

The `tugboat` package*

The *TUGboat* team
(Distributed by Robin Fairbairns)

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1 Document preambles

```

1 <ltugboatcls | ltugproccls | ltugcomm>\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 <ltugcomm>  \ProvidesPackage{ltugcomm}
10           [2016/11/07 v2.18
11 <ltugboatcls>           TUGboat journal class%
12 <ltugproccls>          TUG conference proceedings class%
13 <ltugboatsty | ltugprocsty> TUG compatibility package%
14 <ltugcomm>             TUGboat 'common macros' package%
15 <*dtx>
16
17 </dtx>
18           ]
19 <*dtx>
20 \newif\ifoldlongtable
21 </dtx>

```

2 Introduction

This file contains all the macros for typesetting *TUGboat* with both plain T_EX and L^AT_EX 2_ε.

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).

<code>\AllTeX</code>	(L) <code>TeX</code>
<code>\AMS</code>	American Mathematical Society
<code>\AmSTeX</code>	
<code>\aw</code>	A-W (abbreviation for Addison-Wesley)
<code>\API</code>	
<code>\AW</code>	Addison-Wesley
<code>\BibTeX</code>	
<code>\CandT</code>	Computers & Typesetting
<code>\ConTeXt</code>	Con <code>TeX</code> t
<code>\Cplusplus</code>	C++
<code>\DTD</code>	
<code>\DVD</code>	
<code>\DVI</code>	
<code>\DVIPDFMx</code>	DVIPDFM <i>x</i>
<code>\DVItOVDU</code>	DVItoVDU
<code>\ECMA</code>	
<code>\EPS</code>	
<code>\eTeX</code>	ε - <code>TeX</code>
<code>\ExTeX</code>	ε_X <code>TeX</code>
<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 <code>TeX</code>
<code>\LaTeX</code>	
<code>\LyX</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 Metafontbook
<code>\MP</code>	METAPOST
<code>\mp</code>	MetaPost (in text only: still ‘ \mp ’ in math)
<code>\OMEGA</code>	Omega ‘logo’ (Ω)
<code>\OCP</code>	Omega compiled process
<code>\OOXML</code>	
<code>\OTP</code>	Omega translation process
<code>\mtex</code>	multilingual <code>TeX</code>
<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>	TeX for the Atari ST
<code>\SVG</code>	
<code>\TANGLE</code>	
<code>\TB</code>	The TeXbook
<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>\VAX</code>	
<code>\VnTeX</code>	
<code>\VorTeX</code>	
<code>\XeT</code>	
<code>\XeTeX</code>	reflected and lowered first ‘E’
<code>\XeLaTeX</code>	with extra space before ‘L’
<code>\XML</code>	
<code>\WEB</code>	
<code>\WEAVE</code>	
<code>\WYSIWYG</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 <code>baselineskip</code> and <code>lineskip</code> 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>\midrttitle</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 <code>\TUB</code> 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>	<code>\input</code> 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 <code>\TBremarks</code> (normally suppressed)
<code>\pagexref</code>	used to write out page numbers to screen and external files
<code>\pagexrefON</code>	
<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. Hmm. . . 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}{ltugboat}
```

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}}
```

draft vs. preprint vs. final.

```
30 \newif\ifpreprint
31 \def\preprint{\preprinttrue}
32 \DeclareOption{draft}{%
33   \AtEndOfClass{%
34     \setcounter{page}{901}%
35     %
36     % Put a question mark into the page number in draft mode.
37     \let\tuborigthepage = \thepage
38     \def\thepage{%
39       \ifnum\value{page}>900
40         \textsl{?}\,\@arabic{\numexpr\the\c@page-900\relax}}%
41     \else
42       \arabic{page}%
43     \fi}%
44   %
45   \BlackBoxes
46   \def\MakeRegistrationMarks{}%
47   \PrelimDrafttrue
48 }%
49 }
50 \DeclareOption{preprint}{%
51   \preprinttrue
52 }
53 \DeclareOption{final}{%
54   \AtEndOfClass{%
55     \let\thepage=\tuborigthepage
56     \NoBlackBoxes
57     \PrelimDraftfalse
58     \@tubrunningfull
59   }%
60 }
```

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

```
61 \DeclareOption{11pt}{%
62   \TBWarning{The \@tugclass\space class only supports 10pt fonts:
63     \MessageBreak option \CurrentOption\space ignored}%
```

```

64 }
65 \DeclareOption{12pt}{\csname ds@11pt\endcsname}

```

Similarly, ignore one/two-side options.

```

66 \DeclareOption{oneside}{\TBWarning{Option \CurrentOption\space ignored}}
67 \DeclareOption{twoside}{\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`.)

```

68 \DeclareOption{tugproc}{%
69 \TBWarning{Option \CurrentOption\space ignored: use class ltugproc
70 instead of \@tugclass}%
71 }

```

Option `rawcite` (the default) specifies the default citation mechanism (as built-in to \LaTeX); option `harvardcite` specifies the author-date citation mechanism defined in section 3.23 below.

```

72 \DeclareOption{rawcite}{\let\if@Harvardcite\iffalse}
73 \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...

```

74 \DeclareOption{extralabel}{\let\UseExtraLabel\@firstofone}
75 \DeclareOption{noextralabel}{\let\UseExtraLabel\@gobble}

```

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

```

76 \DeclareOption{numbersec}{\let\if@numbersec\iftrue}
77 \DeclareOption{nonumber}{\let\if@numbersec\iffalse}

```

Minimal running headers/footers contain just the TUGboat volume/issue identification and page numbers. ‘`runningfull`’ is the default, and includes title and author. ‘`runningoff`’ makes both headers and footers empty.

```

78 \DeclareOption{runningoff}{\AtEndOfClass{\@tubrunningoff}}
79 \DeclareOption{runningminimal}{\AtEndOfClass{\@tubrunningminimal}}
80 \DeclareOption{runningfull}{\AtEndOfClass{\@tubrunningfull}}

```

`\if@tubtwocolumn` Occasionally (`tb107jackowski`, and past conference preprints), we need the option `onecolumn`. For alternative approaches to one-column articles, see `tb92hagen-euler` and `tb78milo`.

```

81 \newif\if@tubtwocolumn \@tubtwocolumntrue
82 \DeclareOption{onecolumn}{\@tubtwocolumnfalse}

```


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

```
83 \DeclareOption*{\PassOptionsToClass{\CurrentOption}{article}}
```

Request default options (draft mode, standard citation, numbered sections, etc.), process all options, and then get the base document class on top of which we reside, namely `article`. Always call `article` with the `twoside` option, since we want the ability to have odd/even headers/footers.

```
84 \ExecuteOptions{draft,extralabel,numbersec,rawcite,runningminimal}
85 \ProcessOptions
86 \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.

```
87 \def\sectitlefont{\fontfamily\sfdefault\fontseries{bx}\fontshape{n}%
88     \fontsize\@xvipt\stbaselineskip\selectfont}
89 \def\tensl{\fontseries{m}\fontshape{sl}\fontsize\@xpt\@xipt
90     \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...

```
91 \def\EdNoteFont{\fontfamily{cmr}\fontseries{m}\fontshape{ui}%
92     \selectfont}
93 \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 \LaTeX 2_ϵ).

```
94 \*common
95 \IfFileExists{mflogo.sty}%
96   {\RequirePackage{mflogo}}%
97 \ltugcomn  {\TBWarning
98 \ltugcomn  {\PackageWarning{ltugcomn
99     {Package mflogo.sty not available --\MessageBreak
100     Proceeding to emulate mflogo.sty}
101   \DeclareRobustCommand{\logofamily}{%
102     \not@math@alphabet\logofamily\relax
103     \fontencoding{U}\fontfamily{logo}\selectfont}
104   \DeclareTextFontCommand{\textlogo}{\logofamily}
105   \def\MF{\textlogo{META}\-\textlogo{FONT}\@}
106   \def\MP{\textlogo{META}\-\textlogo{POST}\@}
107   \DeclareFontFamily{U}{logo}{}
108   \DeclareFontShape{U}{logo}{m}{n}{%
109     <8><9>gen*logo%
110     <10><10.95><12><14.4><17.28><20.74><24.88>logo10%
111   }{}
112   \DeclareFontShape{U}{logo}{m}{sl}{%
```

```

113     <8><9>gen*logos1%
114     <10><10.95><12><14.4><17.28><20.74><24.88>logos110%
115   }{}
116   \DeclareFontShape{U}{logo}{m}{it}{%
117     <->ssub*logo/m/sl%
118   }{}%
119 }

```

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

```

120 \newtoks\ResetCommands
121 \ResetCommands{%
122   \setcounter{part}{0}%
123   \setcounter{section}{0}%
124   \setcounter{footnote}{0}%
125   \authornumber\z@
126 }
127 \newcommand{\AddToResetCommands}[1]{%
128   \AddToResetCommands\expandafter{\AddToResetCommands#1}%
129 }

```

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.

```

130 <!*latex>
131 \def\makeescape#1{\catcode'#1=0 }
132 \def\makebgroup#1{\catcode'#1=1 }
133 \def\makeegroup#1{\catcode'#1=2 }
134 \def\makemath #1{\catcode'#1=3 }
135 </!latex>
136 <*latex>
137 \def\makeescape#1{\catcode'#1=\z@}
138 \def\makebgroup#1{\catcode'#1=\@ne}
139 \def\makeegroup#1{\catcode'#1=\tw@}
140 \def\makemath #1{\catcode'#1=\thr@@}
141 </latex>
142 \def\makealign #1{\catcode'#1=4 }
143 \def\makeeol #1{\catcode'#1=5 }
144 \def\makeparm #1{\catcode'#1=6 }

```

```

145 \def\makesup #1{\catcode'#1=7 }
146 \def\makesub #1{\catcode'#1=8 }
147 \def\makeignore#1{\catcode'#1=9 }
148 \def\makespace #1{\catcode'#1=10 }
149 \def\makeletter#1{\catcode'#1=11 }
150 \chardef\other=12
151 \let\makeother\@makeother
152 \def\makeactive#1{\catcode'#1=13 }
153 \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.

```

154 \def\savecat#1{%
155   \expandafter\xdef\csname\string#1savedcat\endcsname{\the\catcode'#1}}
156 \def\restorecat#1{\catcode'#1=\csname\string#1savedcat\endcsname}
157 <!!latex>\savecat\@
158 <!!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.

```

159 \def\SaveCS#1{\expandafter\let\csname saved@@#1\expandafter\endcsname
160   \csname#1\endcsname}
161 \def\RestoreCS#1{\expandafter\let\csname#1\expandafter\endcsname
162   \csname saved@@#1\endcsname}

```

To distinguish between macro files loaded

```

163 \def\plaintubstyle{plain}
164 \def\latextubstyle{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:

```

165 \providecommand\hb@xt@{\hbox to}
166 \providecommand\textsuperscript[1]{\ensuremath{\m@th
167   ~{\mbox{\fontsize\sf@size\z@
168     \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.

```

169 \DeclareRobustCommand{\AllTeX}{(\La\kern-.075em)\kern-.075em\TeX}
170 \def\AMS{American Mathematical Society}
171 \def\AMS{\mathcal{A}}\kern-.1667em\lower.5ex\hbox
172   {\mathcal{M}}\kern-.125em\mathcal{S}}

```

```

173 \def\AmSLaTeX{\AmS-\LaTeX}
174 \def\AmSTeX{\AmS-\TeX}
175 \def\ANSI{\acro{ANSI}}
176 \def\API{\acro{API}}
177 \def\ASCII{\acro{ASCII}}
178 \def\aw{\acro{A\kern.04em\raise.115ex\hbox{-}W}}
179 \def\AW{Addison\kern.1em-\penalty\z@\hskip\z@skip Wesley}
180 %
181 % make \BibTeX work in slanted contexts too; it's common in titles, and
182 % especially burdensome to hack in .bib files.
183 \def\Bib{%
184   \ifdim \fontdimen1\font>0pt
185     B{\SMC\SMC IB}%
186   \else
187     \textsc{Bib}%
188   \fi
189 }
190 \def\BibTeX{\Bib\kern-.08em \TeX}
191 %
192 \def\BSD{\acro{BSD}}
193 \def\CandT{\textsl{Computers \& Typesetting}}
194
195 We place our \kern after \- so that it disappears if the hyphenation is taken:
196 \def\ConTeXt{C\kern-.0333em\-\kern-.0667em\TeX\kern-.0333em}
197 \def\CMkIV{\ConTeXt\ \MkIV}
198 \def\Cplusplus{C\plusplus}
199 \def\plusplus{\raisebox{.7ex}{$_{++}$}}
200 \def\CPU{\acro{CPU}}
201 \def\CSabbr{\ensuremath{\cal C}\kern-.1667em\lower.5ex\hbox{\$cal S}}
202 \def\CSS{\acro{CSS}}
203 \def\CSTUG{\CSabbr\acro{TUG}}
204 \def\CSV{\acro{CSV}}
205 \def\CTAN{\acro{CTAN}}
206 \def\DTD{\acro{DTD}}
207 \def\DTK{\acro{DTK}}
208 \def\DVD{\acro{DVD}}
209 \def\DVI{\acro{DVI}}
210 \def\DVIPDFMx{\acro{DVIPDFM}$x$}
211 \def\DVItovDU{DVItov\kern-.12em VDU}
212 \def\ECMA{\acro{ECMA}}
213 \def\EPS{\acro{EPS}}
214 \DeclareRobustCommand{\eTeX}{\ensuremath{\varepsilon}\kern-.125em\TeX}
215 \DeclareRobustCommand{\ExTeX}{%
216   \ensuremath{\textstyle\varepsilon_{\kern-0.15em\cal{X}}}\kern-.2em\TeX}
217 \def\FAQ{\acro{FAQ}}
218 \def\FTP{\acro{FTP}}
219 \def\Ghostscript{Ghost\script}
220 \def\GNU{\acro{GNU}}
221 \def\GUI{\acro{GUI}}
222 \def\Hawaii{Hawai'i}

```

```

221 \def\HTML{\acro{HTML}}
222 \def\HTTP{\acro{HTTP}}
223 \def\IDE{\acro{IDE}}
224 \def\IEEE{\acro{IEEE}}
225 \def\ISBN{\acro{ISBN}}
226 \def\ISO{\acro{ISO}}
227 \def\ISSN{\acro{ISSN}}
228 \def\JPEG{\acro{JPEG}}
229 \def\JTeX{\leavevmode\hbox{\lower.5ex\hbox{J}\kern-.18em\TeX}}
230 \def\JoT{\textsl{The Joy of \TeX}}
231 \def\LAMSTeX{L\raise.42ex\hbox{\kern-.3em
232     $\m@th$\fontsize\sf@size\z@\selectfont
233     $\m@th\mathcal{A}$}%
234     \kern-.2em\lower.376ex\hbox{$\m@th\mathcal{M}$}\kern-.125em
235     {$\m@th\mathcal{S}$}-\TeX}
236 % This code
237 % is hacked from its definition of \cs{LaTeX}; it allows slants (for
238 % example) to propagate into the raised (small) ‘A’:
239 % \begin{macrocode}
240 \DeclareRobustCommand{\La}%
241   {L\kern-.36em
242     {\setbox0\hbox{T}%
243       \vbox to\ht0{\hbox{$\m@th$%
244         \csname S@\fontsize\endcsname
245         \fontsize\sf@size\z@
246         \math@fontsfalse\selectfont
247         A}%
248         \vss}%
249     }}

```

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.

```

250 <!!latex>\def\LaTeX{\La\kern-.15em\TeX}
251 \def\LyX{L\kern-.1667em\lower.25em\hbox{Y}\kern-.125emX}
252 \def\MacOSX{Mac\, \acro{OS\, X}}
253 \def\MathML{Math\acro{ML}}
254 \def\Mc{\setbox\TestBox=\hbox{M}M\vbox
255   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`

```

256 \def\mf{\textsc{Metafont}}
257 \def\MFB{\textsl{The \MF\kern1pt book}}
258 \def\MkIV{Mk\acro{IV}}
259 \let\TB@@mp\mp
260 \DeclareRobustCommand{\mp}{\ifmmode\TB@@mp\else MetaPost\fi}

```

```

261 %
262 % In order that the \cs{OMEGA} command will switch to using the TS1
263 % variant of the capital Omega character if \texttt{textcomp.sty} is
264 % loaded, we define it in terms of the \cs{textohm} command. Note
265 % that this requires us to interpose a level of indirection, rather
266 % than to use \cs{let}\dots
267 %
268 % \begin{macrocode}
269 \DeclareRobustCommand{\NTG}{\acro{NTG}}
270 \DeclareRobustCommand{\NTS}{\ensuremath{\mathcal{N}\mkern-4mu
271 \ \raisebox{-0.5ex}{\mathcal{T}}\mkern-2mu \mathcal{S}}}
272 \DeclareTextSymbol{\textohm}{OT1}{'012}
273 \DeclareTextSymbolDefault{\textohm}{OT1}
274 \newcommand{\OMEGA}{\textohm}
275 \DeclareRobustCommand{\OCP}{\OMEGA\acro{CP}}
276 \DeclareRobustCommand{\OOXML}{\acro{OOXML}}
277 \DeclareRobustCommand{\OTF}{\acro{OTF}}
278 \DeclareRobustCommand{\OTP}{\OMEGA\acro{TP}}
279 \def\mtex{T\kern-.1667em\lower.424ex\hbox{^E}\kern-.125emX\@}

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

280 \def\Pas{Pascal}
281 \def\pcMF{\leavevmode\raise.5ex\hbox{p\kern-.3\p@ c}MF\@}
282 \def\PCTeX{PC\thinspace\TeX}
283 \def\pcTeX{\leavevmode\raise.5ex\hbox{p\kern-.3\p@ c}\TeX}
284 \def\PDF{\acro{PDF}}
285 \def\PGF{\acro{PGF}}
286 \def\PHP{\acro{PHP}}
287 \def\PiC{P\kern-.12em\lower.5ex\hbox{I}\kern-.075emC\@}
288 \def\PiCTeX{\PiC\kern-.11em\TeX}
289 \def\plain{\texttt{plain}}
290 \def\PNG{\acro{PNG}}
291 \def\POBox{P.\thinspace 0.\thinspace Box }
292 \def\PS{{Post}\-Script}}
293 \def\PSTricks{\acro{PST}ricks}
294 \def\RTF{\acro{RTF}}
295 \def\SC{Steering Committee}
296 \def\SGML{\acro{SGML}}
297 \def\SliTeX{\textrm{S\kern-.06em\textsc{l}\kern-.035emi}%
298 \kern-.06em\TeX}}
299 \def\s1MF{\textsl{MF}} % should never be used
300 \def\SQL{\acro{SQL}}
301 \def\stTeX{\textsc{st}\kern-0.13em\TeX}
302 \def\STIX{\acro{STIX}}
303 \def\SVG{\acro{SVG}}
304 \def\TANGLE{\texttt{TANGLE}\@}
305 \def\TB{\textsl{The \TeX book}}
306 \def\TIFF{\acro{TIFF}}
307 \def\TP{\textsl{\TeX}: \textsl{The Program}}
308 \DeclareRobustCommand{\TeX}{T\kern-.1667em\lower.424ex\hbox{E}\kern-.125emX\@}

```

```

309 \def\TeXhax{\TeX hax}
310 \def\TeXMaG{\TeX M\kern-.1667em\lower.5ex\hbox{A}%
311   \kern-.2267emG\@}
312 \def\TeXtures{\textit{Textures}}
313 \let\Textures=\TeXtures
314 \def\TeXworks{\TeX\kern-.07em works}
315 \def\TeXXeT{\TeX-{}-\XeT}
316 \def\TFM{\acro{TFM}}
317 \expandafter\ifx\csname XeTeXrevision\endcsname\relax
318 \def\Thanh{H\`an~Th\`e\llap{\raise 0.5ex\hbox{\`{}}}\`Th\`anh}% non-XeTeX
319 \else
320 \def\Thanh{H\`an~Th\textcircumacute{e}\`Th\`anh}% xunicode drops the acute else
321 \fi
322 \def\TikZ{Ti{\em k}Z}
323 \def\TTN{\textsl{TTN}\@}
324 \def\TTN{\textsl{\TeX{}} and TUG News}}
325 \let\texttub\textsl           % redefined in other situations
326 \def\TUB{\texttub{TUGboat}}
327 \def\TUG{\TeX\ UG}
328 \def\tug{\acro{TUG}}
329 \def\UG{Users Group}
330 \def\UNIX{\acro{UNIX}}
331 % omit \UTF, since other packages use it for Unicode character access.
332 \def\VAX{V\kern-.12em A\kern-.1em X\@}
333 \def\VnTeX{V\kern-.03em n\kern-.02em \TeX}
334 \def\VorTeX{V\kern-2.7\p@\lower.5ex\hbox{O\kern-1.4\p@ R}\kern-2.6\p@\TeX}
335 \def\XeT{X\kern-.125em\lower.424ex\hbox{E}\kern-.1667emT\@}
336 \def\XML{\acro{XML}}
337 \def\WEB{\texttt{WEB}\@}
338 \def\WEAVE{\texttt{WEAVE}\@}
339 \def\WYSIWYG{\acro{WYSIWYG}}

XeTeX requires reflecting the first E, hence we complain if the graphics pack-
age 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.)

340 \def\tubreflect#1{%
341   \@ifundefined{reflectbox}{%
342     \TBerror{A graphics package must be loaded for \string\XeTeX}%
343   }{%
344     \ifdim \fontdimen1\font>0pt
345       \raise 1.75ex \hbox{\kern.1em\rotatebox{180}{#1}}\kern-.1em
346     \else
347       \reflectbox{#1}%
348     \fi
349   }%
350 }
351 \def\tubhideheight#1{\setbox0=\hbox{#1}\ht0=0pt \dp0=0pt \box0 }
352 \def\XekernbeforeE{-.125em}

```

```

353 \def\XekernafterE{-.1667em}
354 \DeclareRobustCommand{\Xe}{\leavevmode
355   \tubhideheight{\hbox{X%
356     \setbox0=\hbox{\TeX}\setbox1=\hbox{E}%
357     \lower\dp0\hbox{\raise\dp1\hbox{\kern\XekernbeforeE\tubreflect{E}}}%
358     \kern\XekernafterE}}}}
359 \def\XeTeX{\Xe\TeX}
360 \def\XeLaTeX{\Xe{\kern.11em \LaTeX}}
361 %
362 \def\XHTML{\acro{XHTML}}
363 \def\XSL{\acro{XSL}}
364 \def\XSLF0{\acro{XSL}\raise.08ex\hbox{-}\acro{F0}}
365 \def\XSLT{\acro{XSLT}}

```

3.5 General typesetting rules

```

366 \newlinechar='^^J
367 \normallineskiplimit=\p@
368 \clubpenalty=10000
369 \widowpenalty=10000
370 \def\NoParIndent{\parindent=\z@}
371 \newdimen\normalparindent
372 \normalparindent=20\p@
373 \def\NormalParIndent{\global\parindent=\normalparindent}
374 \NormalParIndent
375 \def\BlackBoxes{\overfullrule=5\p@}
376 \def\NoBlackBoxes{\overfullrule=\z@}
377 \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.

```

378 \edef\allowhyphens{\noexpand\hyphenpenalty\the\hyphenpenalty\relax
379   \noexpand\exhyphenpenalty\the\exhyphenpenalty\relax}
380 \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`.

```

381 \newbox\T@stBox           \newbox\TestBox
382 \newcount\T@stCount      \newcount\TestCount
383 \newdimen\T@stDimen      \newdimen\TestDimen

```



```
384 \newif\ifTstIf          \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).

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

L^AT_EX conventions which are also useful here.

```
386 <!*latex>
387 \let\@@input\input
388 \def\iinput#1{\@@input#1 }
389 \def\@inputcheck{\if\@nextchar\bgroup
390 \expandafter\iinput\else\expandafter\@@input\fi}
391 \def\input{\futurelet\@nextchar\@inputcheck}
392 </!latex>
```

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

```
393 \newif\iftop@          \newif\ifbot@
394 \def\topsmash{\top@true\bot@false\smash@}
395 \def\botsmash{\top@false\bot@true\smash@}
396 \def\smash{\top@true\bot@true\smash@}
397 \def\smash@{\relax\ifmode\def\next{\mathpalette\mathsm@sh}%
398 \else\let\next\makesm@sh\fi \next }
399 \def\finm@sh{\iftop@\ht\z@\z@\fi\ifbot@\dp\z@\z@\fi\box\z@}
```

Vertical ‘laps’; cf. \llap and \rlap

```
400 \long\def\ulap#1{\vbox to \z@{\vss#1}}
401 \long\def\dlap#1{\vbox to \z@{\#1\vss}}
```

And centered horizontal and vertical ‘laps’

```
402 \def\xlap#1{\hb@xt@\z@{\hss#1\hss}}
403 \long\def\ylap#1{\vbox to \z@{\vss#1\vss}}
404 \long\def\zlap#1{\ylap{\xlap{#1}}}
```

Avoid unwanted vertical glue when making up pages.

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

Empty rules for special occasions

```
406 \def\nullhrule{\hrule \@height\z@ \@depth\z@ \@width\z@ }
407 \def\nullvrule{\vrule \@height\z@ \@depth\z@ \@width\z@ }
```

Support ad-hoc strut construction.

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

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

```
409 \def\drawoutlinebox[#1;#2;#3]{\TstDimen=#3
410 \vbox to#1{\hrule \@height\TstDimen \@depth\z@
411 \vss\hb@xt@#2{\vrule \@width\TstDimen
412 \hfil\makestrut[#1;\z@]%
413 \vrule \@width\TstDimen}\vss
414 \hrule \@height\TstDimen \@depth\z@}}
```

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

```
415 <*\latex>
416 \def\today{\number\day\space \ifcase\month\or
417     Jan \or Feb \or Mar \or Apr \or May \or Jun \or
418     Jul \or Aug \or Sep \or Oct \or Nov \or Dec \fi
419     \number\year}
420 </!\latex>

Current time; this may be system dependent!

421 \newcount\hours
422 \newcount\minutes
423 \def\SetTime{\hours=\time
424     \global\divide\hours by 60
425     \minutes=\hours
426     \multiply\minutes by 60
427     \advance\minutes by-\time
428     \global\multiply\minutes by-1 }
429 \SetTime
430 \def\now{\number\hours:\ifnum\minutes<10 0\fi\number\minutes}
431 \def\Now{\today\ \now}
432 \newif\ifPrelimDraft
433 \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.

```
\raggedparfill
\raggedspaces 434 \newdimen\raggedskip \raggedskip=\z@
435 \newdimen\raggedstretch \raggedstretch=5em % ems of font set now (10pt)
436 \newskip\raggedparfill \raggedparfill=\z@\@plus 1fil
437 \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 438 \def\raggedright{%
\normalspaces 439 \nohyphens
440 \rightskip=\raggedskip\@plus\raggedstretch \raggedspaces
441 \parfillskip=\raggedparfill
442 }
443 \def\raggedleft{%
444 \nohyphens
445 \leftskip=\raggedskip\@plus\raggedstretch \raggedspaces
446 \parfillskip=\z@skip
447 }
448 \def\raggedcenter{%
449 \nohyphens
450 \leftskip=\raggedskip\@plus\raggedstretch
451 \rightskip=\leftskip \raggedspaces
```

```

452 \parindent=\z@ \parfillskip=\z@skip
453 }
454 \def\normalspaces{\spaceskip\z@skip \xspaceskip\z@skip}

```

Miscellaneous useful stuff. Note that L^AT_εE_X 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_εE_X 2_ε version has `\leavevmode` and doesn't care about surrounding space).

```

455 \DeclareRobustCommand{\nobreakspace}{%
456 \unskip\nobreak\ \ignorespaces}

```

Plain `TEX` defines `\newbox` as `\outer`. We solemnly preserve the following, which removes the `\outer`ness; of course, we carefully exclude it from what we generate... (`\outer`ness is a spawn of the devil, is it not? Barbara Beeton responded to the previous sentence “`\outer`ness 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...)

```

457 \def\boxcs#1{\box\csname#1\endcsname}
458 \def\setboxcs#1{\setbox\csname#1\endcsname}
459 \def\newboxcs#1{\expandafter\newbox\csname#1\endcsname}
460 \let\gobble@gobble
461 \def\vellipsis{%
462 \leavevmode\kern0.5em
463 \raise\p@\vbox{\baselineskip6\p@\vskip7\p@\hbox{.}\hbox{.}\hbox{.}}
464 }
465 \def\bull{\vrule \@height 1ex \@width .8ex \@depth -.2ex }
466 \def\cents{{\rm\raise.2ex\rlap{\kern.05em$\scriptstyle/$}c}}
467 \def\careof{\leavevmode\hbox{\raise.75ex\hbox{c}\kern-.15em
468 \kern-.125em\smash{\lower.3ex\hbox{o}}}\ \ignorespaces}
469 \def\Dag{\raise .6ex\hbox{$\scriptstyle\dagger$}}
470 %
471 \DeclareRobustCommand{\sfrac}[1]{\@ifnextchar/{\@sfrac{#1}}%
472 {\@sfrac{#1}/}}
473 \def\@sfrac#1/#2{\leavevmode\kern.1em\raise.5ex
474 \hbox{$\m@th\mbox{\fontsize\sf@size\z@
475 \selectfont#1}$}\kern-.1em
476 \kern-.15em\lower.25ex
477 \hbox{$\m@th\mbox{\fontsize\sf@size\z@
478 \selectfont#2}$}}
479 %
480 % don't stay bold in description items, bold italic is too weird.
481 \DeclareRobustCommand\meta[1]{%
482 \ensuremath{\langle}#1\rangle}%
483 \ifmode \mbox\bgroup \fi % if in math
484 {\it #1\}/}% no typewriter italics, please

```

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

```

485 \ifmmode \egroup \fi
486 \ensuremath{\rangle}%
487 }
488 %
489 % Use \tt rather than \texttt because italic typewriter is just too ugly,
490 % and upright works well enough in both italic and bold contexts.
491 \DeclareRobustCommand{\cs}[1]{\tt \char'\#1}}
492 %
493 % This command was defined much later than the other, so let's not
494 % conflict with any existing definitions that might be out there.
495 % Don't allow hyphenations or other line breaks.
496 \DeclareRobustCommand{\tubbraced}[1]{\mbox{\texttt{\char'\#1\char'\}}}
497 %
498 % Well, just the \begin part. Never seen it used.
499 \DeclareRobustCommand{\env}[1]{\cs{begin}\tubbraced{#1}}
500 %
501 % Not sure why we ever want this instead of LaTeX's \, (using \kern),
502 % but fine, just keeping it.
503 \DeclareRobustCommand{\thinspace}{\hspace 0.16667em\relax}
504 %

```

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

```

505 \def\endash{--}
506 \def\emdash{\endash-}
507 \def\d@sh#1#2{\unskip#1\thinspace#2\thinspace\ignorespaces}
508 \def\dash{\d@sh\nobreak\endash}
509 \def\Dash{\d@sh\nobreak\emdash}
510 \def\ldash{\d@sh\empty{\hbox{\endash}\nobreak}}
511 \def\rdash{\d@sh\nobreak\endash}
512 \def\Ldash{\d@sh\empty{\hbox{\emdash}\nobreak}}
513 \def\Rdash{\d@sh\nobreak\emdash}

```

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

```

514 \def\hyph{-\penalty\z@\hskip\z@skip }
515 \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`.

```

516 \def\nth#1{%
517   \def\reserved@a##1##2@nil{\ifcat##1n%
518     0%
519     \let\reserved@b\ensuremath
520     \else##1##2%
521     \let\reserved@b\relax
522     \fi}%
523   \TestCount=\reserved@a#1@nil\relax
524   \ifnum\TestCount < 0 \multiply\TestCount by\m@ne \fi % subdue negatives
525   \T@stCount=\TestCount

```

```

526 \divide\T@stCount by 100 \multiply\T@stCount by 100
527 \advance\T@stCount by-\T@stCount % n mod 100
528 \ifnum\T@stCount >20 \T@stCount=\T@stCount
529 \divide\T@stCount by 10 \multiply\T@stCount by 10
530 \advance\T@stCount by-\T@stCount % n mod 10
531 \fi
532 \reserved@b{#1}%
533 \textsuperscript{\ifcase\T@stCount th% 0th
534 \or st% 1st
535 \or nd% 2nd
536 \or rd% 3rd
537 \else th% nth
538 \fi}%
539 }

```

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...

```

540 \def\Review{\@ifnextchar:{\@Review}{\@Review:}}
541 \def\@Review:{\@ifnextchar[%]
542 {\@Rev}%
543 {\@Rev[Book review]}}
544 \def\@Rev[#1]#2{\@ignorespaces#1\unskip:\enspace\ignorespaces
545 \slshape\mdseries#2}}
546 \def\reviewitem{\@advspace{\BelowTitleSkip}}%
547 \def\revauth##1{\def\therevauth{##1, }\ignorespaces}%
548 \def\revtitle##1{\def\therevtitle{\slshape##1}. }\ignorespaces}%
549 \def\revpubinfo##1{\def\therevpubinfo{##1.}\ignorespaces}%
550 }
551 \def\endreviewitem{\@noindent\interlinepenalty=10000
552 \therevauth\therevtitle\therevpubinfo\endgraf}%
553 \vskip\medskipamount
554 }
555 \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.

```

556 \newcount\issueseqno          \issueseqno=-1
557 \def\v@lx{\gdef\volx{Volume~\volno~(\volyr), No.~\issno}}
558 \def\volyr{}
559 \def\volno{}
560 \def\vol #1,#2.{\gdef\volno{#1\unskip}%
561     \gdef\issno{\ignorespaces#2\unskip}%
562     \setbox\TestBox=\hbox{\volyr}%
563     \ifdim \wd\TestBox > .2em \v@lx \fi }
564 \def\issyear #1.{\gdef\issdt{#1}\gdef\volyr{#1}%
565     \gdef\bigissdt{#1}%
566     \setbox\TestBox=\hbox{\volno}%
567     \ifdim \wd\TestBox > .2em \v@lx \fi }
568 \def\issdate #1#2 #3.{\gdef\issdt{#1#2 #3}\gdef\volyr{#3}%
569     \gdef\bigissdt{#1{\smc\uppercase{#2}} #3}%
570     \setbox\TestBox=\hbox{\volno}%
571     \ifdim \wd\TestBox > .2em \v@lx \fi }
572 \vol 0, 0.
573 \issdate Thermidor, 9999.

```

(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

```

574 <!\latex>\def\tubissue#1(#2)%
575 <*\latex>
576 \def\tubissue#1{\@ifnextchar(%)
577   {\@tubissue@b{#1}}
578   {\@tubissue@a{#1}}}}
579 \def\@tubissue@b#1(#2){\@tubissue@a{#1}{#2}}
580 \def\@tubissue@a#1#2%
581 </\latex>
582 {\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`

```

583 \def\infil@{\jobname}
584 \def\Input #1 {\ifnum\issueseqno<0
585   \def\infil@{#1}%
586   \else
587   \def\infil@{tb\number\issueseqno#1}

```

```

588 \fi
589 \edef\jobname{\infil@}\@readFLN
590 \@@input \infil@\relax
591 \if@RMKopen
592   \immediate\closeout\@TBremarkfile\@RMKopenfalse
593 \fi
594 }

```

\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 \TBenableRemarks command, which can be included in the configuration file ltugboat.cfg (or ltugproc.cfg, if that's what we're at).

```

595 \newif\if@RMKopen           \@RMKopenfalse
596 \newwrite\@TBremarkfile
597 \def\@TBremark#1{%
598   \if@RMKopen
599   \else
600     \@RMKopentrue\immediate\openout\@TBremarkfile=\infil@.rmk
601   \fi
602   \toks@={#1}%
603   \immediate\write\@TBremarkfile{^^J\the\toks@}%
604   \immediate\write16{^^JTBremark:: \the\toks@^^J}%
605 }

```

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

```
606 \let\TBremark=\gobble
```

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

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

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

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

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

```

609 \def\TUBfilename#1#2{\expandafter\def\csname file@@#1\endcsname{#2}}
610 \newread\@altfilenames
611 \def\@readFLN{\immediate\openin\@altfilenames=\jobname.fln
612   \ifeof\@altfilenames\let\@result\relax\else
613   \def\@result{\@@input\jobname.fln }\fi
614   \immediate\closein\@altfilenames
615   \@result}
616 \@readFLN
617 \everyjob=\expandafter{\the\everyjob\@readFLN}
618 \InputIfFileExists{\jobname.fln}%
619   {\TBInfo{Reading alternative file file \jobname.fln}}{}

```

The following needs to work entirely in T_EX's mouth

```

620 \def\tubfilename#1{\expandafter\ifx\csname file@@#1\endcsname\relax
621 #1\else\csname file@@#1\endcsname\fi}
622 \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.

623 <*\latex>
624 \def\pagexrefON#1{%
625     \write-1{\def\expandafter\noexpand\csname#1\endcsname{\number\pageno}}}%
626     \write\ppoutfile{%
627         \def\expandafter\noexpand\csname#1\endcsname{\number\pageno}}}%
628     }
629 \def\PageXrefON#1{%
630     \immediate\write-1{\def\expandafter
631         \noexpand\csname#1\endcsname{\number\pageno}}}%
632     \immediate\write\ppoutfile{\def\expandafter
633         \noexpand\csname#1\endcsname{\number\pageno}}}%
634 </\latex>
635 <*\latex>
636 \def\pagexrefON#1{%
637     \write-1{\def\expandafter\noexpand\csname#1\endcsname{\number\c@page}}}%
638     \write\ppoutfile{%
639         \def\expandafter\noexpand\csname#1\endcsname{\number\c@page}}}%
640     }
641 \def\PageXrefON#1{%
642     \immediate\write-1{\def\expandafter
643         \noexpand\csname#1\endcsname{\number\c@page}}}%
644     \immediate\write\ppoutfile{\def\expandafter
645         \noexpand\csname#1\endcsname{\number\c@page}}}%
646 </\latex>
647 \def\pagexrefOFF#1{}
648 \let\pagexref=\pagexrefOFF
649 \def\PageXrefOFF#1{}
650 \let\PageXref=\PageXrefOFF
651 \def\xreftoON#1{%
652     \ifundefined{#1}%
653     ???\TBremark{Need cross reference for #1.}%
654     \else\csname#1\endcsname\fi}
655 \def\xreftoOFF#1{???}
656 \let\xrefto=\xreftoOFF

\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.

657 \let\TBdriver\gobble

```


Some hyphenation exceptions:

```
658 \ifx\tubomithyphenations\@thisisundefined
659 \hyphenation{Del-a-ware Dijk-stra Duane Eijk-hout
660 Flor-i-da Free-BSD Ghost-script Ghost-view
661 Hara-lam-bous Jac-kow-ski Karls-ruhe
662 Mac-OS Ma-la-ya-lam Math-Sci-Net
663 Net-BSD Open-BSD Open-Office
664 Pfa-Edit Post-Script Rich-ard Skoup South-all
665 Vieth VM-ware Win-Edt
666 acro-nym acro-nyms analy-sis ap-pen-di-ces ap-pen-dix asyn-chro-nous
667 bib-lio-graph-i-cal bit-map bit-mapped bit-maps buf-fer buf-fers bool-ean
668 col-umns com-put-able com-put-abil-ity cus-tom-iz-able
669 data-base data-bases
670 de-allo-cate de-allo-cates de-allo-cated de-allo-ca-tion
671 de-riv-a-tive de-riv-a-tives de-riv-a-ble der-i-va-tion dis-trib-ut-able
672 es-sence
673 fall-ing
674 half-way
675 in-fra-struc-ture
676 key-note
677 long-est
678 ma-gyar man-u-script man-u-scripts meta-table meta-tables
679 mne-mon-ic mne-mon-ics mono-space mono-spaced
680 name-space name-spaces
681 off-line over-view
682 pal-ettes par-a-digm par-a-dig-mat-ic par-a-digms
683 pipe-line pipe-lines
684 plug-in plug-ins pres-ent-ly pro-gram-mable
685 re-allo-cate re-allo-cates re-allo-cated re-printed
686 set-ups se-vere-ly spell-ing spell-ings stand-alone strong-est
687 sub-ex-pres-sion sub-tables sur-gery syn-chro-ni-city syn-chro-nous
688 text-height text-length text-width
689 time-stamp time-stamped time-stamps
690 vis-ual vis-u-al-ly
691 which-ever white-space white-spaces wide-spread wrap-around
692 }
693 \fi
694 <!!latex>\restorecat\@
695 </common>
696 <*classtail>
697 \PrelimDraffttrue
```

3.10 Page dimensions, glue, penalties etc

```
698 \textheight 54pc
699 \textwidth 39pc
700 \columnsep 1.5pc
701 \columnwidth 18.75pc
702 \hfuzz 1pt
```

```

703 \parindent \normalparindent
704 \parskip \z@ % \@plus\p@
705 \leftmargini 2em
706 \leftmarginv .5em
707 \leftmarginvi .5em
708 \oddsidemargin \z@
709 \evensidemargin \z@
710 \topmargin -2.5pc
711 \headheight 12\p@
712 \headsep 20\p@
713 \marginparwidth 48\p@
714 \marginparsep 10\p@
715 \partopsep=\z@
716 \topsep=3\p@\@plus\p@\@minus\p@
717 \parsep=3\p@\@plus\p@\@minus\p@
718 \itemsep=\parsep
719 %
720 % Ordinarily we typeset in two columns, but the onecolumn option
721 % goes to one. In which case we want to center the text block on an
722 % 8.5in width, given the default 72.27pt offset with margins of zero.
723 % We are always in LaTeX's twoside mode because of how we load article,
724 % and this is a good thing, since we want different headings.
725 \if@tubtwocolumn \twocolumn \else
726 \onecolumn
727 \textwidth=34pc
728 \oddsidemargin=30.8775pt
729 \evensidemargin=\oddsidemargin
730 \fi
731 %
732 \newdimen\pagewd \pagewd=\textwidth
733 \newdimen\trimwd \trimwd=\pagewd
734 \newdimen\trimlgt \trimlgt=11in
735 \newdimen\headmargin \headmargin=3.5pc

```

In $\text{\LaTeX} 2_{\epsilon}$, twoside option is forced on when `article.cls` is loaded.

3.11 Messing about with the \LaTeX logo

Barbara Beeton's pleas for \LaTeX 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 a new version. The arguments are font family, series and shape, and then the two kern values used in placing the raised 'A' of \LaTeX .

```

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

```

The default values are as used in the source of \LaTeX itself:

```

738 \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). Duplicate for Latin Modern.

```

739 \DeclareLaTeXLogo{cmss}{bx}{n}{.3}{.15}
740 \DeclareLaTeXLogo{lmss}{bx}{n}{.3}{.15}
741 %
742 \DeclareLaTeXLogo{cmr}{m}{it}{.29}{.2}
743 \DeclareLaTeXLogo{lmr}{m}{it}{.29}{.2}
744 %
745 \DeclareLaTeXLogo{cmr}{m}{sl}{.29}{.15}
746 \DeclareLaTeXLogo{lmr}{m}{sl}{.29}{.15}
747 %
748 \DeclareLaTeXLogo{cmr}{bx}{it}{.29}{.2}
749 \DeclareLaTeXLogo{lmr}{bx}{it}{.29}{.2}
750 %
751 \DeclareLaTeXLogo{cmr}{bx}{sl}{.29}{.2}
752 \DeclareLaTeXLogo{lmr}{bx}{sl}{.29}{.2}
753 %
754 \DeclareLaTeXLogo{bch}{m}{n}{.2}{.08}
755 \DeclareLaTeXLogo{bch}{m}{it}{.2}{.08}

```

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

```

756 \DeclareRobustCommand{\LaTeX}{\expandafter\let\expandafter\reserved@a
757 \csname @LaTeX@f@family/\f@series/\f@shape\endcsname
758 \ifx\reserved@a\relax\let\reserved@a@\LaTeX@default\fi
759 \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.

```

760 \newcommand{\@LaTeX}[2]{%
761 %\wlog{latex logo family=\f@family/\f@series/\f@shape -> #1, #2.}%
762 L\kern-#1em
763 {\sbox\z@ T%
764 \vbox to\ht0{\hbox{$\m@th$%
765 \csname S@\f@size\endcsname
766 \fontsize\sf@size\z@
767 \math@fontsfalse\selectfont
768 A}%
769 \vss}%
770 }%
771 \kern-#2em%
772 \TeX}

```

3.12 Authors, contributors, addresses, signatures

An 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.

```
773 \def\theauthor#1{\csname theauthor#1\endcsname}
774 \def\theaddress#1{\csname theaddress#1\endcsname}
775 \def\thenetaddress#1{\csname thenetaddress#1\endcsname}
776 \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.

```
777 <!!latex>\newcount\@tempcnta
778 \def\@defaultauthorlist{%
779   \@getauthorlist\@firstofone
780 }
```

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

```
781 \def\@getauthorlist#1{%
782   \count@\authornumber
783   \advance\count@ by -2
784   \@tempcnta0
```

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

```
785   \loop
786     \ifnum\count@>0
787       \advance\@tempcnta by \@ne
788       #1{\ignorespaces\theauthor{\number\@tempcnta}\unskip, }%
789       \advance\count@ by \m@ne
790   \repeat
791   \count@\authornumber
792   \advance\count@ by -\@tempcnta
793   \ifnum\authornumber>0
```

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

```
794     \ifnum\count@>1
795       \count@\authornumber
796       \advance\count@ by \m@ne
797       #1{\ignorespaces\theauthor{\number\count@}\unskip\ and }%
798     \fi
```

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

```
799 #1{\ignorespaces\theauthor{\number\authornumber}\unskip}
800 \fi
801 }
```

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...)

```
802 \def\signature#1{\def\@signature{#1}}
803 \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`

```
804 \def\@defaultsignature{%
805   \let\thanks\@gobble
806   \frenchspacing
807   %
808   \ifnum\authornumber<0
      if \authornumber < 0, we are in a contributor's section
809     \medskip
810     \signaturemark
811     \theauthor{\number\authornumber}\\
812     \theaddress{\number\authornumber}\\
813     \allowhyphens
814     \thenetaddress{\number\authornumber}\\
815     \thePersonalURL{\number\authornumber}\\
816   \else
      \authornumber ≥ 0, so we are in the body of an ordinary article
817     \count@=0
818     \loop
819       \ifnum\count@<\authornumber
820         \medskip
821         \advance\count@ by \@ne
822         \signaturemark
823         \theauthor{\number\count@}\\
824         \theaddress{\number\count@}\\
825         {%
826           \allowhyphens
827           \thenetaddress{\number\count@}\\
828           \thePersonalURL{\number\count@}\\
829         }%
830     \repeat
831   \fi
832 }%
833 }
834 \newdimen\signaturewidth \signaturewidth=12pc
```

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

```
835 \newcommand{\makesignature}[1][\medskipamount]{%
    check the value the user has put in \signaturewidth: it may be at most
    1.5pc short of \columnwidth
```

```
836 \@tempdima\signaturewidth
837 \advance\@tempdima 1.5pc
838 \ifdim \@tempdima>\columnwidth
839 \signaturewidth \columnwidth
840 \advance\signaturewidth -1.5pc
841 \fi
842 \par
843 \penalty9000
844 \vspace{#1}%
845 \rightline{%
846 \vbox{\hsize\signaturewidth \ninepoint \raggedright
847 \parindent \z@ \everypar={\hangindent 1pc }
848 \parskip \z@skip
849 \def\|{\unskip\hfil\break}%
850 \def\|\{\endgraf}%
851 \def\phone{\rm Phone: }
852 \rm\@signature}%
853 }%
854 \ifnum\authornumber<0 \endgroup\fi
855 }
856 \def\signaturemark{\leavevmode\llap{\$\diamond$\enspace}}
```

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

```
857 \newcount\authornumber
858 \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`).

```
859 \def\author{%
860 \global\advance\authornumber\@ne
861 \TB@author
862 }
```

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

```
863 \def\contributor{%
864 \begingroup
865 \authornumber\m@ne
866 \TB@author
```

867 }

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).

```
868 \def\TB@author#1{%
869   \expandafter\def\csname theauthor\number\authornumber\endcsname
870     {\ignorespaces#1\unskip}%
871   \expandafter\def\csname theaddress\number\authornumber\endcsname
872     {\TBWarningNL{Address for #1\space missing}\@gobble}%
873   \expandafter\def\csname thenetaddress\number\authornumber\endcsname
874     {\TBWarningNL{Net address for #1\space missing}\@gobble}%
875   \expandafter\let\csname thePersonalURL\number\authornumber\endcsname
876     \@gobble
877 }
878 \def\EDITORnoaddress{%
879   \expandafter\let\csname theaddress\number\authornumber\endcsname
880     \@gobble
881 }
882 \def\EDITORnonetaddress{%
883   \expandafter\let\csname thenetaddress\number\authornumber\endcsname
884     \@gobble
885 }
```

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

```
886 \def\address#1{%
887   \expandafter\def\csname theaddress\number\authornumber\endcsname
888     {\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!*

```
889 \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.

```
890 \newcommand{\netaddress}[1][\relax]{%
891   \begingroup
892   \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.

```
893 #1\@sanitize\makespace\ \makeactive\@
894 \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?!*)

```
895 \def\@relay@netaddress#1{%
896   \ProtectNetChars
897   \expandafter\protected@xdef
898     \csname thenetaddress\number\authornumber\endcsname
899     {\protect\leavevmode\textrm{\@network}%
900     {\protect\NetAddrChars\net
901     \ignorespaces#1\unskip}}%
902   \endgroup
903 }
```

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

For general URLs, `url.sty` (with or without `hyperref`) suffices and is recommended.

```
904 \def\personalURL{\begingroup
905   \@sanitize\makespace\ \makeactive\@
906   \makeactive\.\makeactive%\makeactive%\@personalURL}%
907 \def\@personalURL#1{%
908   \ProtectNetChars
909   \expandafter\protected@xdef
910     \csname thePersonalURL\number\authornumber\endcsname{%
911     \protect\leavevmode
912     {%
913       \protect\URLchars\net
914       \ignorespaces#1\unskip
915     }%
916   }%
917 \endgroup
918 }
```

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...

```
919 {%
920   \makecomment\*
921   \makeactive\@
922   \gdef\netaddrat{\makeactive\@*
923     \def@{\discretionary{\char"40}{\char"40}}
924   \makeactive\%
925   \gdef\netaddrpercent{\makeactive\%*
```



```

926 \def%{\discretionary{\char"25}{\char"25}}
927 \makeactive\
928 \gdef\netaddrdot{\makeactive\.*
929 \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`.

```

930 \gdef\NetAddrChars{\netaddrat \netaddrpercent \netaddrdot}
931 \makeactive\
932 \gdef\URLchars{*
933 \NetAddrChars
934 \makeactive\/*
935 \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.

```

936 \gdef\ProtectNetChars{*
937 \def@{\protect@}*
938 \def%{\protect%}*
939 \def. {\protect.}*
940 \def/ {\protect/}*
941 }
942 }

```

$\text{\LaTeX } 2_{\epsilon}$ (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 $\text{\LaTeX } 2_{\epsilon}$ defines for the job).

```

943 \if@compatibility
944 \DeclareRobustCommand{\net}{\normalfont\ttfamily\mathgroup\syntypewriter}
945 \else
946 \DeclareOldFontCommand{\net}{\ttfamily\upshape\mdseries}{\mathtt}
947 \fi
948 \def\authorlist#1{\def\@author{#1}}
949 \def\@author{\@defaultauthorlist}

```

For the online re-publication (as of 2009) by Mathematical Sciences Publishers <http://mathscipub.org>, lots and lots of metadata is needed, much of it redundant with things we already do. They are flexible enough to allow us to specify it in any reasonable way, so let's make one command `\mspmetavar` which takes two arguments. Example: `\mspmetavar{volumenumber}{30}`. For our purposes, it is just a no-op. And this initiative never came to anything, so it is not used at all.

`\mspmetavar`

```

950 \def\mspmetavar#1#2{}

```

3.13 Article title

`\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.

```
951 \newif\if@articletitle
952 \def\maketitle{\@ifstar
953   {\@articletitlefalse\@r@maketitle}%
954   {\@articletitletrue\@r@maketitle}%
955 }
956 \def\@r@maketitle{\par
957   \ifdim\PreTitleDrop > \z@
958     \loop
959       \ifdim \PreTitleDrop > \textheight
960         \vbox{\vfil\eject
961           \advance\PreTitleDrop by -\textheight
962         } \repeat
963     \vbox to \PreTitleDrop{}
964     \global\PreTitleDrop=\z@
965   \fi
966   \begingroup
967   \setcounter{footnote}{0}
968   \global\@topnum\z@ % disallow floats above the title
969   \def\thefootnote{\fnsymbol{footnote}}
970   \@maketitle
971   \@thanks
972   \endgroup
973   \setcounter{footnote}{0}
974   \gdef\@thanks{}
975 }
```

`\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.

```
976 \def\rhTitle{}% avoid error if no author or title
977 \renewcommand{\title}{\@dblarg\TB@title}
978 \def\TB@title[#1]#2{\gdef\@title{#2}%
979   \bgroup
980     \let\thanks\@gobble
981     \def\{\unskip\space\ignorespaces}%
982     \protected@xdef\rhTitle{#1}%
983   \egroup
984 }
```

`\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.

```

985 \def\shortTitle #1{\def\rhTitle{#1}}
986 \newif\ifshortAuthor
987 \def\shortAuthor #1{\def\rhAuthor{#1}\shortAuthortrue}

```

3.14 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:

```

988 \def\secsep{\vskip 5\baselineskip}

```

Note that `\stbaselineskip` is used in the definition of `\sectitlefont`, in $\text{\LaTeX} 2_{\epsilon}$, so that it has (at least) to be defined before `\sectitlefont` is used (we do the whole job).

```

989 \newdimen\stbaselineskip      \stbaselineskip=18\p@
990 \newdimen\stfontheight
991 \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.

```

992 \newif\ifSecTitle
993 \SecTitlefalse
994 \newif\ifWideSecTitle
995 \newcommand{\sectitle}{%
996   \SecTitletrue
997   \@ifstar
998     {\WideSecTitletrue\def\s@ctitle}%
999     {\WideSecTitlefalse\def\s@ctitle}%
1000 }

```

`\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.

```

1001 \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, and for the rule above titles when there is no box.

```
1002 \newskip\AboveTitleSkip \AboveTitleSkip=12\p@
1003 \newskip\BelowTitleSkip \BelowTitleSkip=8\p@
1004 \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...

```
1005 \def\@sectitle #1{%
1006   \par
1007   \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.

```
1008 \ifWideSecTitle\else\secsep\fi
1009 {%
1010   \fboxrule\strulethickness
1011   \fboxsep\z@
1012   \noindent\framebox[\hsize]{%
1013     \vbox{%
1014       \raggedcenter
1015       \let\\\@sectitle@newline
1016       \sectitlefont
1017       \makestrut[2\stfontheight;\z@]%
1018       #1%
1019       \makestrut[\z@;\stfontheight]\endgraf
1020     }%
1021   }%
1022 }%
1023 \nobreak
1024 \vskip\baselineskip
1025 }
```

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

```
1026 \newcommand{\@sectitle@newline}[1][\z@]{%
1027   \ifdim#1>\z@
1028     \makestrut[\z@;#1]%
1029   \fi
1030   \unskip\break
1031 }
```

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).

```

1032 \def\@makesectitle{\ifSecTitle
1033   \global\SecTitlefalse
1034   \ifWideSecTitle
1035     \twocolumn[\@sectitle{\s@ctitle}]%
1036     \global\WideSecTitlefalse
1037   \else
1038     \@sectitle{\s@ctitle}%
1039   \fi
1040 \else
1041   \vskip\AboveTitleSkip
1042   \kern\topskip
1043   \hrule \@height\z@ \@depth\z@ \@width 10\p@
1044   \kern-\topskip
1045   \kern-\strulethickness
1046   \hrule \@height\strulethickness \@depth\z@
1047   \kern\medskipamount
1048   \nobreak
1049 \fi
1050 }

```

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

```

1051 \def\@maketitle{%
1052   \@makesectitle
1053   \if@articletitle{%
1054     \nohyphens \interlinepenalty\@M
1055     \setbox0=\hbox{%
1056       \let\thanks\@gobble
1057       \let\=\quad
1058       \let\and=\quad
1059       \ignorespaces\@author}%
1060     {%
1061       \noindent\bf\raggedright\ignorespaces\@title\endgraf
1062     }%
1063     \ifdim \wd0 < 5\p@           % omit if author is null
1064     \else

```

Since we have $\text{\BelowTitleSkip} + 4\text{pt} = \text{\baselineskip}$, we say:

```

1065     \nobreak \vskip 4\p@
1066     {%
1067       \leftskip=\normalparindent
1068       \raggedright
1069       \def\and{\unskip\}%
1070       \noindent\@author\endgraf
1071     }%
1072     \fi
1073     \nobreak
1074     \vskip\BelowTitleSkip
1075   }\fi%
1076 \global\@afterindentfalse
1077 \aftergroup\@afterheading

```

1078 }

Dedications are ragged right, in italics.

```
1079 \newenvironment{dedication}%
1080   {\raggedright\noindent\itshape\ignorespaces}%
1081   {\endgraf\medskip}
```

The `abstract` and `longabstract` environments both use `\section*`. For one-column articles (or in `ltugproc` class), indent the abstract. This is done in the usual bizarre L^AT_EX way, by treating it as a one-item list with an empty item marker.

```
1082 \def\@tubonecolumnabstractstart{%
1083   \list{}{\listparindent\normalparindent
1084     \itemindent\z@ \leftmargin\@tubfullpageindent
1085     \rightmargin\leftmargin \parsep \z@}\item[]\ignorespaces
1086 }
1087 \def\@tubonecolumnabstractfinish{%
1088   \endlist
1089 }
1090 \renewenvironment{abstract}%
1091   {\begin{SafeSection}%
1092     \section*{%
1093       \if@tubtwocolumn\else \hspace*{\@tubfullpageindent}\fi
1094       Abstract}%
1095   \if@tubtwocolumn\else \@tubonecolumnabstractstart \fi
1096   }%
1097   {\if@tubtwocolumn\else \@tubonecolumnabstractfinish \fi
1098   \end{SafeSection}}
1099 \newenvironment{longabstract}%
1100   {\begin{SafeSection}%
1101     \section*{Abstract}%
1102     \bgroup\small
1103   }%
1104   {\endgraf\egroup
1105     \end{SafeSection}%
1106   \vspace{.25\baselineskip}
1107   \begin{center}
1108     {$--*--$}
1109   \end{center}
1110   \vspace{.5\baselineskip}}
```

3.15 Section 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.

```

1111 \if@numbersec
1112 \def\section{\TB@startsection{section}%
1113             1%
1114             \z@
1115             {-8\p@ \@plus-2\p@ \@minus-2\p@}%
1116             {4\p@}%
1117             {\normalsize\bf\raggedright\hyphenpenalty=\@M}}
1118 \def\subsection{\TB@startsection{subsection}%
1119             2%
1120             \z@
1121             {-8\p@ \@plus-2\p@ \@minus-2\p@}%
1122             {4\p@}%
1123             {\normalsize\bf\raggedright\hyphenpenalty=\@M}}
1124 \def\subsubsection{\TB@startsection{subsubsection}%
1125             3%
1126             \z@
1127             {-8\p@ \@plus-2\p@ \@minus-2\p@}%
1128             {4\p@}%
1129             {\normalsize\bf\raggedright\hyphenpenalty=\@M}}
1130 \def\paragraph{\TB@startsection{paragraph}%
1131             4%
1132             \z@
1133             {4\p@ \@plus1\p@ \@minus1\p@}%
1134             {-1em}%
1135             {\normalsize\bf}}

```

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

```

1136 \else
1137 \setcounter{secnumdepth}{0}
1138 \def\section{\TB@nolimelabel
1139             \TB@startsection{section}%
1140             1%
1141             \z@
1142             {-8\p@ \@plus-2\p@ \@minus-2\p@}%
1143             {4\p@}%
1144             {\normalsize\bf\raggedright\hyphenpenalty=\@M}}
1145 \def\subsection{\TB@nolimelabel
1146             \TB@startsection{subsection}%
1147             2%
1148             \z@
1149             {-8\p@ \@plus-2\p@ \@minus-2\p@}%
1150             {-0.5em\@plus-\fontdimen3\font}%
1151             {\normalsize\bf\raggedright\hyphenpenalty=\@M}}
1152 \def\subsubsection{\TB@nolimelabel
1153             \TB@startsection{subsubsection}%
1154             3%

```

```

1155             \parindent
1156             {-8\p@ \@plus-2\p@ \@minus-2\p@}%
1157             {-0.5em\@plus-\fontdimen3\font}%
1158     {\normalsize\bf\raggedright\hyphenpenalty=\@M}}
1159 \fi

```

`\TB@startsection` used to trap * versions of sectioning commands when numbering wasn't in effect. But that eventually seemed a useless complaint, since being able to switch back and forth between numbered and unnumbered can be useful during article development. So now `\TB@startsection` is just a synonym for `\@startsection`.

```

1160 \def\tb@startsection#1{\@startsection#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).

```

1161 \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.

```

1162 \newenvironment{SafeSection}%
1163   {\let\tb@startsection\tb@safe@startsection}%
1164   {}

```

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 in a lullaby'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.

```

1165 \if@numbersec
1166   \def\subparagraph{\TB@nosection\subparagraph\paragraph}
1167 \else
1168   \def\paragraph{\TB@nosection\paragraph\subsubsection}
1169   \def\subparagraph{\TB@nosection\subparagraph\subsubsection}
1170 \fi
1171 \def\chapter{\TB@nosection\chapter\section}
1172 \def\part{\TB@nosection\part\section}
1173 \def\tb@nosection#1#2{\TBWarning{class does not support \string#1,
1174   \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

²Thurber, *The Wonderful O*

and Frank Mittelbach's articles often have toc's (and few others). Also turn off microtype protrusion after

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or leaders get messed up.

```

1175 \def\TBtocsectionfont{\normalfont}
1176 \newskip\TBtocsectionspace \TBtocsectionspace=1.0em\@plus\p@
1177 \def\l@section#1#2{\addpenalty{\@secpenalty}%
1178 \addvspace{\TBtocsectionspace}%
1179 \@tempdima 1.5em
1180 \begingroup
1181 \parindent\z@ \rightskip\z@ % article style makes \rightskip > 0
1182 \parfillskip\z@
1183 \TBtocsectionfont
1184 \leavevmode\advance\leftskip\@tempdima\hskip-\leftskip#1\nobreak\hfil
1185 \nobreak\hb@xt@\@pnumwidth{\hss #2}\par
1186 \endgroup}

```

3.16 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:

```

1187 \renewcommand{\appendix}{\par
1188 \renewcommand{\thesection}{\@Alph\c@section}%
1189 \setcounter{section}{0}%
1190 \if@numbersec
1191 \else
1192 \setcounter{secnumdepth}{1}%
1193 \fi

```

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

```

1194 \def\@tempa{appendix}
1195 \ifx\@tempa\@currenvr
1196 \expandafter\@appendix@env
1197 \fi
1198 }

```

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

```

1199 \newcommand{\app@prefix@section}{-}
1200 \newcommand{\@appendix@env}[1][Appendix]{%
1201 \renewcommand{\@secntformat}[1]{\csname app@prefix@##1\endcsname

```

```

1202   \csname the##1\endcsname\quad}%
1203   \renewcommand{\app@prefix@section}{#1 }%
1204 }

```

Ending an appendix environment is pretty trivial...

```

1205 \let\endappendix\relax

```

3.17 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 mediæval Latin for ‘label’).

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

```

1206 \def\TB@nolimelabel{%
1207   \def\@currentlabel{%
1208     \protect\TBwarning{%
1209       Invalid reference to numbered label on page \thepage
1210       \MessageBreak made%
1211     }%
1212     \textbf{?!?}%
1213   }%
1214 }

```

3.18 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.

```

1215 \let\TB@@sect\@sect
1216 \let\TB@@ssect\@ssect
1217 \def\@sect#1#2#3#4#5#6[#7]#8{%
1218   \def\@currentlabelname{#7}%
1219   \TB@@sect{#1}{#2}{#3}{#4}{#5}{#6}[{#7}]{#8}%
1220 }

```

```

1221 \def\@ssect#1#2#3#4#5{%
1222 \def\@currentlabelname{#5}%
1223 \TB@#ssect{#1}{#2}{#3}{#4}{#5}%
1224 }

```

We output the name label as a second `\newlabel` command in the `.aux` file. That way, packages such as `varioref` which also read the `.aux` information can still work. So we redefine `\label` to first call the standard L^AT_EX `\label` and then write our named label as `nr<label>`.

```

1225 \let\@savelatexlabel=\label % so save original LaTeX command
1226 %
1227 \def\label#1{% de
1228 \@savelatexlabel{#1}%
1229 \@bsphack
1230 \if@filesw
1231 \protected@write\@auxout{%
1232 {\string\newlabel{nr@#1}{\@currentlabel}{\@currentlabelname}}}%
1233 \fi
1234 \@esphack
1235 }

```

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

```

1236 \let\@currentlabelname\@empty

```

Getting named references is then just like getting page references in the L^AT_EX kernel (see `ltxref.dtx`).

```

1237 \DeclareRobustCommand{\nameref}[1]{\expandafter\@setref
1238 \csname r@nr@#1\endcsname\@secondoftwo{#1}}

```

3.19 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` (actually `\tubcaptionfonts`).

First, let's define a dimension by which we will indent full-page captions. We'll also use this to indent abstracts in proceedings style.

```
\@tubfullpageindent
```

```

1239 \newdimen\@tubfullpageindent
1240 \@tubfullpageindent = \if@tubtwocolumn 4.875pc \else 3.875pc \fi
1241 \let\tubcaptionleftglue=\hfил

```

One-line captions are normally centered, but sometimes we want to set them flush-left for consistency with other nearby figures.

```
\tubcaptionleftglue
```

```

1242 \let\tubcaptionleftglue=\hfил

```

Ok, here is \@makecaption.

```
1243 \def\tubcaptionfonts{\small}%
1244 \long\def\@makecaption#1#2{%
1245   \vskip\abovecaptionskip
1246   \sbox\@tempboxa{\tubcaptionfonts \tubmakecaptionbox{#1}{#2}}% try in an hbox
1247   \ifdim \wd\@tempboxa > \hsize
1248     {% caption doesn't fit on one line; set as a paragraph.
1249     \tubcaptionfonts \raggedright \hyphenpenalty=\@M \parindent=1em
1250     % indent full-width captions {figure*}, but not single-column {figure}.
1251     \ifdim\hsize = \textwidth
1252       \leftskip=\@tubfullpageindent \rightskip=\leftskip
1253       \advance\rightskip by 0pt plus2em % increase acceptable raggedness
1254       \fi
1255     \noindent \tubmakecaptionbox{#1}{#2}\par}%
1256   \else
1257     % fits on one line; use the hbox, centered. Do not reset its glue.
1258     \global\@minipagefalse
1259     \hb@xt@\hsize{\tubcaptionleftglue\box\@tempboxa\hfil}%
1260   \fi
1261   \vskip\belowcaptionskip}
1262 %
1263 \def\tubmakecaptionbox#1#2{#1: #2}% allow overriding for a paper
```

Also use \tubcaptionfonts for the caption labels, and put the label itself (e.g., “Figure 1”) in bold.

```
1264 \def\fnnum@figure{{\tubcaptionfonts \bf \figurename\nobreakspace\thefigure}}
1265 \def\fnnum@table{{\tubcaptionfonts \bf \tablename\nobreakspace\thetable}}
```

Let’s reduce the default space above captions a bit, and give it some flexibility. The default is 10pt, which seems too much.

```
1266 \setlength\abovecaptionskip{6pt plus1pt minus1pt}
```

3.20 Size changing commands

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

```
1267 \renewcommand{\normalsize}{%
1268   \@setfontsize\normalsize\@xpt\@xipt
1269   \abovedisplayskip=3\p@\@plus 3\p@\@minus\p@
1270   \belowdisplayskip=\abovedisplayskip
1271   \abovedisplayshortskip=\z@\@plus 3\p@
1272   \belowdisplayshortskip=\p@\@plus 3\p@\@minus\p@
1273 }
1274
1275 \renewcommand{\small}{%
1276   \@setfontsize\small\@ixpt{11}%
1277   \abovedisplayskip=2.5\p@\@plus 2.5\p@\@minus\p@
1278   \belowdisplayskip=\abovedisplayskip
1279   \abovedisplayshortskip=\z@\@plus 2\p@
```

```

1280 \belowdisplayskip=\p@\@plus 2\p@\@minus\p@
1281 }
1282
1283 \renewcommand{\footnotesize}{%
1284 \setfontsize\footnotesize\@viiipt{9.5}%
1285 \abovedisplayskip=3\p@\@plus 3\p@\@minus\p@
1286 \belowdisplayskip=\abovedisplayskip
1287 \abovedisplayskip=\z@\@plus 3\p@
1288 \belowdisplayskip=\p@\@plus 3\p@\@minus\p@
1289 }

```

3.21 Lists and other text inclusions

```

1290 \def\@listi{%
1291 \leftmargin\leftmargini\parsep=\p@\@plus\p@\@minus\p@
1292 \itemsep=\parsep
1293 \listparindent=1em
1294 }
1295
1296 \def\@listii{%
1297 \leftmargin\leftmarginii
1298 \labelwidth=\leftmarginii \advance\labelwidth-\labelsep
1299 \topsep=2\p@\@plus\p@\@minus\p@
1300 \parsep=\p@\@plus\p@\@minus\p@
1301 \itemsep=\parsep
1302 \listparindent=1em
1303 }
1304
1305 \def\@listiii{%
1306 \leftmargin=\leftmarginiii
1307 \labelwidth=\leftmarginiii \advance\labelwidth-\labelsep
1308 \topsep=\p@\@plus\p@\@minus\p@
1309 \parsep=\z@
1310 \itemsep=\topsep
1311 \listparindent=1em
1312 }
1313 \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.

```

1314 \renewcommand{\quotation}{\list{}{\listparindent 1.5em
1315 \rightmargin.5\leftmargin\parsep \z@\@plus\p@}\item[]}

```

The `compactitemize`, `compactenumerate`, and `compactdescription` environments, without space between the items.

```

1316 \newenvironment{compactitemize}%
1317 {\begin{itemize}%
1318 \setlength{\itemsep}{0pt}%
1319 \setlength{\parskip}{0pt}%
1320 \setlength{\parsep}{0pt}%
1321 }%

```

```

1322   {\end{itemize}}
1323 %
1324 \newenvironment{compactenumerate}%
1325   {\begin{enumerate}%
1326     \setlength{\itemsep}{0pt}%
1327     \setlength{\parskip}{0pt}%
1328     \setlength{\parsep}{0pt}%
1329   }%
1330   {\end{enumerate}}
1331 %
1332 \newenvironment{compactdescription}%
1333   {\begin{description}%
1334     \setlength{\itemsep}{0pt}%
1335     \setlength{\parskip}{0pt}%
1336     \setlength{\parsep}{0pt}%
1337   }%
1338   {\end{description}}
1339 %

```

3.22 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.

```

1340 %\let\@TB@verbatim\@verbatim
1341 \let\@TB@verbatim\verbatim
1342 \let\@TB@endverbatim@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.)

1343 \def\verbatim{\par\obeylines
1344   \futurelet\reserved@a\@switch@sqbverbatim}
1345 %
1346 \def\@switch@sqbverbatim{\ifx\reserved@a[%]
1347   \expandafter\@sqbverbatim\else
1348   \def\reserved@b{\@sqbverbatim[]}\expandafter\reserved@b\fi}
1349 %
1350 \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.

```
1351 \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.

```
1352 #1\@TBverbatim}
```

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

```
1353 \def\@verbatim{%
```

First, we deal with `\ruled`:

```
1354 \if@ruled\trivlist\item\hrule\kern5\p@\nobreak\fi
```

Now, the code out of the original `verbatim` environment:

```
1355 \trivlist \item\relax
1356 \if@minipage\else\vskip\parskip\fi
1357 \leftskip\@totalleftmargin\rightskip\z@skip
1358 \parindent\z@\parfillskip\@flushglue\parskip\z@skip
1359 \@@par
1360 \@tempwafalse
1361 \def\par{%
1362 \if@tempwa
1363 \leavevmode \null \@@par\penalty\interlinepenalty
1364 \else
1365 \@tempwatrue
1366 \ifhmode\@@par\penalty\interlinepenalty\fi
1367 \fi}%
1368 \obeylines \verbatim@font \@noligs
1369 \let\do\@makeoother \dospecials
1370 \everypar \expandafter{\the\everypar \unpenalty}%
1371 }%
```

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).

```
1372 \def\endverbatim{\@TBendverbatim
1373 \if@ruled\kern5\p@\hrule\endtrivlist\fi}
```

Define the `\if` used by the `\ruled` option:

```
1374 \let\if@ruled\iffalse
```

Finally, if `microtype` is loaded, we want it to be deactivated in verbatim blocks. It often manipulates a leading `\` rather too much.

```
1375 \AtBeginDocument{%
```

```

1376 \ifpackage{microtype}
1377   {\g@addto@macro\verbatim{\microtypesetup{activate=false}}}{-}
1378 }

```

3.23 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 L^AT_EX 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:

```

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

```

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.

```

1379 \if@Harvardcite
1380 \let\@internalcite\cite

```

Normal forms.

```

1381 \def\cite{\def\@citeseppen{-1000}%
1382   \def\@cite##1##2{##1\if@tempswa , ##2\fi}}%
1383   \def\citeauthoryear##1##2##3{##1, ##3}\@internalcite}
1384 \def\citeNP{\def\@citeseppen{-1000}%
1385   \def\@cite##1##2{##1\if@tempswa , ##2\fi}}%
1386   \def\citeauthoryear##1##2##3{##1, ##3}\@internalcite}
1387 \def\citeN{\def\@citeseppen{-1000}%
1388   \def\@cite##1##2{##1\if@tempswa , ##2\else{}}\fi}}%
1389   \def\citeauthoryear##1##2##3{##1 (##3)\@citedata}
1390 \def\citeA{\def\@citeseppen{-1000}%
1391   \def\@cite##1##2{##1\if@tempswa , ##2\fi}}%
1392   \def\citeauthoryear##1##2##3{##1}\@internalcite}
1393 \def\citeANP{\def\@citeseppen{-1000}%
1394   \def\@cite##1##2{##1\if@tempswa , ##2\fi}}%
1395   \def\citeauthoryear##1##2##3{##1}\@internalcite}

```

Abbreviated forms (using *et al.*)

```

1396 \def\shortcite{\def\@citeseppen{-1000}%

```



```

1397 \def\cite##1##2{##1\if@tempswa , ##2\fi)}%
1398 \def\citeauthoryear##1##2##3{##2, ##3}\@internalcite}
1399 \def\shortciteNP{\def\@citeseppen{-1000}%
1400 \def\cite##1##2{##1\if@tempswa , ##2\fi)}%
1401 \def\citeauthoryear##1##2##3{##2, ##3}\@internalcite}
1402 \def\shortciteN{\def\@citeseppen{-1000}%
1403 \def\cite##1##2{##1\if@tempswa , ##2\else{}}\fi)}%
1404 \def\citeauthoryear##1##2##3{##2 (##3)\@citedata}
1405 \def\shortciteA{\def\@citeseppen{-1000}%
1406 \def\cite##1##2{##1\if@tempswa , ##2\fi)}%
1407 \def\citeauthoryear##1##2##3{##2}\@internalcite}
1408 \def\shortciteANP{\def\@citeseppen{-1000}%
1409 \def\cite##1##2{##1\if@tempswa , ##2\fi)}%
1410 \def\citeauthoryear##1##2##3{##2}\@internalcite}

```

When just the year is needed:

```

1411 \def\citeyear{\def\@citeseppen{-1000}%
1412 \def\cite##1##2{##1\if@tempswa , ##2\fi)}%
1413 \def\citeauthoryear##1##2##3{##3}\@citedata}
1414 \def\citeyearNP{\def\@citeseppen{-1000}%
1415 \def\cite##1##2{##1\if@tempswa , ##2\fi)}%
1416 \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.

```

1417 \def\@citedata{%
1418 \ifnextchar [ {\@tempwatrue\@citedatax}%
1419 \else {\@tempwafalse\@citedatax[]}%
1420 }
1421
1422 \def\@citedatax[#1]#2{%
1423 \if@filesw\immediate\write\@auxout{\string\citation{#2}}\fi%
1424 \def\@citea{}\@cite{\for\@citeb:=#2\do%
1425 {\@citea\def\@citea{, }\ifundefined% by Young
1426 {b@\@citeb}{\bf ?}%
1427 \@warning{Citation ‘\@citeb’ on page \thepage \space undefined}}%
1428 {\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.

```

1429 \def\@citex[#1]#2{%
1430 \if@filesw\immediate\write\@auxout{\string\citation{#2}}\fi%
1431 \def\@citea{}\@cite{\for\@citeb:=#2\do%
1432 {\@citea\def\@citea{; }\ifundefined% by Young
1433 {b@\@citeb}{\bf ?}%
1434 \@warning{Citation ‘\@citeb’ on page \thepage \space undefined}}%
1435 {\csname b@\@citeb\endcsname}}{#1}}%

```

No labels in the bibliography.

```

1436 \def\@biblabel#1{}

```

Set length of hanging indentation for bibliography entries.

```
1437 \newlength{\bibhang}
1438 \setlength{\bibhang}{2em}
```

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

```
1439 \newdimen\bibindent
1440 \bibindent=1.5em
1441 \@ifundefined{refname}%
1442   {\newcommand{\refname}{References}}%
1443   {}%
```

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

```
1444 \def\thebibliography#1{% for harvardcite
1445   \let\TB@startsection\TB@safe@startsection
1446   \section*{\refname
1447     \@mkboth{\uppercase{\refname}}{\uppercase{\refname}}}%
1448   \list{[\arabic{enumi}]}{%
1449     \labelwidth\z@ \labelsep\z@
1450     \leftmargin\bibindent
1451     \itemindent -\bibindent
1452     \listparindent \itemindent
1453     \parsep \z@
1454     \usecounter{enumi}}%
1455   \def\newblock{}%
1456   \BibJustification
1457   \frenchspacing % more than just period, see comments below
1458 }
```

etal Other bibliography odds and ends.

```
\bibentry 1459 \def\etal{et\,al.\@}
1460 \def\bibentry{%
1461   \smallskip
1462   \hangindent=\parindent
1463   \hangafter=1
1464   \noindent
1465   \sloppy
1466   \clubpenalty500 \widowpenalty500
1467   \frenchspacing
1468 }
```

\bibliography Changes made to accommodate TUB file naming conventions

```
\bibliographystyle 1469 \def\bibliography#1{%
1470   \if@filesw
1471     \immediate\write\auxout{\string\bibdata{\@tubfilename{#1}}}%
1472   \fi
1473   \@input{\jobname.bbl}%
1474 }
1475 \def\bibliographystyle#1{%
1476   \if@filesw
```

```

1477 \immediate\write\@auxout{\string\bibstyle{\@tubfilename{#1}}}%
1478 \fi
1479 }

```

`\thebibliography` If the user's asked to use L^AT_EX's default citation mechanism (using the `rawcite` option), we still need to patch `\sloppy` to support justification of the body of the bibliography. We kludge in a call to `\frenchspacing` too, since there is no reason to change only period's `\sfcode`, as L^AT_EX's original `thebibliography` (in `classes.dtx`) does.

By the way, `amsgen.sty` changes `\frenchspacing` to set the `\sfcode` of punctuation character to successively decreasing integers ending at 1001 for comma. Thus its 1006 for period is overwritten to 1000 for `thebibliography`, making `amsgen's \@addpunct` ineffective. Don't know what that means in practice, if anything.

Back here, we also play with *The T_EXbook* since we always have, though that is no longer needed.

```

1480 \else % not harvardcite
1481 \let\TB@origthebibliography\thebibliography
1482 \def\thebibliography{%
1483 \let\TB@startsection\TB@safe@startsection
1484 \def\sloppy{\frenchspacing\BibJustification}%
1485 \TB@origthebibliography} % latex's thebibliography now reads args.
1486 \fi % not harvardcite

```

`\BibJustification` `\BibJustification` defines how the bibliography is to be justified. The Lamport `\SetBibJustification` 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.)

```

1487 \let\TB@@sloppy\sloppy
1488 \let\BibJustification\TB@@sloppy
1489 \newcommand{\SetBibJustification}[1]{%
1490 \renewcommand{\BibJustification}{#1}%
1491 }
1492 \ResetCommands\expandafter{\the\ResetCommands
1493 \let\BibJustification\TB@@sloppy
1494 }

```

3.24 Registration marks

We no longer use these since Cadmus does not want them.

```

1495 \def\HorzR@gisterRule{\vrule \@height 0.2\p@ \@depth\z@ \@width 0.5in }
1496 \def\DownShortR@gisterRule{\vrule \@height 0.2\p@ \@depth 1pc \@width 0.2\p@ }
1497 \def\UpShortR@gisterRule{\vrule \@height 1pc \@depth\z@ \@width 0.2\p@ }

```

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

```

1498 \def\ttopregister{\dlapf%
1499 \hb@xt@\trimwd{\HorzR@gisterRule \hfil \HorzR@gisterRule
1500 \HorzR@gisterRule \hfil \HorzR@gisterRule}%

```

```

1501      \hb@xt@\trimwd{\hfil \DownShortR@gisterRule \hfil}}
1502 \def\tbotregister{\ulap{%
1503      \hb@xt@\trimwd{\hfil \UpShortR@gisterRule \hfil}%
1504      \hb@xt@\trimwd{\HorzR@gisterRule \hfil \HorzR@gisterRule
1505      \HorzR@gisterRule \hfil \HorzR@gisterRule}}}
1506 \def\topregister{\ttopregister}
1507 \def\botregister{\tbotregister}

```

3.25 Running heads

```

1508 \def \rtitlex{\def\texttub##1{{\normalsize\textrm{##1}}}\TUB, \volx }
1509 \def\PrelimDraftfooter{%
1510 \dlap{\kern\textheight\kern3pc
1511 \rlap{\hb@xt@\pagewd{\midrttitle\hfil\midrttitle}}
1512 }}

```

registration marks; these are temporarily inserted in the running head

```

1513 \def\MakeRegistrationMarks{}
1514 \def\UseTrimMarks{%
1515 \def\MakeRegistrationMarks{%
1516 \ulap{\rlap{%
1517 \vbox{\dlap{\vbox to\trimlgt{\vfil\botregister}}}%
1518 \topregister\vskip \headmargin \vskip 10\p@}}}%
1519 }
1520 % put issue identification and page number in header.
1521 \def\@oddhead{\MakeRegistrationMarks\PrelimDraftfooter
1522 \normalsize\csname normalshape\endcsname\rm \tubheadhook
1523 \rtitlex\quad\midrttitle \hfil \thepage}
1524 \def\@evenhead{\MakeRegistrationMarks\PrelimDraftfooter
1525 \normalsize\csname normalshape\endcsname\rm \tubheadhook
1526 \thepage\hfil\midrttitle\quad\rtitlex}
1527
1528 % can be used to reset the font, e.g., tb98kuester.
1529 \def\tubheadhook{}
1530
1531 % put title and author in footer.
1532 \def\@tubrunningfull{%
1533 \def\@oddfoot{% make line break commands produce a normal space
1534 \def\{\unskip \ignorespaces}%
1535 \let\newline=\%
1536 \hfil\rhTitle}
1537 \def\@evenfoot{\@author\hfil}
1538 }
1539
1540 \def\@tubrunninggetauthor#1{#1%
1541 \begingroup
1542 \let\thanks\@gobble
1543 \protected@xdef\rhAuthor{\the\toks@##1}%
1544 \endgroup
1545 }%

```

```

1546
1547 % empty footer.
1548 \def\@tubrunningminimal{%
1549   \def\@oddfoot{\hfil}%
1550   \def\@evenfoot{\hfil}%
1551 }
1552
1553 % empty footer and header.
1554 \def\@tubrunningoff{%
1555   \def\@oddfoot{\hfil}%
1556   \def\@evenfoot{\hfil}%
1557   \def\@oddhead{\hfil}%
1558   \def\@evenhead{\hfil}%
1559 }
1560
1561 \def\ps@headings{}
1562 \pagestyle{headings}

```

3.26 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...

```

1563 \def\@outputdblcol{\if@firstcolumn \global\@firstcolumnfalse
1564   \global\setbox\@leftcolumn\box\@outputbox
1565   \global\brokenpenalty10000
1566   \else \global\@firstcolumntrue
1567     \global\brokenpenalty100
1568     \setbox\@outputbox\vbox{\hb@xt@\textwidth{\hb@xt@\columnwidth
1569       {\box\@leftcolumn \hss}\hfil \vrule \@width\columnseprule\hfil
1570       \hb@xt@\columnwidth{\box\@outputbox \hss}}}\@combinedblfloats
1571     \outputpage \begingroup \@dblfloatplacement \@startdblcolumn
1572     \@whilesw\if@fcolmade \fi{\@outputpage\@startdblcolumn}\endgroup
1573   \fi}

```

3.27 Font-related definitions and machinery

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

```

1574 \newif\ifFirstPar      \FirstParfalse
1575 \def\smc{\sc}
1576 \def\ninepoint{\small}
1577 </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 `\@currsize`: 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 `resize.sty` by Donald Arseneau and Matt Swift. (The order of examination of `\@currsize` is to get the commonest cases out of the way first.)

```

1578 <*common>
1579 \DeclareRobustCommand{\SMC}{%
1580   \ifx\@currsize\normalsize\small\else
1581   \ifx\@currsize\small\footnotesize\else
1582   \ifx\@currsize\footnotesize\scriptsize\else
1583   \ifx\@currsize\large\normalsize\else
1584   \ifx\@currsize\Large\large\else
1585   \ifx\@currsize\LARGE\Large\else
1586   \ifx\@currsize\scriptsize\tiny\else
1587   \ifx\@currsize\tiny\tiny\else
1588   \ifx\@currsize\huge\LARGE\else
1589   \ifx\@currsize\Huge\huge\else
1590   \small\SMC@unknown@warning
1591 \fi\fi\fi\fi\fi\fi\fi\fi\fi\fi
1592 }
1593 \newcommand{\SMC@unknown@warning}{\TBWarning{\string\SMC: nonstandard
1594   text font size command -- using \string\small}}
1595 \newcommand{\textSMC}[1]{\{\SMC #1\}}

```

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

```

1596 \newcommand{\acro}[1]{\textSMC{#1}\@}
1597 </common>

```

3.28 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!)

```

1598 <*classtail>
1599 \def\xEdNote{\EdNoteFont Editor’s note:\enspace }
1600 \def \EdNote{\@ifnextchar [%]
1601   {%

```

```

1602 \ifvmode
1603 \smallskip\noindent\let\@EdNote@\@EdNote@v
1604 \else
1605 \unskip\quad\def\@EdNote@\{unskip\quad}%
1606 \fi
1607 \@EdNote
1608 }%
1609 \xEdNote
1610 }
1611 \long\def\@EdNote[#1]{%
1612 [\thinspace\xEdNote\ignorespaces
1613 #1%
1614 \unskip\thinspace]%
1615 \@EdNote@
1616 }
1617 \def\@EdNote@v{\par\smallskip}

```

Macros for Mittelbach's self-documenting style

```

1618 \def\SelfDocumenting{%
1619 \setlength\textwidth{31pc}
1620 \onecolumn
1621 \parindent \z@
1622 \parskip 2\p@\@plus\p@\@minus\p@
1623 \oddsidemargin 8pc
1624 \evensidemargin 8pc
1625 \marginparwidth 8pc
1626 \toks@\expandafter{\@oddhead}%
1627 \xdef\@oddhead{\hss\hb@xt@\pagewd{\the\toks@}}%
1628 \toks@\expandafter{\@evenhead}%
1629 \xdef\@evenhead{\hss\hb@xt@\pagewd{\the\toks@}}%
1630 \def\ps@titlepage{}%
1631 }
1632 \def\ps@titlepage{}
1633
1634 \long\def\@makefntext#1{\parindent 1em\noindent\hb@xt@2em{}}%
1635 \llap{\@makefnmark}\null$\mskip5mu$#1}
1636
1637 %% \long\def\@makefntext#1{\parindent 1em
1638 %% \noindent
1639 %% \hb@xt@2em{\hss\@makefnmark}%
1640 %% \hskip0.27778\fontdimen6\textfont\z@relax
1641 %% #1%
1642 %% }

```

`\tubraggedfoot` To get a ragged-right footnote.

```

1643 \newcommand{\tubraggedfoot}{\rightskip=\raggedskip plus\raggedstretch\relax}

```

`\creditfootnote` Sometimes we want the label “Editor’s Note:”, sometimes not.

```

\supportfootnote 1644 \def\creditfootnote{\nomarkfootnote\xEdNote}
1645 \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.

```
1646 \gdef\nomarkfootnote#1#2{\begingroup
1647   \def\thefootnote{}%
1648   % no period, please, also no fnmark.
1649   \def\@makefntext##1{##1}%
1650   \footnotetext{\noindent #1#2}%
1651   \endgroup
1652 }
```

3.29 Initialization

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

```
1653 \if@Harvardcite
1654   \AtBeginDocument{%
1655     \bibliographystyle{ltugbib}%
1656   }
1657 \fi
1658 \authornumber\z@
1659 \let\@signature\@defaultsignature
1660 \InputIfFileExists{ltugboat.cfg}{\TBInfo{Loading ltugboat
1661                                           configuration information}}{}
1662 </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:

```
1663 <*ltugproccls>
1664 \def\@tugclass{ltugproc}
```

`\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.

```
1665 \newif\if@proc@sober
1666 \newif\if@proc@numerable
1667 \DeclareOption{tug95}{%
1668   \@proc@soberfalse
1669   \@proc@numerablefalse
1670 }
1671 \DeclareOption{tug96}{%
1672   \@proc@sobertrue
1673   \@proc@numerablefalse
1674 }
1675 \DeclareOption{tug97}{%
1676   \@proc@sobertrue
1677   \@proc@numerabletrue
```



```

1678 }
1679 \DeclareOption{tug2002}{%
1680   \@proc@sobertrue
1681   \@proc@numerabletrue
1682   \let\if@proc@numbersec\iftrue
1683   \PassOptionsToClass{numbersec}{ltugboat}%
1684 }

```

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

```

1685 \DeclareOption{numbersec}{\let\if@proc@numbersec\iftrue
1686   \PassOptionsToClass{numbersec}{ltugboat}%
1687 }
1688 \DeclareOption{nonumber}{\let\if@proc@numbersec\iffalse
1689   \PassOptionsToClass{nonumber}{ltugboat}%
1690 }

```

`\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`.

```

1691 \newif\ifTB@title
1692 \DeclareOption{title}{\TB@titletrue}
1693 \DeclareOption{notitle}{\TB@titlefalse}
1694 \AtBeginDocument{\stepcounter{page}}

```

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

```

1695 \DeclareOption{tugproc}{%
1696   \ClassWarning{\@tugclass}{Option \CurrentOption\space ignored}%
1697 }

```

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

```

1698 \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...)

```

1699 \InputIfFileExists{\@tugclass.cfg}{\ClassInfo{ltugproc}%
1700   {Loading ltugproc configuration information}}{}
1701 \@ifundefined{TUGprocExtraOptions}{%
1702   {\let\TUGprocExtraOptions\empty}}%
1703   {\edef\TUGprocExtraOptions{,\TUGprocExtraOptions}}

```

`\tugProcYear` Now work out what year it is

```

1704 \@tempcnta\year
1705 \ifnum\@tempcnta<2000
1706   \divide\@tempcnta by100
1707   \multiply\@tempcnta by100
1708   \advance\@tempcnta-\year

```

```

1709 \@tempcnta-\@tempcnta
1710 \fi
        And use that for calculating a year for us to use.
1711 \edef\@tempa{\noexpand\providecommand\noexpand\tugProcYear
1712             {\ifnum10>\@tempcnta0\fi\the\@tempcnta}}
1713 \@tempa
1714 \ClassInfo{ltugproc}{Class believes year is
1715 \expandafter\ifnum\tugProcYear<2000 19\fi\tugProcYear
1716 \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.

```

1717 \expandafter\ifx\curname ds@tug\tugProcYear\endcsname\relax
1718 \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.

```

1719 \ExecuteOptions{tug\tugProcYear,title\TUGprocExtraOptions}
1720 \ProcessOptions
1721 \if@proc@numbersec
1722 \if@proc@numerable
1723 \else
1724 \ClassWarning{\@tugclass}{This year’s proceedings may not have
1725 numbered sections}%
1726 \fi
1727 \fi

```

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

```

1728 \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.

```

1729 \def\maketitle{%
1730 \begingroup
        first, a bit of flim-flam to generate an initial value for \rhAuthor (unless the
        user’s already given one with a \shortAuthor comand).
1731 \ifshortAuthor\else
1732 \global\let\rhAuthor\@empty
1733 \def@g@addto@rhAuthor##1{%
1734 \begingroup
1735 \toks@\expandafter{\rhAuthor}%
1736 \let\thanks@gobble
1737 \protected@xdef\rhAuthor{\the\toks@##1}%

```

```

1738     \endgroup
1739   }%
1740   \@getauthorlist\g@addto@rhAuthor
1741   \fi
      now, the real business of setting the title
1742   \ifTB@title
1743     \setcounter{footnote}{0}%
1744     \renewcommand{\thefootnote}{\@fnsymbol\c@footnote}%
1745     \if@tbtwocolumn
1746       \twocolumn[\@maketitle]%
1747     \else
1748       \onecolumn
1749       \global\@topnum\z@
1750       \@maketitle
1751     \fi
1752     \@thanks
1753     \thispagestyle{TBproctitle}
1754   \fi
1755   \endgroup
1756   \TB@madetitletrue
1757 }
1758 \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.

```

1759 \def\@TB@test@document{%
1760   \edef\@tempa{\the\everypar}
1761   \def \@tempb{\@nodocument}
1762   \ifx \@tempa\@tempb
1763     \@nodocument
1764   \fi
1765 }

```

`\AUTHORfont` Define the fonts for titles and things

```

\TITLEfont 1766 \def \AUTHORfont {\large\rmfamily\mdseries\upshape}
\addressfont 1767 \def \TITLEfont {\Large\rmfamily\mdseries\upshape}
\netaddrfont 1768 \def \addressfont {\small\rmfamily\mdseries\upshape}
1769 \def \netaddrfont {\small\ttfamily\mdseries\upshape}

```

`\aboveauthorskip` Some changeable skips to permit variability in page layout depending on the particular paper's page breaks.

```

\belowabstractskip 1770 \newskip\aboveauthorskip \aboveauthorskip=18\p@ \@plus4\p@
1771 \newskip\belowauthorskip \belowauthorskip=\aboveauthorskip
1772 \newskip\belowabstractskip \belowabstractskip=14\p@ \@plus3\p@ \@minus2\p@

```

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

```

1773 \def\@maketitle{%

```

```

1774 {\parskip\z@
1775 \frenchspacing
1776 \TITLEfont\raggedright\noindent\@title\par
1777 \count@=0
1778 \loop
1779 \ifnum\count@<\authornumber
1780 \vskip\aboveauthorskip
1781 \advance\count@\@ne
1782 {\AUTHORfont\theauthor{\number\count@}\endgraf}%
1783 \addressfont\theaddress{\number\count@}\endgraf
1784 {%
1785 \allowhyphens
1786 \hangindent1.5pc
1787 \netaddrfont\thenetaddress{\number\count@}\endgraf
1788 \hangindent1.5pc
1789 \thePersonalURL{\number\count@}\endgraf
1790 }%
1791 \repeat
1792 \vskip\belowauthorskip}%
1793 \if@abstract
1794 \centerline{\bfseries Abstract}%
1795 \vskip.5\baselineskip\rmfamily
1796 \@tubonecolumnabstractstart
1797 \the\abstract@toks
1798 \@tubonecolumnabstractfinish
1799 \global\@ignoretrue
1800 \fi
1801 \vskip\belowabstractskip
1802 \global\@afterindentfalse\aftergroup\@afterheading
1803 }

```

`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@`

```

1804 \newtoks\abstract@toks \abstract@toks{}
1805 \let\if@abstract\iffalse
1806 \def\abstract{%

```

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

```

1807 \ifTB@madetitle
1808 \TBWarning{abstract environment after \string\maketitle}
1809 \fi
1810 \def\@abstract@{abstract}%
1811 \ifx\@currenvir\@abstract@

```

```

1812 \else
1813   \TError{\string\abstract\space is illegal:%
1814     \MessageBreak
1815     use \string\begin{\@abstract@} instead}%
1816     {\@abstract@\space may only be used as an environment}
1817 \fi
1818 \global\let\if@abstract\iftrue
1819 {\ifnum0='}\fi
1820 \@abstract@getbody}
1821 \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}

1822 \long\def\@abstract@getbody#1\end{%
1823   \global\abstract@toks\expandafter{\the\abstract@toks#1}%
1824   \@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.

1825 \def\@abstract@findend#1{%
1826   \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.

1827   \ifx\@tempa\@abstract@
1828     \expandafter\@abstract@end
1829   \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)

1830     \def\@tempb{document}%
1831     \ifx\@tempa\@tempb
1832       \TError{\string\begin{\@abstract@}
1833         ended by \string\end{\@tempb}}%
1834       {You've forgotten \string\end{\@abstract@}}
1835     \else
1836       \global\abstract@toks\expandafter{\the\abstract@toks\end{#1}}%
1837       \expandafter\expandafter\expandafter\@abstract@getbody
1838     \fi
1839   \fi}

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

1840 \def\@abstract@end{\ifnum0='}\fi}%
1841 \expandafter\end\expandafter{\@abstract@}

```

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

```

1842 \renewcommand{\makesignature}{\TBWarning
1843         {\string\makesignature\space is invalid in proceedings issues}}

\ps@TBproctitle Now we define the running heads in terms of the \rh* commands.
\ps@TBproc 1844 \def\ps@TBproctitle{\let\@oddhead\MakeRegistrationMarks
\dopagecommands 1845 \let\@evenhead\MakeRegistrationMarks
\setpagecommands 1846 \TB@definefeet
\TB@definefeet 1847 }
\pfoottext 1848 \def\ps@TBproc{%
\rfoottext 1849 \def\@oddhead{\MakeRegistrationMarks
1850     {%
1851         \hfil
1852         \def\{\unskip\ \ignorespaces}%
1853         \rmfamily\rhTitle
1854     }%
1855 }%
1856 \def\@evenhead{\MakeRegistrationMarks
1857     {%
1858         \def\{\unskip\ \ignorespaces}%
1859         \rmfamily\rhAuthor
1860         \hfil
1861     }%
1862 }%
1863 \TB@definefeet
1864 }
1865
1866 \advance\footskip8\p@ % for deeper running feet
1867
1868 \def\dopagecommands{\csname @@pagecommands\number\c@page\endcsname}
1869 \def\setpagecommands#1#2{\expandafter\def\csname @@pagecommands#1\endcsname
1870     {#2}}
1871 \def\TB@definefeet{%
1872     \def\@oddfoot{\ifpreprint\pfoottext\hfil\Now\hfil\thepage
1873         \else\rfoottext\hfil\thepage\fi\dopagecommands}%
1874     \def\@evenfoot{\ifpreprint\thepage\hfil\Now\hfil\pfoottext
1875         \else\thepage\hfil\rfoottext\fi\dopagecommands}%
1876 }
1877
1878 \def\pfoottext{\smc Preprint}:
1879 Proceedings of the \volyr{} Annual Meeting}
1880 \def\rfoottext{\normalfont\TUB, \volx\Dash
1881     {Proceedings of the \volyr{} Annual Meeting}}
1882
1883 \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).

```
1884 \if@proc@numbersec
1885 \else
1886 \setcounter{secnumdepth}{0}
1887 \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.

```
1888 \if@proc@numbersec
1889 \else
1890 \if@proc@sober
1891 \def\section
1892     {\TB@nolimelabel
1893     \TB@startsection{{section}%
1894     1%
1895     \z@%
1896     {-8\p@\@plus-2\p@\@minus-2\p@}%
1897     {6\p@}%
1898     {\normalsize\bfseries\raggedright}}}
1899 \else
1900 \def\section
1901     {\TB@nolimelabel
1902     \TB@startsection{{section}%
1903     1%
1904     \z@%
1905     {-8\p@\@plus-2\p@\@minus-2\p@}%
1906     {6\p@}%
1907     {\large\bfseries\raggedright}}}
1908 \fi
1909 \def\subsection
1910     {\TB@nolimelabel
1911     \TB@startsection{{subsection}%
1912     2%
1913     \z@%
1914     {6\p@\@plus 2\p@\@minus2\p@}%
1915     {-5\p@\@plus -\fontdimen3\the\font}%
1916     {\normalsize\bfseries}}}
1917 \def\subsubsection
1918     {\TB@nolimelabel
1919     \TB@startsection{{subsubsection}%
1920     3%
1921     \parindent%
1922     \z@%
1923     {-5\p@\@plus -\fontdimen3\the\font}%
1924     {\normalsize\bfseries}}}
```

```
1925 \fi
1926 </ltugproccls>
```

5 Plain T_EX styles

```
1927 <*tugboatsty>
1928 % err...
1929 </tugboatsty>
1930 <*tugprocsty>
1931 % err...
1932 </tugprocsty>
```

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

```
1933 <*ltugboatsty>
1934 \@obsoletefile{ltugboat.cls}{ltugboat.sty}
1935 \LoadClass{ltugboat}
1936 </ltugboatsty>
1937 <*ltugprocsty>
1938 \@obsoletefile{ltugproc.cls}{ltugproc.sty}
1939 \LoadClass{ltugproc}
1940 </ltugprocsty>
```