylines \verbatim@font \@noligs
1227 \let\do\@makeother \dospecials
1228 \everypar \expandafter{\the\everypar \unpenalty}%
1229 }%

```

To end the environment, we do everything in reverse order: relay via the copy we made of `\endverbatim`, and then finish off the option changes (again `\ruled` only, so far).

```

1230 \def\endverbatim{\@TBendverbatim
1231   \if@ruled\kern5\p@hrule\endtrivlist\fi}

   \enablemetacode simply typesets3 something that looks (verbatim) like:
   <meta-text>

as:
   <meta-text>

1232 {\makeactive<
1233   \gdef<#1>{\reset@font\ensuremath{\langle}%
1234     \textit{#1}%
1235     \ensuremath{\rangle}}}
1236 }

```

Finally, we define the `\if` used by the `\ruled` option

```

1237 \let\if@ruled\iffalse

```

3.22 Bibliography

This is more or less copied verbatim from Glenn Paulley's *chicago.sty* (gnpaulle@bluebox.uwaterloo.ca). It produces an author-year citation style bibliography, using output from the `BIBTEX` style file based on that by Patrick Daly. It needs extra macros beyond those in standard `LATEX` to function properly. The form of the bibitem entries is:

```

\bibitem[\protect\citeauthoryear{Jones, Baker, and Smith}
{Jones et al.}{1990}{key}]...

```

The available citation commands are:

<code>\cite{key}</code>	→ (Jones, Baker, and Smith 1990)
<code>\citeA{key}</code>	→ (Jones, Baker, and Smith)
<code>\citeNP{key}</code>	→ Jones, Baker, and Smith 1990
<code>\citeANP{key}</code>	→ Jones, Baker, and Smith
<code>\citeN{key}</code>	→ Jones, Baker, and Smith (1990)
<code>\shortcite</code>	→ (Jones et al. 1990)
<code>\citeyear</code>	→ (1990)
<code>\citeyearNP</code>	→ 1990

³Or will simply typeset, when we get around to implementation proper

First of all (after checking that we're to use Harvard citation at all), make a copy of L^AT_EX's default citation mechanism.

```
1238 \if@Harvardcite
1239 \let\@internalcite\cite
```

Normal forms.

```
1240 \def\cite{\def\@citesep{-1000}}%
1241   \def\@cite##1##2{##1\if@tempswa , ##2\fi}}%
1242   \def\citeauthoryear##1##2##3{##1, ##3}\@internalcite}
1243 \def\citeNP{\def\@citesep{-1000}}%
1244   \def\@cite##1##2{##1\if@tempswa , ##2\fi}}%
1245   \def\citeauthoryear##1##2##3{##1, ##3}\@internalcite}
1246 \def\citeN{\def\@citesep{-1000}}%
1247   \def\@cite##1##2{##1\if@tempswa , ##2\else{}}\fi}}%
1248   \def\citeauthoryear##1##2##3{##1 (##3)\@citedata}
1249 \def\citeA{\def\@citesep{-1000}}%
1250   \def\@cite##1##2{##1\if@tempswa , ##2\fi}}%
1251   \def\citeauthoryear##1##2##3{##1}\@internalcite}
1252 \def\citeANP{\def\@citesep{-1000}}%
1253   \def\@cite##1##2{##1\if@tempswa , ##2\fi}}%
1254   \def\citeauthoryear##1##2##3{##1}\@internalcite}
```

Abbreviated forms (using *et al.*)

```
1255 \def\shortcite{\def\@citesep{-1000}}%
1256   \def\@cite##1##2{##1\if@tempswa , ##2\fi}}%
1257   \def\citeauthoryear##1##2##3{##2, ##3}\@internalcite}
1258 \def\shortciteNP{\def\@citesep{-1000}}%
1259   \def\@cite##1##2{##1\if@tempswa , ##2\fi}}%
1260   \def\citeauthoryear##1##2##3{##2, ##3}\@internalcite}
1261 \def\shortciteN{\def\@citesep{-1000}}%
1262   \def\@cite##1##2{##1\if@tempswa , ##2\else{}}\fi}}%
1263   \def\citeauthoryear##1##2##3{##2 (##3)\@citedata}
1264 \def\shortciteA{\def\@citesep{-1000}}%
1265   \def\@cite##1##2{##1\if@tempswa , ##2\fi}}%
1266   \def\citeauthoryear##1##2##3{##2}\@internalcite}
1267 \def\shortciteANP{\def\@citesep{-1000}}%
1268   \def\@cite##1##2{##1\if@tempswa , ##2\fi}}%
1269   \def\citeauthoryear##1##2##3{##2}\@internalcite}
```

When just the year is needed:

```
1270 \def\citeyear{\def\@citesep{-1000}}%
1271   \def\@cite##1##2{##1\if@tempswa , ##2\fi}}%
1272   \def\citeauthoryear##1##2##3{##3}\@citedata}
1273 \def\citeyearNP{\def\@citesep{-1000}}%
1274   \def\@cite##1##2{##1\if@tempswa , ##2\fi}}%
1275   \def\citeauthoryear##1##2##3{##3}\@citedata}
```

Place commas in-between citations in the same `\citeyear`, `\citeyearNP`, `\citeN`, or `\shortciteN` command. Use something like `\citeN{ref1,ref2,ref3}` and `\citeN{ref4}` for a list.

```
1276 \def\@citedata{%
1277   \ifnextchar [{\@tempswatrue\@citedatax}%
1278               {\@tempswafalse\@citedatax[]}%
1279 }
1280
```

```

1281 \def\@citedatax[#1]#2{%
1282 \if@filesw\immediate\write\@auxout{\string\citation{#2}}\fi%
1283 \def\@citea{}\@cite{\@for\@citeb:=#2\do%
1284   {\@citea\def\@citea{, }\@ifundefined% by Young
1285     {b\@citeb}{\bf ?}%
1286     \@warning{Citation '\@citeb' on page \thepage \space undefined}}%
1287 {\csname b\@citeb\endcsname}}{#1}}%

```

Don't box citations, separate with ; and a space; Make the penalty between citations negative: a good place to break.

```

1288 \def\@citex[#1]#2{%
1289 \if@filesw\immediate\write\@auxout{\string\citation{#2}}\fi%
1290 \def\@citea{}\@cite{\@for\@citeb:=#2\do%
1291   {\@citea\def\@citea{; }\@ifundefined% by Young
1292     {b\@citeb}{\bf ?}%
1293     \@warning{Citation '\@citeb' on page \thepage \space undefined}}%
1294 {\csname b\@citeb\endcsname}}{#1}}%

```

No labels in the bibliography.

```
1295 \def\@biblabel#1{}
```

Set length of hanging indentation for bibliography entries.

```

1296 \newlength{\bibhang}
1297 \setlength{\bibhang}{2em}

```

Indent second and subsequent lines of bibliographic entries. Stolen from openbib.sty: \newblock is set to {}.

```

1298 \newdimen\bibindent
1299 \bibindent=1.5em
1300 \@ifundefined{refname}%
1301   {\newcommand{\refname}{References}}%
1302   {}%

```

For safety's sake, suppress the \TB@startsection warnings here...

```

1303 \def\thebibliography#1{%
1304   \let\TB@startsection\TB@safe@startsection
1305   \section*{\refname
1306     \@mkboth{\uppercase{\refname}}{\uppercase{\refname}}}%
1307   \list{[\arabic{enumi}]}{%
1308     \labelwidth\z@ \labelsep\z@
1309     \leftmargin\bibindent
1310     \itemindent -\bibindent
1311     \listparindent \itemindent
1312     \parsep \z@
1313     \usecounter{enumi}}
1314   \def\newblock{}
1315   \BibJustification
1316   \sfcode'\.=1000\relax
1317 }

```

etal Other bibliography odds and ends.

```

\bibentry 1318 \def\etal{et\,al.\@}
1319 \def\bibentry{%
1320   \smallskip
1321   \hangindent=\parindent

```

```

1322 \hangafter=1
1323 \noindent
1324 \sloppy
1325 \clubpenalty500 \widowpenalty500
1326 \frenchspacing
1327 }

```

`\bibliography` Changes made to accommodate TUB file naming conventions

```

\bibliographystyle 1328 \def\bibliography#1{%
1329 \if@files
1330 \immediate\write\@auxout{\string\bibdata{\@tubfilename{#1}}}%
1331 \fi
1332 \input{\jobname.bbl}%
1333 }
1334 \def\bibliographystyle#1{%
1335 \if@files
1336 \immediate\write\@auxout{\string\bibstyle{\@tubfilename{#1}}}%
1337 \fi
1338 }

```

`\thebibliography` If the user's asked to use L^AT_EX's default citation mechanism (using the `rawcite` option), we still need to play with `\TB@startsection`: this is a boring fact of life...

We also patch `\sloppy` in case there's a need for alternative justification of the body of the bibliography.

```

1339 \else
1340 \let\TB@thebibliography\thebibliography
1341 \def\thebibliography{%
1342 \let\TB@startsection\TB@safe@startsection
1343 \let\sloppy\BibJustification
1344 \TB@thebibliography}
1345 \fi

```

`\BibJustification` `\BibJustification` defines how the bibliography is to be justified. The Lamport default is simply “`\sloppy`”, but we regularly find some sort of ragged right setting is appropriate. (`\BibJustification` is nevertheless reset to its default value at the start of a paper.)

```

\SetBibJustification
\TB@sloppy
1346 \let\TB@sloppy\sloppy
1347 \let\BibJustification\TB@sloppy
1348 \newcommand{\SetBibJustification}[1]{%
1349 \renewcommand{\BibJustification}{#1}%
1350 }
1351 \ResetCommands\expandafter{\the\ResetCommands
1352 \let\BibJustification\TB@sloppy
1353 }

```

3.23 Registration marks

```

1354 \def\HorzR@gisterRule{\vrule \@height 0.2\p@ \@depth\z@ \@width 0.5in }
1355 \def\DownShortR@gisterRule{\vrule \@height 0.2\p@ \@depth 1pc \@width 0.2\p@ }
1356 \def\UpShortR@gisterRule{\vrule \@height 1pc \@depth\z@ \@width 0.2\p@ }

```

“T” marks centered on top and bottom edges of paper

```

1357 \def\ttopregister{\dlap{%
1358     \hb@xt@\trimwd{\HorzR@gisterRule \hfil \HorzR@gisterRule
1359         \HorzR@gisterRule \hfil \HorzR@gisterRule}%
1360     \hb@xt@\trimwd{\hfil \DownShortR@gisterRule \hfil}}}
1361 \def\tbotregister{\ulap{%
1362     \hb@xt@\trimwd{\hfil \UpShortR@gisterRule \hfil}%
1363     \hb@xt@\trimwd{\HorzR@gisterRule \hfil \HorzR@gisterRule
1364         \HorzR@gisterRule \hfil \HorzR@gisterRule}}}
1365 \def\topregister{\ttopregister}
1366 \def\botregister{\tbotregister}

```

3.24 Running heads

```

1367 \def \rtitlex{\def\texttub##1{{\normalsize\textrm{##1}}}\TUB, \volx }
1368 \def\PrelimDraftfooter{%
1369     \dlap{\kern\textheight\kern3pc
1370         \rlap{\hb@xt@\pagewd{\midrtitle\hfil\midrtitle}}}
1371     }}
1372

```

registration marks; these are temporarily inserted in the running head

```

1373 \def\MakeRegistrationMarks{}
1374 \def\UseTrimMarks{%
1375     \def\MakeRegistrationMarks{%
1376         \ulap{\rlap{%
1377             \vbox{\dlap{\vbox to\trimlgt{\vfil\botregister}}}%
1378             \topregister\vskip \headmargin \vskip 10\p@}}}%
1379     }
1380
1381 \def\@oddhead{\MakeRegistrationMarks\PrelimDraftfooter
1382     \normalsize\csize normalshape\endcsize\rm
1383     \rtitlex\quad\midrtitle \hfil \thepage}
1384 \def\@evenhead{\MakeRegistrationMarks\PrelimDraftfooter
1385     \normalsize\csize normalshape\endcsize\rm
1386     \thepage\hfil\midrtitle\quad\rtitlex}
1387 \def\@oddfoot{}
1388 \def\@evenfoot{}
1389 \def\ps@headings{}
1390 \pagestyle{headings}

```

3.25 Output routine

Modified to alter `\brokenpenalty` across columns

Comment We're playing with fire here: for example, `\outputdblcol` has changed in L^AT_EX 2_ε for 1995/06/01 (with the use of `\hb@xt@`). *This* time there's no semantic change, but...

```

1391 \def\@outputdblcol{\if@firstcolumn \global\@firstcolumnfalse
1392     \global\setbox\@leftcolumn\box\@outputbox
1393     \global\brokenpenalty10000
1394     \else \global\@firstcolumntrue
1395         \global\brokenpenalty100
1396         \setbox\@outputbox\vbox{\hb@xt@\textwidth{\hb@xt@\columnwidth
1397             {\box\@leftcolumn \hss}\hfil \vrule \@width\columnseprule\hfil
1398             \hb@xt@\columnwidth{\box\@outputbox \hss}}}\@combinedblfloats

```

```

1399      \@outputpage \begingroup \@dblfloatplacement \@startdblcolumn
1400      \whilesw\if@fcolmade \fi{\@outputpage\@startdblcolumn}\endgroup
1401      \fi}

```

3.26 Font-related definitions and machinery

These are mostly for compatibility with plain `tugboat.sty`

```

1402 \newif\ifFirstPar      \FirstParfalse
1403 \def\smc{\sc}
1404 \def\ninepoint{\small}
1405 \</classtail>

```

`\SMC` *isn't* small caps — Barbara Beeton says she thinks of it as “big small caps”. She says (modulo capitalisation of things...):

For the things it's used for, regular small caps are not appropriate — they're too small. Real small caps are appropriate for author names (and are so used in continental bibliographies), section headings, running heads, and, on occasion, words to which some emphasis is to be given. `\SMC` was designed to be used for acronyms and all-caps abbreviations, which look terrible in small caps, but nearly as bad in all caps in the regular text size. The principle of using “one size smaller” than the text size is similar to the design of caps in German — where they are smaller relative to lowercase than are caps in fonts intended for English, to improve the appearance of regular text in which caps are used at the heads of all nouns, not just at the beginnings of sentences.

We define this in terms of the memory of the size currently selected that's maintained in `\@currsz`: if the user does something silly re. selecting fonts, we'll get the wrong results. The following code is adapted from an old version of `relsize.sty` by Donald Arseneau and Matt Swift. (Note that the order of examination of `\@currsz` is to get the commonest cases out of the way first.)

```

1406 \<common>
1407 \DeclareRobustCommand\SMC{%
1408   \ifx\@currsz\normalsize\small\else
1409   \ifx\@currsz\small\footnotesize\else
1410   \ifx\@currsz\footnotesize\scriptsize\else
1411   \ifx\@currsz\large\normalsize\else
1412   \ifx\@currsz\Large\large\else
1413   \ifx\@currsz\LARGE\Large\else
1414   \ifx\@currsz\scriptsize\tiny\else
1415   \ifx\@currsz\tiny\tiny\else
1416   \ifx\@currsz\huge\LARGE\else
1417   \ifx\@currsz\Huge\huge\else
1418   \small\SMC@unknown@warning
1419 \fi\fi\fi\fi\fi\fi\fi\fi\fi\fi
1420 }
1421 \newcommand\SMC@unknown@warning{\TBWarning{\string\SMC: nonstandard
1422   text font size command -- using \string\small}}
1423 \newcommand\textSMC[1]{\SMC #1}

```

The `\acro` command uses `\SMC` as it was originally intended. Note that, since most of these things are uppercase-only names, it fiddles with the `spacefactor` after inserting its text.

```

1424 \newcommand\acro[1]{\textSMC{#1}\@}
1425 \</common>

```

3.27 Miscellaneous definitions

`\EdNote` allows the editor to enter notes in the text of a paper. If the command is given something that appears like an optional argument, the entire text of the note is placed in square brackets. (Yes, it really is!)

```

1426 \*classtail
1427 \def\xEdNote{ {\EdNoteFont Editor's note:\enspace }}
1428 \def \EdNote{\@ifnextchar[%]
1429   {%
1430     \ifvmode
1431       \smallskip\noindent\let\@EdNote@\@EdNote@v
1432     \else
1433       \unskip\quad\def\@EdNote@{\unskip\quad}%
1434     \fi
1435     \@EdNote
1436   }%
1437   \xEdNote
1438 }
1439 \long\def\@EdNote[#1]{%
1440   [\thinspace\xEdNote\ignorespaces
1441   #1%
1442   \unskip\thinspace]%
1443   \@EdNote@
1444 }
1445 \def\@EdNote@v{\par\smallskip}

```

Macros for Mittelbach's self-documenting style

```

1446 \def\SelfDocumenting{%
1447   \setlength\textwidth{31pc}
1448   \onecolumn
1449   \parindent \z@
1450   \parskip 2\p@\@plus\p@\@minus\p@
1451   \oddsidemargin 8pc
1452   \evensidemargin 8pc
1453   \marginparwidth 8pc
1454   \toks@ \expandafter{\@oddhead}%
1455   \xdef\@oddhead{\hss\hb@xt@\pagewd{\the\toks@}}%
1456   \toks@ \expandafter{\@evenhead}%
1457   \xdef\@evenhead{\hss\hb@xt@\pagewd{\the\toks@}}%
1458   \def\ps@titlepage{%
1459   }
1460   \def\ps@titlepage{}
1461
1462   \long\def\@makefnmark#1{\parindent 1em\noindent\hb@xt@2em{}}%
1463   \llap{\@makefnmark}\null$\mskip5mu$#1}
1464
1465   %% \long\def\@makefnmark#1{\parindent 1em
1466   %%   \noindent
1467   %%   \hb@xt@2em{\hss\@makefnmark}%
1468   %%   \hskip0.27778\fontdimen6\textfont\z@relax
1469   %%   #1%

```

```

1470 %% }

\creditfootnote Sometimes we want the label "Editor's Note:", sometimes not.
\supportfootnote
1471 \def\creditfootnote{\nomarkfootnote\xEdNote}
1472 \def\supportfootnote{\nomarkfootnote\relax}

General macro \nomarkfootnote to make a footnote without a reference
mark, etc. #1 is an extra command to insert, #2 the user's text.
1473 \gdef\nomarkfootnote#1#2{\begingroup
1474   \def\thefootnote{}%
1475   % no period, please, also no fnmark.
1476   \def\@makefntext##1{##1}%
1477   \footnotetext{\noindent #1#2}%
1478   \endgroup
1479 }

```

3.28 Initialization

If we're going to use Harvard-style bibliographies, we set up the bibliography style: the user doesn't get any choice.

```

1480 \if@Harvardcite
1481   \AtBeginDocument{%
1482     \bibliographystyle{ltugbib}%
1483   }
1484 \fi
1485 \authornumber\z@
1486 \let\@signature\@defaultsignature
1487 \InputIfFileExists{ltugboat.cfg}{\TBInfo{Loading ltugboat
1488                                           configuration information}}{}
1489 </classtail>

```

4 L^AT_EX 2_ε Proceedings class

\@tugclass Make the code of `ltugboat.cls` (when we load it) say it's really us:

```

1490 (*ltugproccls)
1491 \def\@tugclass{ltugproc}

```

\if@proctw@column For the case where we're preparing the preprints, we may not have been able to prepare submissions for typesetting in two columns. In this case, therefore, we may need the option `onecolumn`, that will suppress the use of `twocolumn` setting within the article.

```

1492 \newif\if@proctw@column \@proctw@columntrue
1493 \DeclareOption{onecolumn}{\@proctw@columnfalse}

```

\if@proc@sober TUG'96 proceedings switched to more sober headings still; so the `tug95` option establishes the original state. In the absence of any other guidance, we use the '96 for TUG'97 proceedings, but also allow numbering of sections.

```

1494 \newif\if@proc@sober
1495 \newif\if@proc@numerable
1496 \DeclareOption{tug95}{%
1497   \@proc@soberfalse

```

```

1498 \@proc@numerablefalse
1499 }
1500 \DeclareOption{tug96}{%
1501 \@proc@sobertrue
1502 \@proc@numerablefalse
1503 }
1504 \DeclareOption{tug97}{%
1505 \@proc@sobertrue
1506 \@proc@numerabletrue
1507 }
1508 \DeclareOption{tug2002}{%
1509 \@proc@sobertrue
1510 \@proc@numerabletrue
1511 \let\if@proc@numbersec\iftrue
1512 \PassOptionsToClass{numbersec}{ltugboat}%
1513 }

```

`\if@proc@numbersec` If we're in a class that allows section numbering (the actual check occurs after `\ProcessOptions`, we can have the following:

```

1514 \DeclareOption{numbersec}{\let\if@proc@numbersec\iftrue
1515 \PassOptionsToClass{numbersec}{ltugboat}%
1516 }
1517 \DeclareOption{nonumber}{\let\if@proc@numbersec\iffalse
1518 \PassOptionsToClass{nonumber}{ltugboat}%
1519 }

```

`\ifTB@title` If we have a paper for which we want to create a detached title, with an editor's note, and then set the paper separately, we use option `notitle`.

```

1520 \newif\ifTB@title
1521 \DeclareOption{title}{\TB@titletrue}
1522 \DeclareOption{notitle}{\TB@titlefalse}
1523 \AtBeginDocument{\stepcounter{page}}

```

There are these people who seem to think `tugproc` is an option as well as a class...

```

1524 \DeclareOption{tugproc}{%
1525 \ClassWarning{\@tugclass}{Option \CurrentOption\space ignored}%
1526 }

```

All other options are simply passed to `ltugboat`...

```

1527 \DeclareOption*{\PassOptionsToClass{\CurrentOption}{ltugboat}}

```

If there's a `tugproc` defaults file, input it now: it may tell us which year we're to perform for... (Note: this code *is* millenium-proof. It's not terribly classy for years beyond 2069, but then I'm not going to be around then—this will be an interesting task for a future `TeX`ie...)

```

1528 \InputIfFileExists{\@tugclass.cfg}{\ClassInfo{ltugproc}%
1529 \Loading ltugproc configuration information}}{}
1530 \@ifundefined{TUGprocExtraOptions}{%
1531 \let\TUGprocExtraOptions\@empty}%
1532 {\edef\TUGprocExtraOptions{\TUGprocExtraOptions}}

```


`\tugProcYear` Now work out what year it is

```
1533 \@tempcnta\year
1534 \ifnum\@tempcnta<2000
1535   \divide\@tempcnta by100
1536   \multiply\@tempcnta by100
1537   \advance\@tempcnta-\year
1538   \@tempcnta-\@tempcnta
1539 \fi
```

And use that for calculating a year for us to use.

```
1540 \edef\@tempa{\noexpand\providecommand\noexpand\tugProcYear
1541             {\ifnum10>\@tempcnta0\fi the\@tempcnta}}
1542 \@tempa
1543 \ClassInfo{ltugproc}{Class believes year is
1544   \expandafter\ifnum\tugProcYear<2000 19\fi\tugProcYear
1545   \@gobble}
```

Check that this is a “sensible year” (one for which we have a class option defined). If not, make it a ‘suitable’ year, in particular, one that allows numbering sections.

```
1546 \expandafter\ifx\csname ds@tug\tugProcYear\endcsname\relax
1547   \def\tugProcYear{2002}\fi
```

Now execute the default ‘year’ option and get on with processing. Note that this command gets ignored if the configuration file specifies a silly year.

```
1548 \ExecuteOptions{tug\tugProcYear,title\TUGprocExtraOptions}
1549 \ProcessOptions
1550 \if@proc@numbersec
1551   \if@proc@numerable
1552     \else
1553       \ClassWarning{\@tugclass}{This year’s proceedings may not have
1554         numbered sections}%
1555   \fi
1556 \fi
```

Call `ltugboat`, adding whichever section numbering option is appropriate

```
1557 \LoadClass[\if@proc@numbersec numbersec\else nonumber\fi]{ltugboat}
```

4.1 Proceedings titles

`\maketitle` There’s no provision for ‘section titles’ in proceedings issues, as there are in *TUG-boat* proper. Note the tedious L^AT_EX bug-avoidance in the `\@TB@test@document` macro.

```
1558 \def\maketitle{%
1559   \begingroup
1560     \ifshortAuthor\else
1561       \global\let\rhAuthor\@empty
1562       \def\g@addto\rhAuthor##1{%
1563         \begingroup
1564           \toks@\expandafter{\rhAuthor}%
```

```

1565         \let\thanks\@gobble
1566         \protected@xdef\rhAuthor{\the\toks@##1}%
1567     \endgroup
1568 }%
1569 \getauthorlist\g@addto@rhAuthor
1570 \fi

now, the real business of setting the title
1571 \ifTB@title
1572     \setcounter{footnote}{0}%
1573     \renewcommand\thefootnote{\@fnsymbol\c@footnote}%
1574     \if@proctw@column
1575         \twocolumn[\@maketitle]%
1576     \else
1577         \onecolumn
1578         \global\@topnum\z@
1579         \@maketitle
1580     \fi
1581     \@thanks
1582     \thispagestyle{TBproctitle}
1583 \fi
1584 \endgroup
1585 \TB@madetitletrue
1586 }
1587 \newif\ifTB@madetitle \TB@madetitlefalse

```

`\@TB@test@document` `\@TB@test@document` checks to see, at entry to `\maketitle`, if we've had `\begin{document}`. See L^AT_EX bug report latex/2212, submitted by Robin Fairbairns, for details.

```

1588 \def\@TB@test@document{%
1589     \edef\@tempa{\the\everypar}
1590     \def \@tempb{\@nodocument}
1591     \ifx \@tempa\@tempb
1592         \@nodocument
1593     \fi
1594 }

```

`\AUTHORfont` Define the fonts for titles and things

```

\TITLEfont 1595 \def\AUTHORfont {\large\rmfamily\mdseries\upshape}
\addressfont 1596 \def\TITLEfont {\Large\rmfamily\mdseries\upshape}
\netaddrfont 1597 \def\addressfont{\small\rmfamily\mdseries\upshape}
1598 \def\netaddrfont{\small\ttfamily\mdseries\upshape}

```

`\aboveauthorskip` Some stretchable stuff to permit variability in page layout.

```

\belowauthorskip 1599 \newskip\aboveauthorskip \aboveauthorskip=18\p@ \@plus4\p@
\belowabstractskip 1600 \newskip\belowauthorskip \belowauthorskip=\aboveauthorskip
1601 \newskip\belowabstractskip \belowabstractskip=14\p@ \@plus3\p@ \@minus2\p@

```

`\@maketitle` The body of `\maketitle`

```

1602 \def\@maketitle{%
1603     {\parskip\z@
1604     \frenchspacing
1605     \TITLEfont\raggedright\noindent\@title\par
1606     \count@=0

```

```

1607     \loop
1608     \ifnum\count@<\authornumber
1609     \vskip\aboveauthorskip
1610     \advance\count@\@ne
1611     {\AUTHORfont\theauthor{\number\count@}\endgraf}%
1612     \addressfont\theaddress{\number\count@}\endgraf
1613     {%
1614     \allowhyphens
1615     \hangindent1.5pc
1616     \netaddrfont\thenetaddress{\number\count@}\endgraf
1617     \hangindent1.5pc
1618     \thePersonalURL{\number\count@}\endgraf
1619     }%
1620     \repeat
1621     \vskip\belowauthorskip}%
1622     \if@abstract
1623     \centerline{\bfseries Abstract}%
1624     \vskip.5\baselineskip\rmfamily
1625     \list{}\listparindent20\p@
1626     \itemindent\z@ \leftmargin4.875pc
1627     \rightmargin\leftmargin \parsep \z@\item[]\ignorespaces
1628     \the\abstract@toks
1629     \endlist\global\@ignoretrue
1630     \fi
1631     \vskip\belowabstractskip
1632     \global\@afterindentfalse\aftergroup\@afterheading
1633 }

```

Comment This is all very weird... why we (of all people) don't allow `\thanks` currently escapes me.

This restriction simply removed 1998/01/09

```

1634 %\def\thanks#1{\@bsphack\TBWarning{\string\thanks\space
1635 %                is not supported}\@esphack}

```

`abstract` Save the contents of the abstract environment in the token register `\abstract@toks`.
`\if@abstract` We need to do this, as otherwise it may get 'typeset' (previously, it got put in a
`\abstract@toks` box) before `\begin{document}`, and experiments prove that this means our shiny new `\SMC` doesn't work in this situation.

If you need to understand the ins and outs of this code, look at the place I lifted it from: `tabularx.dtx` (in the tools bundle). The whole thing pivots on having stored the name of the 'abstract' environment in `\@abstract@`

```

1636 \newtoks\abstract@toks \abstract@toks{}
1637 \let\if@abstract\iffalse
1638 \def\abstract{%

```

we now warn unsuspecting users who provide an `abstract` environment *after* the `\maketitle` that would typeset it...

```

1639 \ifTB@madetitle
1640 \TBWarning{abstract environment after \string\maketitle}
1641 \fi
1642 \def\@abstract@{abstract}%
1643 \ifx\@currenvir\@abstract@

```

```

1644 \else
1645   \TError{\string\abstract\space is illegal:%
1646     \MessageBreak
1647     use \string\begin{\@abstract@} instead}%
1648     {\@abstract@\space may only be used as an environment}
1649 \fi
1650 \global\let\if@abstract\iftrue
1651 {\ifnum0='}\fi
1652 \@abstract@getbody}
1653 \let\endabstract\relax

    \@abstract@getbody gets chunks of the body (up to the next occurrence of
    \end) and appends them to \abstract@toks. It then uses \@abstract@findend
    to detect whether this \end is followed by {abstract}

1654 \long\def\@abstract@getbody#1\end{%
1655   \global\abstract@toks\expandafter{\the\abstract@toks#1}%
1656   \@abstract@findend}

```

Here we've got to \end in the body of the abstract. \@abstract@findend takes the 'argument' of the \end do its argument.

```

1657 \def\@abstract@findend#1{%
1658   \def\@tempa{#1}%

```

If we've found an 'end' to match the 'begin' that we started with, we're done with gathering the abstract up; otherwise we stuff the end itself into the token register and carry on.

```

1659   \ifx\@tempa\@abstract@
1660     \expandafter\@abstract@end
1661   \else

```

It's not \end{abstract} — check that it's not \end{document} either (which signifies that the author's forgotten about ending the abstract)

```

1662   \def\@tempb{document}%
1663   \ifx\@tempa\@tempb
1664     \TError{\string\begin{\@abstract@}
1665       ended by \string\end{\@tempb}}%
1666     {You've forgotten \string\end{\@abstract@}}
1667   \else
1668     \global\abstract@toks\expandafter{\the\abstract@toks\end{#1}}%
1669     \expandafter\expandafter\expandafter\@abstract@getbody
1670   \fi
1671 \fi}

```

In our case, the action at the 'proper' \end is a lot simpler than what appears in tabularx.dtx ... don't be surprised!

```

1672 \def\@abstract@end{\ifnum0='{ \fi}%
1673   \expandafter\end\expandafter{\@abstract@}}

```

\makesignature \makesignature is improper in proceedings, so we replace it with a warning (and a no-op otherwise)

```

1674 \renewcommand{\makesignature}{\TBWarning
1675   {\string\makesignature\space is invalid in proceedings issues}}

```

`\title` We redefine the `\title` command, so as to set the `\rhTitle` command at the same time. While we're at it, we redefine it to have optional arguments for use as 'short' versions, thus obviating the need for users to use the `\shortTitle` command.

```
1676 \renewcommand\title{\@dblarg\TB@title}
1677 \def\TB@title[#1]#2{\gdef\@title{#2}%
1678   \bgroup
1679     \let\thanks\@gobble
1680     \let\\\ %
1681     \protected@xdef\rhTitle{#1}%
1682   \egroup
1683 }
```

`\shortTitle` The `\rh*` commands are versions to be used in the running head of the article.
`\ifshortAuthor` Normally, they are the same things as the author and title of the article, but in the
`\shortAuthor` case that there are confusions therein, the text should provide substitutes, using the `\short*` commands.

```
1684 \def\shortTitle #1{\def\rhTitle{#1}}
1685 \newif\ifshortAuthor
1686 \def\shortAuthor #1{\def\rhAuthor{#1}\shortAuthortrue}
```

`\ps@TBproctitle` Now we define the running heads in terms of the `\rh*` commands.

```
\ps@TBproc 1687 \def\ps@TBproctitle{\let\@oddhead\MakeRegistrationMarks
\dopagecommands 1688   \let\@evenhead\MakeRegistrationMarks
\setpagecommands 1689   \TB@definefeet
\TB@definefeet 1690 }
\pfoottext 1691 \def\ps@TBproc{%
\rfoottext 1692   \def\@oddhead{\MakeRegistrationMarks
1693     {%
1694       \hfil
1695       \def\{\unskip\ \ignorespaces}%
1696       \rmfamily\rhTitle
1697     }%
1698   }%
1699   \def\@evenhead{\MakeRegistrationMarks
1700     {%
1701       \def\{\unskip\ \ignorespaces}%
1702       \rmfamily\rhAuthor
1703       \hfil
1704     }%
1705   }%
1706   \TB@definefeet
1707 }
1708
1709 \advance\footskip8\p@    % for deeper running feet
1710
1711 \def\dopagecommands{\csname @@pagecommands\number\c@page\endcsname}
1712 \def\setpagecommands#1#2{\expandafter\def\csname @@pagecommands#1\endcsname
1713   {#2}}
1714 \def\TB@definefeet{%
1715   \def\@oddfoot{\ifpreprint\pfoottext\hfil\Now\hfil\thepage
1716     \else\rfoottext\hfil\thepage\fi\dopagecommands}%
1717   \def\@evenfoot{\ifpreprint\thepage\hfil\Now\hfil\pfoottext
1718     \else\thepage\hfil\rfoottext\fi\dopagecommands}%
}
```

```

1719 }
1720
1721 \def\pfoottext{{\smc Preprint}: Proceedings of the \volyr{} Annual Meeting}
1722 \def\rfoottext{\normalfont\TUB, \volx\Dash
1723   {Proceedings of the \volyr{} Annual Meeting}}
1724
1725 \pagestyle{TBproc}

```

4.2 Section divisions

Neither sections nor subsections are numbered by default in the proceedings style: note that this puts a degree of stress on authors' natural tendency to reference sections, which is a matter that needs attention. The class option `NUMBERSEC` once again numbers the sections (and noticeably changes the layout).

```

1726 \if@proc@numbersec
1727 \else
1728   \setcounter{secnumdepth}{0}
1729 \fi

```

Otherwise, the `\section` command is pretty straightforward. However, the `\subsection` and `\subsubsection` are run-in, and we have to remember to have negative stretch (and shrink if we should in future choose to have one) on the `<afterskip>` parameter of `\@startsection`, since the whole skip is going to end up getting negated. We use `\TB@startsection` to detect inappropriate forms.

```

1730 \if@proc@numbersec
1731 \else
1732   \if@proc@sober
1733     \def\section
1734       {\TB@nolimelabel
1735        \TB@startsection{{section}%
1736                          1%
1737                          \z@%
1738                          {-8\p@\@plus-2\p@\@minus-2\p@}%
1739                          {6\p@}%
1740                          {\normalsize\bfseries\raggedright}}}
1741   \else
1742     \def\section
1743       {\TB@nolimelabel
1744        \TB@startsection{{section}%
1745                          1%
1746                          \z@%
1747                          {-8\p@\@plus-2\p@\@minus-2\p@}%
1748                          {6\p@}%
1749                          {\large\bfseries\raggedright}}}
1750   \fi
1751   \def\subsection
1752     {\TB@nolimelabel
1753      \TB@startsection{{subsection}%
1754                        2%
1755                        \z@%
1756                        {6\p@\@plus 2\p@\@minus2\p@}%
1757                        {-5\p@\@plus -\fontdimen3\the\font}%
1758                        {\normalsize\bfseries}}}

```

```

1759 \def\subsubsection
1760     {\TB@nolimelabel
1761      \TB@startsection{\subsubsection}%
1762                      3%
1763                      \parindent%
1764                      \z@%
1765                      {-5\p@\@plus -\fontdimen3\the\font}%
1766                      {\normalsize\bfseries}}}
1767 \fi
1768 \ltugproccls

```

5 Plain T_EX styles

```

1769 \tugboatsty
1770 % err...
1771 \tugboatsty
1772 \tugprocsty
1773 % err...
1774 \tugprocsty

```

6 The L^AT_EX 2_ε compatibility-mode style files

```

1775 \ltugboatsty
1776 \obsoletefile{ltugboat.cls}{ltugboat.sty}
1777 \LoadClass{ltugboat}
1778 \ltugboatsty
1779 \ltugprocsty
1780 \obsoletefile{ltugproc.cls}{ltugproc.sty}
1781 \LoadClass{ltugproc}
1782 \ltugprocsty

```

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Numbers written in *italic* refer to the page where the corresponding entry is described; numbers underlined refer to the code line of the definition; numbers in roman refer to the code lines where the entry is used.

Symbols	B	E
\@TB@test@document <u>1588</u>	\belowabstractskip <u>1599</u>	environments:
\@maketitle .. <u>930</u> , <u>1602</u>	\belowauthorskip . <u>1599</u>	abstract <u>1636</u>
\@r@maketitle <u>843</u>	\bibentry <u>1318</u>	\etal <u>1318</u>
\@sectitle@newline . <u>905</u>	\BibJustification <u>1346</u>	
\@tugclass <u>1490</u>	\bibliography <u>1328</u>	I
	\bibliographystyle <u>1328</u>	\if@abstract <u>1636</u>
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\aboveauthorskip . <u>1599</u>		\if@proc@numbersec <u>1514</u>
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ment) <u>1636</u>	\creditfootnote .. <u>1471</u>	\if@proc@sober ... <u>1494</u>
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T		
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<code>\title</code>	<u>1676</u>	<code>\TB@thebibliography</code>
<code>\TITLEfont</code>	<u>1595</u>	<code>\TB@thebibliography</code>
<code>\tugProcYear</code>	<u>1533</u>	<code>\TB@thebibliography</code>