

The **tugboat** package*

The *TUGboat* team

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1 Document preambles

```

1 <tugboatcls | ltugproccls | ltugcomn>\NeedsTeXFormat{LaTeX2e}[1994/12/01]
2 <*dtx>
3 \ProvidesFile                {tugboat.dtx}
4 </dtx>
5 <tugboatcls>\ProvidesClass  {ltugboat}
6 <tugproccls>\ProvidesClass  {ltugproc}
7 <tugboatsty>\ProvidesPackage{ltugboat}
8 <tugprocsty>\ProvidesPackage{ltugproc}
9 <tugcomn>   \ProvidesPackage{ltugcomn}
10           [2021-06-27 v2.25
11 <tugboatcls>                TUGboat journal class%
12 <tugproccls>                TUG conference proceedings class%
13 <tugboatsty | ltugprocsty>  TUG compatibility package%
14 <tugcomn>                   TUGboat ‘common macros’ package%
15 <*dtx>
16                             TUG macros source file%
17 </dtx>
18 ]

```

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).

`\AllTeX` (L^A)T_EX

<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>	ConTeXt
<code>\Cplusplus</code>	C++
<code>\DTD</code>	
<code>\DVD</code>	
<code>\DVI</code>	
<code>\DVIPDFMx</code>	DVIPDFM x
<code>\DVItOVDU</code>	DVItOVDU
<code>\ECMA</code>	
<code>\EPS</code>	
<code>\eTeX</code>	ε -TeX
<code>\ExTeX</code>	ε_X TeX
<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 TeX
<code>\LaTeX</code>	
<code>\LyX</code>	
<code>\macOS</code>	mac OS
<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 TeX
<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 \TeX book
<code>\TeX</code>	(Although nearly every package defines this, most, including plain, are missing the spacefactor 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>\rtitlenexttopage</code>	next to page number in running head
<code>\HorzR@gisterRule</code>	pieces of registration marks ('trimmarks')
<code>\DownShortR@gisterRule</code>	
<code>\UpShortR@gisterRule</code>	
<code>\ttopregister</code>	top registration line with 'T' in center
<code>\tbotregister</code>	bottom registration line with inverted 'T' in center
<code>\topregister</code>	register actually used
<code>\botregister</code>	
<code>\raggedskip</code>	parameters used for ragged settings
<code>\raggedstretch</code>	
<code>\raggedparfill</code>	
<code>\raggedspaces</code>	
<code>\raggedright</code>	
<code>\raggedleft</code>	
<code>\raggedcenter</code>	
<code>\normalspaces</code>	
<code>\raggedbottom</code>	
<code>\bull</code>	square bullet
<code>\cents</code>	'cents' sign
<code>\Dag</code>	superscripted dagger
<code>\careof</code>	c/o
<code>\sfrac</code>	slashed fraction (arguments optionally separated by a slash)
<code>\cs</code>	control sequence name <code>\cs{name}→\name</code>
<code>\env</code>	environment name <code>\env{name}→\begin{name}</code>

<code>\meta</code>	meta-argument name <code>\meta{name}→⟨name⟩</code>
<code>\dash</code>	en-dash surrounded by thinspaces; only breakable AFTER
<code>\Dash</code>	em-dash, as above
<code>\hyph</code>	permit automatic hyphenation after an actual hyphen
<code>\slash</code>	‘breakable’ slash
<code>\nth</code>	for obtaining ‘1 st ’, ‘2 nd ’, 3 rd , etc.
<code>\tubissue</code>	gets \TUB followed by volume and issue numbers
<code>\xEdNote</code>	Editor’s Note:
<code>\Review:</code>	Review: (for title of book review article)
<code>\reviewitem</code>	begin data for item being reviewed
<code>\revauth</code>	with one argument, author(s) of item being reviewed
<code>\revtitle</code>	with one argument, title of ...
<code>\revpubinfo</code>	with one argument, other info pertaining to ...
<code>\endreviewitem</code>	end data for item being reviewed
<code>\booktitle</code>	with one argument, format book title as straight 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>\TBEenableRemarks</code>	enable \TBremarks (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. Hmmm... 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.

```
19 <*\tugboatcls>
20 \csname tugstyloaded@\endcsname
```

```
21 \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.

```
22 \providecommand{\@tugclass}{ltugboat}
```

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

```
23 \def\TBInfo{\ClassInfo{\@tugclass}}
```

```
24 \def\TBError{\ClassError{\@tugclass}}
```

```
25 \def\TBWarning{\ClassWarning{\@tugclass}}
```

```
26 \def\TBWarningNL{\ClassWarningNoLine{\@tugclass}}
```

draft vs. preprint vs. final.

```
27 \DeclareOption{draft}{%
```

```
28   \AtEndOfClass{%
```

```
29     \setcounter{page}{901}%
```

```
30     %
```

```
31     % Put a question mark into the page number in draft mode.
```

```
32     \let\tuborigthepage = \thepage
```

```
33     \def\thepage{%
```

```
34       \ifnum\value{page}>900
```

```
35         \textsl{?\texorpdfstring{,}{}}\@arabic{\numexpr\the\c@page-900\relax}}%
```

```
36       \else
```

```
37         \arabic{page}%
```

```
38       \fi}%
```

```
39     %
```

```
40     \BlackBoxes
```

```
41     \def\MakeRegistrationMarks{}%
```

```
42     \PrelimDrafttrue
```

```
43   }%
```

```
44 }
```

```
45
```

```
46 \newif\ifpreprint
```

```
47 \def\preprint{\preprinttrue}
```

```
48 \DeclareOption{preprint}{%
```

```
49   \preprinttrue
```

```
50 }
```

```
51
```

```
52 \newif\iftubfinaloption % [final]
```

```
53 \DeclareOption{final}{%
```

```
54   \tubfinaloptiontrue
```

```
55   \AtEndOfClass{%
```

```
56     \let\thepage=\tuborigthepage
```

```
57     \NoBlackBoxes
```

```
58     % Insert draft date into the header even with [final], if we are not
```

```
59     % doing a production run. (tugboat.dates sets up page numbers
```

```
60     % above 900 in such pseudo-draft mode.) We use [final] in the first
```

```
61     % place for this case because draft can change page layout, wrt
```

```

62 % registration marks, etc.
63 \ifnum\value{page}>900 \PrelimDrafttrue \else \PrelimDraftfalse \fi
64 \@tubrunningfull
65 }%
66 }

```

We want to use `hyperref`'s `\texorpdfstring`, e.g., in the `draft` option above. If `hyperref` is not loaded, define our own trivial fallback to expand to the `TeX` (first) argument.

```

67 \AtBeginDocument{%
68 \ifx\undefined\texorpdfstring
69 \DeclareRobustCommand{\texorpdfstring}[2]{#1}%
70 \fi
71 }

```

TUGboat uses only 10pt for the main text.

```

72 \DeclareOption{11pt}{%
73 \TBWarning{The \@tugclass\space class only supports 10pt fonts:
74 \MessageBreak option \CurrentOption\space ignored}%
75 }
76 \DeclareOption{12pt}{\csname ds@11pt\endcsname}

```

Similarly, ignore one/two-side options.

```

77 \DeclareOption{oneside}{\TBWarning{Option \CurrentOption\space ignored}}
78 \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`.)

```

79 \DeclareOption{tugproc}{%
80 \TBWarning{Option \CurrentOption\space ignored: use class ltugproc
81 instead of \@tugclass}%
82 }

```

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 3.24 below.

```

83 \DeclareOption{rawcite}{\let\if@Harvardcite\iffalse}
84 \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 reader can work out the correspondence one with the other...

```

85 \DeclareOption{extralabel}{\let\UseExtraLabel\@firstofone}
86 \DeclareOption{noextralabel}{\let\UseExtraLabel\@gobble}

```

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

```
87 \DeclareOption{numbersec}{\let\if@numbersec\iftrue}
88 \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.

```
89 \DeclareOption{runningoff}{\AtEndOfClass{\@tubrunningoff}}
90 \DeclareOption{runningminimal}{\AtEndOfClass{\@tubrunningminimal}}
91 \DeclareOption{runningfull}{\AtEndOfClass{\@tubrunningfull}}
```

Usually we want to print the doi if [final], else not. But sometimes we want to omit it even if [final], namely when we’re posting a review or other item early.

```
92 \newif\iftubomitdoioption
93 \DeclareOption{omitdoi}{%
94   \tubomitdoioptiontrue
95 }
```

`\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`.

```
96 \newif\if@tubtwocolumn \@tubtwocolumntrue
97 \DeclareOption{onecolumn}{\@tubtwocolumnfalse}
```

`\ifsecondcolstart` Occasionally, we need to start an article in the second column of a page, due to splicing with a previous article. Let’s try declaring that. Then, before `\maketitle`, we’ll force the move to the second column.

```
98 \newif\iftubsecondcolstart
99 \DeclareOption{secondcolstart}{\tubsecondcolstarttrue}
```

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

```
100 \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.

```
101 \ExecuteOptions{draft,extralabel,numbersec,rawcite,runningminimal}
102 \ProcessOptions
103 \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.

```
104 \def\sectitlefont{\fontfamily\sfddefault\fontseries{bx}\fontshape{n}%
105   \fontsize\@xvipt\stbaselineskip\selectfont}
106 \def\tensl{\fontseries{m}\fontshape{sl}\fontsize\@xpt\@xipt
107   \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...

```
108 \def\EdNoteFont{\fontfamily{cmr}\fontseries{m}\fontshape{ui}%
109         \selectfont}
110 \ltugboatcls
```

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

```
111 \common
112 \IfFileExists{mflogo.sty}%
113   {\RequirePackage{mflogo}}%
114 \ltugcomn {\TBWarning
115 \tugcomn} {\PackageWarning{ltugcomn}
116   {Package mflogo.sty not available --\MessageBreak
117   Proceeding to emulate mflogo.sty}
118   \DeclareRobustCommand{\logofamily}{%
119     \not@math@alphabet\logofamily\relax
120     \fontencoding{U}\fontfamily{logo}\selectfont}
121   \DeclareTextFontCommand{\textlogo}{\logofamily}
122   \def\MF{\textlogo{META}}\-\textlogo{FONT}\@}
123   \def\MP{\textlogo{META}}\-\textlogo{POST}\@}
124   \DeclareFontFamily{U}{logo}{}
125   \DeclareFontShape{U}{logo}{m}{n}{%
126     <8><9>gen*logo%
127     <10><10.95><12><14.4><17.28><20.74><24.88>logo10%
128   }{}
129   \DeclareFontShape{U}{logo}{m}{sl}{%
130     <8><9>gen*logosl%
131     <10><10.95><12><14.4><17.28><20.74><24.88>logosl10%
132   }{}
133   \DeclareFontShape{U}{logo}{m}{it}{%
134     <->ssub*logo/m/sl%
135   }{}%
136 }
```

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

```
137 \newtoks\ResetCommands
```

```

138 \ResetCommands{%
139   \setcounter{part}{0}%
140   \setcounter{section}{0}%
141   \setcounter{footnote}{0}%
142   \authornumber\z@
143 }
144 \newcommand{\AddToResetCommands}[1]{%
145   \AddToResetCommands\expandafter{\AddToResetCommands#1}%
146 }

```

3.3 Helpful shorthands (common code with Plain styles)

`\makespace`, ..., `\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., `\makespace\` will make `'/'` an escape character.

```

147 <!!latex>
148 \def \makespace#1{\catcode'#1=0 }
149 \def \makebgroup#1{\catcode'#1=1 }
150 \def \makeegroup#1{\catcode'#1=2 }
151 \def \makemath #1{\catcode'#1=3 }
152 </!!latex>
153 <!!latex>
154 \def \makespace#1{\catcode'#1=\z@}
155 \def \makebgroup#1{\catcode'#1=\@ne}
156 \def \makeegroup#1{\catcode'#1=\tw@}
157 \def \makemath #1{\catcode'#1=\thr@@}
158 </latex>
159 \def \makealign #1{\catcode'#1=4 }
160 \def \makeeol #1{\catcode'#1=5 }
161 \def \makeparm #1{\catcode'#1=6 }
162 \def \makesup #1{\catcode'#1=7 }
163 \def \makesub #1{\catcode'#1=8 }
164 \def \makeignore#1{\catcode'#1=9 }
165 \def \makespace #1{\catcode'#1=10 }
166 \def \makeletter#1{\catcode'#1=11 }
167 \chardef \other=12
168 \let \makeother \makeother
169 \def \makeactive#1{\catcode'#1=13 }
170 \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.

```

171 \def \savecat#1{%
172   \expandafter\edef\csname\string#1savedcat\endcsname{\the\catcode'#1}
173 \def \restorecat#1{\catcode'#1=\csname\string#1savedcat\endcsname}
174 <!!latex> \savecat \@
175 <!!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.

```
176 \def\SaveCS#1{\expandafter\let\csname saved@@#1\expandafter\endcsname
177   \csname#1\endcsname}
178 \def\RestoreCS#1{\expandafter\let\csname#1\expandafter\endcsname
179   \csname saved@@#1\endcsname}
```

To distinguish between macro files loaded

```
180 \def\plaintubstyle{plain}
181 \def\largetubstyle{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:

```
182 \providecommand\hb@xt@{\hbox to}
183 \providecommand\textsuperscript[1]{\ensuremath{\m@th
184   ^{\mbox{\fontsize\sf@size\z@
185     \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.

```
186 \DeclareRobustCommand{\AllTeX}{(\La\kern-.075em)\kern-.075em\TeX}
187 \def\AMS{American Mathematical Society}
188 \def\AmS{$\mathcal{A}$\kern-.1667em\lower.5ex\hbox
189   {\mathcal{M}}$\kern-.125em$\mathcal{S}$}
190 \def\AmSLaTeX{\AmS-\LaTeX}
191 \def\AmSTeX{\AmS-\TeX}
192 \def\ANSI{\acro{ANSI}}
193 \def\API{\acro{API}}
194 \def\ASCII{\acro{ASCII}}
195 \def\aw{\acro{A\kern.04em\raise.115ex\hbox{-}W}}
196 \def\AW{Addison\kern.1em-\penalty\z@\hskip\z@skip Wesley}
197 %
198 % make \BibTeX work in slanted contexts too; it’s common in titles, and
199 % especially burdensome to hack in .bib files.
200 \def\Bib{%
201   \ifdim \fontdimen1\font>0pt
202     B{\SMC\SMC IB}%
203   \else
204     B\textsc{ib}%
205   \fi
206 }
207 \def\BibLaTeX{\Bib\kern.02em \LaTeX}
```

```

208 \def\BibTeX{\Bib\kern-.08em \TeX}
209 % no good way to determine bold font, and we want to lose the kern, too:
210 % (we \let BibTeX to this in maketitle)
211 \def\bfBibTeX{B{\SMC\SMC IB}\TeX}
212 %
213 \def\BSD{\acro{BSD}}
214 \def\CandT{\textsl{Computers \& Typesetting}}
215 % must not define \CJK, because the CJK package does.

We place our \kern after \- so that it disappears if the hyphenation is taken:
216 \def\ConTeXt{C\kern-.0333emon\-\kern-.0667em\TeX\kern-.0333emt}
217 \def\CMkIV{\ConTeXt\ \MkIV}
218 \def\Cplusplus{C\plusplus}
219 \def\plusplus{\raisebox{.7ex}{$_{++}$}}
220 \def\CPU{\acro{CPU}}
221 \def\CSzabbr{\ensuremath{\cal C}\kern-.1667em\lower.5ex\hbox{$\cal S$}}
222 \def\CSS{\acro{CSS}}
223 \def\CSTUG{\CSzabbr\kern.05em\acro{TUG}}
224 \def\CSV{\acro{CSV}}
225 \def\CTAN{\acro{CTAN}}
226 \def\DTD{\acro{DTD}}
227 \def\DTK{\acro{DTK}}
228 \def\DVD{\acro{DVD}}
229 \def\DVI{\acro{DVI}}
230 \def\DVIPDFMx{\acro{DVIPDFM}$x$}
231 \def\DVitoVDU{DVito\kern-.12em VDU}
232 \def\ECMA{\acro{ECMA}}
233 \def\EPS{\acro{EPS}}
234 % no line break at this hyphen please
235 \DeclareRobustCommand{\eTeX}{\ensuremath{\varepsilon}\mbox{-}\kern-.125em\TeX}
236 \DeclareRobustCommand{\ExTeX}{%
237   \ensuremath{\textstyle\varepsilon_{\kern-0.15em\cal X}}\kern-.2em\TeX}
238 \def\FAQ{\acro{FAQ}}
239 \def\FTP{\acro{FTP}}
240 \def\Ghostscript{Ghost\script}
241 \def\GNU{\acro{GNU}}
242 \def\GUI{\acro{GUI}}
243 \def\Hawaii{Hawai'i}
244 \def\HTML{\acro{HTML}}
245 \def\HTTP{\acro{HTTP}}
246 \def\iOS{i\acro{OS}}
247 \def\IDE{\acro{IDE}}
248 \def\IEEE{\acro{IEEE}}
249 \def\ISBN{\acro{ISBN}}
250 \def\ISO{\acro{ISO}}
251 \def\ISSN{\acro{ISSN}}
252 \def\JPEG{\acro{JPEG}}
253 \def\JTeX{\leavevmode\hbox{\lower.5ex\hbox{J}}\kern-.18em\TeX}
254 \def\JoT{\textsl{The Joy of \TeX}}
255 \DeclareRobustCommand{\KOMAScript}{\textsf{K}\kern.05em O\kern.05em%

```

```

256      M\kern.05em A\kern.1em-\kern.1em Script}}
257 \def\LAMSTeX{L\raise.42ex\hbox{\kern-.3em
258      $\m@th$\fontsize\sf@size\z@\selectfont
259      $\m@th\mathcal{A}$}%
260      \kern-.2em\lower.376ex\hbox{$\m@th\mathcal{M}$}\kern-.125em
261      {$\m@th\mathcal{S}$}-\TeX}
262 % This code
263 % is hacked from its definition of \cs{LaTeX}; it allows slants (for
264 % example) to propagate into the raised (small) 'A':
265 % \begin{macrocode}
266 \DeclareRobustCommand{\La}%
267   {L\kern-.36em
268     {\setbox0\hbox{T}%
269      \vbox to\ht0{\hbox{$\m@th$%
270          \csname S@f@size\endcsname
271          \fontsize\sf@size\z@
272          \math@fontsfalse\selectfont
273          A}%
274          \vss}%
275     }}

```

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 3.12.

```

276 <!\latex>\def\LaTeX{\La\kern-.15em\TeX}
277 \def\LuaHBTeX{Lua\acro{HB}}-\TeX}%
278 \def\LuaHBLaTeX{Lua\acro{HB}}-\LaTeX}%
279 \def\LuaLaTeX{Lua-\TeX}% dtk-logos defines it and people like to use it
280 \def\LuaTeX{Lua-\TeX}% ditto
281 \def\LyX{L\kern-.1667em\lower.25em\hbox{Y}\kern-.125emX}
282 \def\macOS{mac\acro{OS}}
283 \def\MacOSX{Mac\,\acro{OS},X}}
284 \def\MathML{Math\acro{ML}}
285 \def\Mc{\setbox\TestBox=\hbox{M}M\vbox
286   to\ht\TestBox{\hbox{c}\vfil}} % for Robert McGaffey

```

If we're running under $\text{\LaTeX} 2_{\epsilon}$, we use 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`.

```

287 \def\mf{\textsc{Metafont}}
288 \def\MFB{\textsl{The \MF\kern.1em\book}}
289 \def\MkIV{Mk\acro{IV}}
290 \let\TB@mp\mp
291 \DeclareRobustCommand{\mp}{\ifmmode\TB@mp\else MetaPost\fi}
292 \def\mtex{T\kern-.1667em\lower.424ex\hbox{\^E}\kern-.125emX\@}
293 %
294 % In order that the \cs{OMEGA} command will switch to using the TS1
295 % variant of the capital Omega character if \texttt{textcomp.sty} is

```

```

296 % loaded, we define it in terms of the \cs{textohm} command. Note
297 % that this requires us to interpose a level of indirection, rather
298 % than to use \cs{let}\dots
299 % Revised definition of \cs{NTS} based on that used by Phil Taylor.
300 %
301 % \begin{macrocode}
302 \DeclareRobustCommand{\NTG}{\acro{NTG}}
303 \DeclareRobustCommand{\NTS}{\ensuremath{\mathcal{N}}\mkern-4mu
304 \raisebox{-0.5ex}{\mathcal{T}}\mkern-2mu \mathcal{S}}
305 \DeclareTextSymbol{\textohm}{OT1}{'012}
306 \DeclareTextSymbolDefault{\textohm}{OT1}
307 \newcommand{\OMEGA}{\textohm}
308 \DeclareRobustCommand{\OCP}{\OMEGA\acro{CP}}
309 \DeclareRobustCommand{\OOXML}{\acro{OOXML}}
310 \DeclareRobustCommand{\OTF}{\acro{OTF}}
311 \DeclareRobustCommand{\OTP}{\OMEGA\acro{TP}}
312 \DeclareRobustCommand{\OpTeX}{Op\kern-.05emTeX}

313 \def\Pas{Pascal}
314 \def\pcMF{\leavevmode\raise.5ex\hbox{p\kern-.3\p@ c}MF\@}
315 \def\PCTeX{PC\thinspaceTeX}
316 \def\pcTeX{\leavevmode\raise.5ex\hbox{p\kern-.3\p@ c}TeX}
317 \def\pdflatex{pdf\-\LaTeX}% dtk-logos
318 \def\pdftex{pdf\-\TeX}% dtk-logos
319 \def\PDF{\acro{PDF}}
320 \def\PGF{\acro{PGF}}
321 \def\PHP{\acro{PHP}}
322 \def\PiC{P\kern-.12em\lower.5ex\hbox{I}\kern-.075emC\@}
323 \def\PiCTeX{\PiC\kern-.11emTeX}
324 \def\plain{\texttt{plain}}
325 \def\PNG{\acro{PNG}}
326 \def\POBox{P.\thinspace O.\thinspace Box }
327 \def\PS{{Post\-\Script}}
328 \def\PS Tricks{\acro{PST}ricks}
329 \def\RIT{\acro{RIT}}
330 \def\RTF{\acro{RTF}}
331 \def\SC{Steering Committee}
332 \def\SGML{\acro{SGML}}
333 \def\SliTeX{\textrm{S}\kern-.06em\textsc{l}\kern-.035em}%
334 \kern-.06emTeX}
335 \def\slMF{\textsl{\MF}} % should never be used
336 \def\SQL{\acro{SQL}}
337 \def\stTeX{\textsc{st}\kern-0.13emTeX}
338 \def\STIX{\acro{STIX}}
339 \def\SVG{\acro{SVG}}
340 \def\TANGLE{\texttt{TANGLE}\@}
341 \def\TB{\textsl{The \TeX-book}}
342 \def\TIFF{\acro{TIFF}}
343 \def\TP{\textsl{\TeX}:\ \textsl{The Program}}
344 \DeclareRobustCommand{\TeX}{T\kern-.1667em\lower.424ex\hbox{E}\kern-.125emX\@}

```

```

345 \def\TeXhax{\TeX hax}
346 \def\TeXMaG{\TeX M\kern-.1667em\lower.5ex\hbox{A}%
347   \kern-.2267emG\@}
348 \def\TeXtures{\textit{Textures}}
349 \let\Textures=\TeXtures
350 \def\TeXworks{\TeX\kern-.07em works}
351 \def\TeXXeT{\TeX-{}-\XeT}
352 \def\TFM{\acro{TFM}}
353 \ifx\Umathchardef\@thisisundefined % not (xetex|luatex)
354 \def\Thanh{H\`an~Th\`e\llap{\raise 0.5ex\hbox{\`{}}}\`Th\`anh}% non-XeTeX
355 \else
356 \def\Thanh{H\`an~Th\textcirc{e}\`Th\`anh}% else xunicode drops the acute
357 \fi
358 \def\TikZ{Ti{\em k}Z}
359 \def\ttn{\textsl{TTN}\@}
360 \def\TTN{\textsl{\TeX{} and TUG News}}
361 \def\TUB{\texttub{TUGboat}}\def\texttub{\textsl{} % redefined in some situations
362 \def\TUG{\TeX\ \UG}
363 \def\tug{\acro{TUG}}
364 \def\UG{Users Group}
365 \def\UNIX{\acro{UNIX}}
366 % Don't define \UTF, since other packages use it for Unicode character access.
367 % On the other hand, we want a macro for UTF-8 that doesn't break at the -.
368 \def\tbUTF{\acro{UTF}\futurelet\@nextchar\tbUTFcheck}
369 \def\@tbUTFcheck{\ifx\@nextchar-
370   \mbox{-}\let\next=\tbgobbledash
371   \else
372   \let\next=\empty
373   \fi\next}
374 \def\tbgobbledash-{}
375 \def\VAX{V\kern-.12em A\kern-.1em X\@}
376 \def\VnTeX{V\kern-.03em n\kern-.02em \TeX}
377 \def\VorTeX{V\kern-2.7\p@lower.5ex\hbox{O\kern-1.4\p@ R}\kern-2.6\p@\TeX}
378 \def\XeT{X\kern-.125em\lower.424ex\hbox{E}\kern-.1667emT\@}
379 \def\XML{\acro{XML}}
380 \def\WEB{\texttt{WEB}\@}
381 \def\WEAVE{\texttt{WEAVE}\@}
382 \def\WYSIWYG{\acro{WYSIWYG}}

```

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

```

383 \def\tubreflect#1{%
384   \@ifundefined{reflectbox}{%
385     \TBError{A graphics package must be loaded to use \string\XeTeX}
386     {Load graphicx or graphics.}%
387   }{%
388     \ifdim \fontdimen1\font>0pt

```

```

389     \raise 1.75ex \hbox{\kern.1em\rotatebox{180}{#1}}\kern-.1em
390   \else
391     \reflectbox{#1}%
392   \fi
393 }%
394 }
395 \def\tubhideheight#1{\setbox0=\hbox{#1}\ht0=0pt \dp0=0pt \box0 }
396 \def\XekernbeforeE{-.125em}
397 \def\XekernafterE{-.1667em}
398 \DeclareRobustCommand{\Xe}{\leavevmode
399   \tubhideheight{\hbox{X}%
400     \setbox0=\hbox{\TeX}\setbox1=\hbox{E}}%
401   \ifdim \fontdimen1\font>0pt
402     % XeTeX logo needs tinkering when slanted/italic font.
403     \def\XekernbeforeE{-.11em}%
404     \def\XekernafterE{-.11em}%
405     \dp1=-.17ex
406   \fi
407   \lower\dp0\hbox{\raise\dp1\hbox{\kern\XekernbeforeE\tubreflect{E}}}%
408   \kern\XekernafterE}}
409 \def\XeTeX{\Xe\TeX}
410 \def\XeLaTeX{\Xe{\kern.11em \LaTeX}}
411 %
412 \def\XHTML{\acro{XHTML}}
413 \def\XSL{\acro{XSL}}
414 \def\XSLF0{\acro{XSL}\raise.08ex\hbox{-}\acro{F0}}
415 \def\XSLT{\acro{XSLT}}

```

3.5 General typesetting rules

```

416 \newlinechar='^^J
417 \normallineskiplimit=\p@
418 \clubpenalty=10000
419 \widowpenalty=10000
420 \def\NoParIndent{\parindent=\z@}
421 \newdimen\normalparindent
422 \normalparindent=20\p@
423 \def\NormalParIndent{\global\parindent=\normalparindent}
424 \NormalParIndent
425 \def\BlackBoxes{\overfullrule=5\p@}
426 \def\NoBlackBoxes{\overfullrule=\z@}
427 \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.

```

428 \edef\allowhyphens{\noexpand\hyphenpenalty\the\hyphenpenalty\relax
429   \noexpand\exhyphenpenalty\the\exhyphenpenalty\relax}
430 \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`.

```

431 \newbox\T@stBox          \newbox\TestBox
432 \newcount\T@stCount     \newcount\TestCount
433 \newdimen\T@stDimen     \newdimen\TestDimen
434 \newif\ifT@stIf         \newif\ifTestIf

```

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

```

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

```

L^AT_EX conventions which are also useful here.

```

436 <!!latex>
437   \let\@@input\input
438   \def\iinput#1{\@@input#1 }
439   \def\@inputcheck{\if\@nextchar\bgroup
440     \expandafter\iinput\else\expandafter\@@input\fi}
441   \def\input{\futurelet\@nextchar\@inputcheck}
442 </!!latex>

```

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

```

443 \newif\iftop@           \newif\ifbot@
444 \def\topsmash{\top@true\bot@false\smash@}
445 \def\botsmash{\top@false\bot@true\smash@}
446 \def\smash{\top@true\bot@true\smash@}
447 \def\smash@{\relax\ifmode\def\next{\mathpalette\mathsm@sh}%
448   \else\let\next\makesm@sh\fi \next }
449 \def\finism@sh{\iftop@\ht\z@\z@\fi\ifbot@\dp\z@\z@\fi\box\z@}

```

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

```

450 \long\def\ulap#1{\vbox to \z@{\vss#1}}
451 \long\def\dlap#1{\vbox to \z@{#1\vss}}

```

And centered horizontal and vertical ‘laps’

```

452 \def\xlap#1{\hb@xt@\z@{\hss#1\hss}}
453 \long\def\ylap#1{\vbox to \z@{\vss#1\vss}}
454 \long\def\zlap#1{\ylap{\xlap{#1}}}

```

Avoid unwanted vertical glue when making up pages.

```

455 \def\basezero{\baselineskip\z@skip \lineskip\z@skip}

```

Empty rules for special occasions

```
456 \def\nullhrule{\hrule \@height\z@ \@depth\z@ \@width\z@ }
457 \def\nullvrule{\vrule \@height\z@ \@depth\z@ \@width\z@ }
```

Support ad-hoc strut construction.

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

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

```
459 \def\drawoutlinebox[#1;#2;#3]{\T@stDimen=#3
460     \vbox to#1{\hrule \@height\T@stDimen \@depth\z@
461         \vss\hb@xt@#2{\vrule \@width\T@stDimen
462             \hfil\makestrut[#1;\z@]%
463             \vrule \@width\T@stDimen}\vss
464             \hrule \@height\T@stDimen \@depth\z@}}}
```

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

```
465 <*\latex>
466 \def\today{\number\day\space \ifcase\month\or
467     Jan \or Feb \or Mar \or Apr \or May \or Jun \or
468     Jul \or Aug \or Sep \or Oct \or Nov \or Dec \fi
469     \number\year}
470 </!\latex>
```

Current time; this may be system dependent!

```
471 \newcount\hours
472 \newcount\minutes
473 \def\SetTime{\hours=\time
474     \global\divide\hours by 60
475     \minutes=\hours
476     \multiply\minutes by 60
477     \advance\minutes by-\time
478     \global\multiply\minutes by-1 }
479 \SetTime
480 \def\now{\ifnum\hours<10 0\fi\number\hours:%
481     \ifnum\minutes<10 0\fi\number\minutes}
482 \def\Now{\today\ \now}
483 \newif\ifPrelimDraft % [draft] or [preprint] or pageno>900
484 \def\midrttitle{} % center of running heads
485 \def\rtitlenexttopage{\ifPrelimDraft \textsl{\small draft: \Now}\fi}
```

3.7 Ragged right and friends

<p><code>\raggedskip</code></p> <p><code>\raggedstretch</code></p> <p><code>\raggedparfill</code></p> <p><code>\raggedspaces</code></p>	<p>Plain T_EX's definition of <code>\raggedright</code> 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.</p> <pre>486 \newdimen\raggedskip \raggedskip=\z@ 487 \newdimen\raggedstretch \raggedstretch=5em % ems of font set now (10pt) 488 \newskip\raggedparfill \raggedparfill=\z@\@plus 1fil 489 \def\raggedspaces{\spaceskip=.3333em \relax \xspaceskip=.5em \relax }</pre>
---	--

```

\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 490 \def\raggedright{%
\normalspaces 491 \nohyphens
492 \rightskip=\raggedskip\@plus\raggedstretch \raggedspaces
493 \parfillskip=\raggedparfill
494 }
495 \def\raggedleft{%
496 \nohyphens
497 \leftskip=\raggedskip\@plus\raggedstretch \raggedspaces
498 \parfillskip=\z@skip
499 }
500 \def\raggedcenter{%
501 \nohyphens
502 \leftskip=\raggedskip\@plus\raggedstretch
503 \rightskip=\leftskip \raggedspaces
504 \parindent=\z@ \parfillskip=\z@skip
505 }
506 \def\normalspaces{\spaceskip\z@skip \xspaceskip\z@skip}

```

3.8 Assorted user-level markup

$\text{\LaTeX 2}_{\varepsilon}$ defines a robust `\,`, but that we provide a new definition of `\` by redefining `\` (`\DeclareRobustCommand` doesn't mind redefinition, fortunately). This is based on the version in `AMS-TeX`—the $\text{\LaTeX 2}_{\varepsilon}$ version (`ltspace.dtx`) has `\leavevmode` and does not do anything with the surrounding space(s). Our version messes up with the `\pfill` used in `doc`-generated indexes (github.com/latex3/latex2e/issues/75), but later (2018++) versions of `doc` should be protected against our redefinition.

```

507 \let\latexnobreakspace=\nobreakspace
508 \DeclareRobustCommand{\nobreakspace}{\unskip\nobreak\ \ignorespaces}

```

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

```

509 \def\boxcs#1{\box\csname#1\endcsname}
510 \def\setboxcs#1{\setbox\csname#1\endcsname}
511 \def\newboxcs#1{\expandafter\newbox\csname#1\endcsname}
512 \let\gobble\@gobble
513 \def\vellipsis{%
514 \leavevmode\kern0.5em
515 \raise\p@\vbox{\baselineskip6\p@\vskip7\p@\hbox{.}\hbox{.}\hbox{.}}
516 }

```

```

517 \def\bull{\vrule \@height 1ex \@width .8ex \@depth -.2ex }
518 \def\cents{{\rm\raise.2ex\rlap{\kern.05em$\scriptstyle/$}c}}
519 \def\careof{\leavevmode\hbox{\raise.75ex\hbox{c}\kern-.15em
520           /\kern-.125em\smash{\lower.3ex\hbox{o}}}\ignorespaces}
521 \def\Dag{\raise .6ex\hbox{$\scriptstyle\dagger$}}
522 %
523 \DeclareRobustCommand{\sfrac}[1]{\@ifnextchar/{\@sfrac{#1}}%
524           {\@sfrac{#1}/}}
525 \def\@sfrac#1/#2{\leavevmode\kern.1em\raise.5ex
526       \hbox{$\m@th\mbox{\fontsize\sf@size\z@
527           \selectfont#1}$}\kern-.1em
528       /\kern-.15em\lower.25ex
529       \hbox{$\m@th\mbox{\fontsize\sf@size\z@
530           \selectfont#2}$}}
531 %
532 % don't stay bold in description items, bold italic is too weird.
533 \DeclareRobustCommand\meta[1]{%
534     \ensuremath{\langle}%
535     \ifmmode \expandafter\mbox \fi % if in math
536     {\it #1\}/}% no typewriter italics, please
537     \ensuremath{\rangle}%
538 }
539 %
540 % Use \tt rather than \texttt because italic typewriter is just too ugly,
541 % and upright works well enough in both italic and bold contexts.
542 \DeclareRobustCommand{\cs}[1]{\tt \char'\#1}}
543 %
544 % This command was defined much later than the others around here, so
545 % let's not conflict with any existing definitions that might be out there.
546 % Don't allow hyphenations or other line breaks.
547 \DeclareRobustCommand{\tubbraced}[1]{\mbox{\texttt{\char'\#1\char'\}}}
548 %
549 % Well, just the \begin part. Never seen it used.
550 \DeclareRobustCommand{\env}[1]{\cs{begin}\tubbraced{#1}}
551 %
552 % Not sure why we ever want this instead of LaTeX's \, (using \kern),
553 % but fine, just keeping it.
554 \DeclareRobustCommand{\thinskip}{\hskip 0.16667em\relax}
555 %
556 % Ah, urls. Nowadays, we like the visible url to not have any protocol,
557 % if it is \texttt{http://} or \texttt{https://}. But we need to include
558 % the protocol if we are making live links, since a string like
559 % \texttt{tug.org/whatever} will be taken as a local filename by
560 % browsers and PDF readers. Since we need to check for
561 % \texttt{hyperref}, make the definition \cs{AtBeginDocument}. In the
562 % end, \cs{tbsurl}\tubbraced{foo} produces \texttt{https://foo} and
563 % \cs{tbhurl}\tubbraced{foo} produces \texttt{http://foo}.
564 \AtBeginDocument{%
565 \ifx\hyper@normalise\undefined
566     \def\tbsurl{\url}% no hyperref, so just \url is fine.

```

```

567 \def\tbhurl{\url}%
568 \ifx\url\undefined \let\url\texttt \fi % er, make sure \url is defined
569 \else
570 % This hyperref hook-in is due to Ulrike Fischer.
571 % \url{https://github.com/latex3/hyperref/issues/125}.
572 \DeclareRobustCommand*\tbsurl{\hyper@normalise\tbsurl@}%
573 \def\tbsurl@#1{\hyper@linkurl{Hurl{#1}}{https://#1}}%
574 \DeclareRobustCommand*\tbhurl{\hyper@normalise\tbhurl@}
575 \def\tbhurl@#1{\hyper@linkurl{Hurl{#1}}{http://#1}}%
576 \fi
577 }
578 %
579 % Make \! work in text mode.
580 \DeclareRobustCommand{\!}{\ifmmode\mskip-\thinmuskip \else\kern-0.16667em \fi}
581 %
582 % Half a thinspace, positive and negative.
583 \DeclareRobustCommand{\tubthinner}{}
584 {\ifmmode\mskip.5\thinmuskip \else\kern0.08333em \fi}
585 \DeclareRobustCommand{\tubthinner}{}
586 {\ifmmode\mskip-.5\thinmuskip \else\kern-0.08333em \fi}
587 %
588 % Half a smallskip.
589 \DeclareRobustCommand{\tubsmaller}{}
590 {\vskip 1.5pt plus .75pt minus .75pt\relax}
591 %

```

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

```

592 \def\endash{--}
593 \def\emdash{\endash-}
594 \def\dsh#1#2{\unskip#1\thinspace#2\thinspace\ignorespaces}
595 \def\dash{\dsh\nobreak\endash}
596 \def\Dash{\dsh\nobreak\emdash}
597 \def\ldash{\dsh\empty{\hbox{\endash}\nobreak}}
598 \def\rdash{\dsh\nobreak\endash}
599 \def\Ldash{\dsh\empty{\hbox{\emdash}\nobreak}}
600 \def\Rdash{\dsh\nobreak\emdash}

```

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

```

601 \def\hyph{-\penalty\z@\hskip\z@skip }
602 \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.

```

603 \def\nth#1{%
604   \def\reserved@a##1##2\@nil{\ifcat##1n%
605     0%
606     \let\reserved@b\ensuremath
607     \else##1##2%

```

```

608         \let\reserved@b\relax
609     \fi}%
610     \TestCount=\reserved@a#1\@nil\relax
611     \ifnum\TestCount <0 \multiply\TestCount by\m@ne \fi % subdue negatives
612     \T@stCount=\TestCount
613     \divide\T@stCount by 100 \multiply\T@stCount by 100
614     \advance\TestCount by-\T@stCount % n mod 100
615     \ifnum\TestCount >20 \T@stCount=\TestCount
616         \divide\T@stCount by 10 \multiply\T@stCount by 10
617         \advance\TestCount by-\T@stCount % n mod 10
618     \fi
619     \reserved@b{#1}%
620     \textsuperscript{\ifcase\TestCount th%      0th
621                     \or st%                    1st
622                     \or nd%                    2nd
623                     \or rd%                    3rd
624                     \else th%                  nth
625                     \fi}%
626 }

```

3.9 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...

```

627 \def\Review{\@ifnextchar{\@Review}{\@Review:}}
628 \def\@Review:{\@ifnextchar[%]
629   {\@Rev}%
630   {\@Rev[Book review]}}
631 \def\@Rev[#1]#2{\@ignorespaces#1\unskip:\enspace\ignorespaces
632               \slshape\mdseries#2}%
633 \def\reviewitem{\addvspace{\BelowTitleSkip}%
634   \def\revauth##1{\def\therevauth{##1, }\ignorespaces}%
635   \def\revtitle##1{\def\therevtitle{\slshape##1. }\ignorespaces}%
636   \def\revpubinfo##1{\def\therevpubinfo{##1.}\ignorespaces}%
637 }
638 \def\endreviewitem{\noindent\interlinepenalty=10000
639   \therevauth\therevtitle\therevpubinfo\endgraf}%
640   \vskip\medskipamount
641 }
642 \def\booktitle#1{\slshape\frenchspacing#1\}

```

3.10 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.

```

643 \newcount\issueseqno \issueseqno=-1
644 \def\volx{\gdef\volx{Volume~\volno~(\volyr), No.~\issno}}
645 \def\volyr{}
646 \def\volno{}
647 \def\vol#1, #2.{%
648     \gdef\volno{#1}%
649     \gdef\issno{#2}%
650     \setbox\TestBox=\hbox{\volyr}%
651     \ifdim \wd\TestBox > .2em \volx \fi }
652 \def\issyear#1.{%
653     \gdef\issdt{#1}\gdef\volyr{#1}%
654     \gdef\bigissdt{#1}%
655     \setbox\TestBox=\hbox{\volno}%
656     \ifdim \wd\TestBox > .2em \volx \fi }
657 \def\issdate#1#2 #3.{%
658     \gdef\issdt{#1#2 #3}\gdef\volyr{#3}%
659     \gdef\bigissdt{#1{\smc\uppercase{#2}} #3}%
660     \setbox\TestBox=\hbox{\volno}%
661     \ifdim \wd\TestBox > .2em \volx \fi }
662 % The \vol command must be invoked precisely like this, including spaces.
663 % Since we are the only ones who write it, we can be strict.
664 \vol 0, 0.
665 \issdate Thermidor, 9999.

```

(The curious may like to 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

```

666 <!\latex>\def\tubissue#1(#2)%
667 <*\latex>
668 \def\tubissue#1{\@ifnextchar(%)
669     {\@tubissue@b{#1}}
670     {\@tubissue@a{#1}}}
671 \def\@tubissue@b#1(#2){\@tubissue@a{#1}{#2}}
672 \def\@tubissue@a#1#2%
673 </\latex>
674     {\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`

```

675 \def\infil@{\jobname}

```

```

676 \def\Input #1 {\ifnum\issueseqno<0
677   \def\infil@{#1}%
678   \else
679     \def\infil@{tb\number\issueseqno#1}
680   \fi
681   \edef\jobname{\infil@}\@readFLN
682   @@input \infil@\relax
683   \if@RMKopen
684     \immediate\closeout\@TBremarkfile\@RMKopenfalse
685   \fi
686 }

```

\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).

```

687 \newif\if@RMKopen      \@RMKopenfalse
688 \newwrite\@TBremarkfile
689 \def\@TBremark#1{%
690   \if@RMKopen
691   \else
692     \@RMKopentrue\immediate\openout\@TBremarkfile=\infil@.rmk
693   \fi
694   \toks@={#1}%
695   \immediate\write\@TBremarkfile{^^J\the\toks@}%
696   \immediate\write16{^^JTbremark:: \the\toks@^^J}%
697 }

```

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

```

698 \let\TBremark=\gobble

```

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

```

699 \def\TBEnableRemarks{\let\TBremark\@TBremark}

```

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

```

700 \def\TUBedit#1{}

```

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

```

701 \def\TUBfilename#1#2{\expandafter\def\csname file@@#1\endcsname{#2}}
702 \newread\@altfilenames
703 \def\@readFLN{\immediate\openin\@altfilenames=\jobname.fln
704   \ifeof\@altfilenames\let\@result\relax\else
705   \def\@result{\@input\jobname.fln }\fi
706   \immediate\closein\@altfilenames

```

```

707 \@result}
708 \@readFLN
709 \everyjob=\expandafter{\the\everyjob\@readFLN}
710 \InputIfFileExists{\jobname.fln}%
711 {\TBInfo{Reading alternative file file \jobname.fln}}{}

```

The following needs to work entirely in T_EX's mouth

```

712 \def\@tubfilename#1\expandafter\ifx\csname file@@#1\endcsname\relax
713 #1\else\csname file@@#1\endcsname\fi}
714 \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.

```

715 <!!latex>
716 \def\pagexrefON#1{%
717     \write-1{\def\expandafter\noexpand\csname#1\endcsname{\number\pageno}}%
718     \write\ppoutfile{%
719         \def\expandafter\noexpand\csname#1\endcsname{\number\pageno}}%
720     }
721 \def\PageXrefON#1{%
722     \immediate\write-1{\def\expandafter
723         \noexpand\csname#1\endcsname{\number\pageno}}%
724     \immediate\write\ppoutfile{\def\expandafter
725         \noexpand\csname#1\endcsname{\number\pageno}}%
726 </!!latex>
727 <*latex>
728 \def\pagexrefON#1{%
729     \write-1{\def\expandafter\noexpand\csname#1\endcsname{\number\c@page}}%
730     \write\ppoutfile{%
731         \def\expandafter\noexpand\csname#1\endcsname{\number\c@page}}%
732     }
733 \def\PageXrefON#1{%
734     \immediate\write-1{\def\expandafter
735         \noexpand\csname#1\endcsname{\number\c@page}}%
736     \immediate\write\ppoutfile{\def\expandafter
737         \noexpand\csname#1\endcsname{\number\c@page}}%
738 </latex>
739 \def\pagexrefOFF#1{}
740 \let\pagexref=\pagexrefOFF
741 \def\PageXrefOFF#1{}
742 \let\PageXref=\PageXrefOFF
743 \def\xreftoON#1{%
744     \ifundefined{#1}%
745     ???\TBremark{Need cross reference for #1.}%
746     \else\csname#1\endcsname\fi}
747 \def\xreftoOFF#1{???}
748 \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.

749 \let\TBdriver\gobble

Some hyphenation exceptions:

```

750 \ifx\tubomithyphenations\@thisisundefined
751 \hyphenation{Del-a-ware Dijk-stra Duane Eijk-hout
752 Flor-i-da Free-BSD Ghost-script Ghost-view
753 Hara-lam-bous Jac-kow-ski Ja-pa-nese Karls-ruhe
754 Mac-OS Ma-la-ya-lam Math-Sci-Net
755 Net-BSD Open-BSD Open-Office
756 Pak-i-stan Pfa-Edit Post-Script Rich-ard Skoup South-all
757 Vieth VM-ware Win-Edt
758 acro-nym acro-nyms analy-sis ap-pen-di-ces ap-pen-dix asyn-chro-nous
759 bib-lio-graph-i-cal bit-map bit-mapped bit-maps buf-fer buf-fers bool-ean
760 col-umns com-put-able com-put-abil-ity cus-tom-iz-able
761 data-base data-bases
762 de-allo-cate de-allo-cates de-allo-cated de-allo-ca-tion
763 de-riv-a-tive de-riv-a-tives de-riv-a-ble der-i-va-tion dis-trib-ut-able
764 es-sence
765 fall-ing
766 half-way
767 in-fra-struc-ture
768 key-note
769 long-est
770 ma-gyar man-u-script man-u-scripts meta-table meta-tables
771 mne-mon-ic mne-mon-ics mono-space mono-spaced
772 name-space name-spaces
773 off-line over-view
774 pal-ettes par-a-digm par-a-dig-mat-ic par-a-digms
775 pipe-line pipe-lines
776 plug-in plug-ins pres-ent-ly pro-gram-mable
777 re-allo-cate re-allo-cates re-allo-cated re-printed
778 set-ups se-vere-ly spell-ing spell-ings stand-alone strong-est
779 sub-ex-pres-sion sub-tables sur-gery syn-chro-ni-city syn-chro-nous
780 text-height text-length text-width
781 time-stamp time-stamped time-stamps
782 vis-ual vis-ual-ly
783 which-ever white-space white-spaces wide-spread wrap-around
784 }
785 \fi
786 \!latex\restorecat\@
787 \!common\
788 \!classtail\
789 \PrelimDrafttrue

```

3.11 Page dimensions, glue, penalties, etc.

```
790 \textheight 54pc
791 \textwidth 39pc
792 \columnsep 1.5pc
793 \columnwidth 18.75pc
794 \hfuzz 1pt
795 \parindent \normalparindent
796 \parskip \z@ % \@plus\p@
797 \leftmargini 2em
798 \leftmarginv .5em
799 \leftmarginvi .5em
800 \oddsidemargin \z@
801 \evensidemargin \z@
802 \topmargin -2.5pc
803 \headheight 12\p@
804 \headsep 20\p@
805 \marginparwidth 48\p@
806 \marginparsep 10\p@
807 \partopsep=\z@
808 \topsep=3\p@\@plus\p@\@minus\p@
809 \parsep=3\p@\@plus\p@\@minus\p@
810 \itemsep=\parsep
811 %
812 % The width of one column plus gutter (=243pt) is useful sometimes.
813 \newdimen\tubcolwidthandgutter
814 \tubcolwidthandgutter=\columnwidth
815 \advance\tubcolwidthandgutter by \columnsep
816 %
817 % Ordinarily we typeset in two columns, but the onecolumn option
818 % goes to one. In which case we want to center the text block on an
819 % 8.5in width, given the default 72.27pt offset with margins of zero.
820 % We are always in LaTeX's twoside mode because of how we load article,
821 % and this is a good thing, since we want different headings.
822 \if@tubtwocolumn \twocolumn \else
823 \onecolumn
824 \textwidth=34pc
825 \oddsidemargin=30.8775pt
826 \evensidemargin=\oddsidemargin
827 \fi
828 %
829 \newdimen\pagewd \pagewd=\textwidth
830 \newdimen\trimwd \trimwd=\pagewd
831 \newdimen\trimlgt \trimlgt=11in
832 \newdimen\headmargin \headmargin=3.5pc
```

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

3.12 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 L^AT_EX.

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

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

```
835 \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.

```
836 \DeclareLaTeXLogo{cmss}{bx}{n}{.3}{.15}
837 \DeclareLaTeXLogo{lmss}{bx}{n}{.3}{.15}
838 %
839 \DeclareLaTeXLogo{cmr}{m}{it}{.29}{.2}
840 \DeclareLaTeXLogo{lmr}{m}{it}{.29}{.2}
841 %
842 \DeclareLaTeXLogo{cmr}{m}{sl}{.29}{.15}
843 \DeclareLaTeXLogo{lmr}{m}{sl}{.29}{.15}
844 %
845 \DeclareLaTeXLogo{cmr}{bx}{it}{.29}{.2}
846 \DeclareLaTeXLogo{lmr}{bx}{it}{.29}{.2}
847 %
848 \DeclareLaTeXLogo{cmr}{bx}{sl}{.29}{.2}
849 \DeclareLaTeXLogo{lmr}{bx}{sl}{.29}{.2}
850 %
851 \DeclareLaTeXLogo{bch}{m}{n}{.2}{.08}
852 \DeclareLaTeXLogo{bch}{m}{it}{.2}{.08}
```

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

```
853 \DeclareRobustCommand{\LaTeX}{\expandafter\let\expandafter\reserved@a
854   \csname @LaTeX@\f@family/\f@series/\f@shape\endcsname
855   \ifx\reserved@a\relax\let\reserved@a\@LaTeX@default\fi
856   \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 L^AT_EX, and then bits stuck in on the side.

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

```
857 \newcommand{\@LaTeX}[2]{%
858   %\wlog{latex logo family=\f@family/\f@series/\f@shape -> #1, #2.}%
859   L\kern-#1em
860   {\sbox\z@ T%
861     \vbox to\ht0f{\hbox{${\m@th$%
862       \csname S@\f@size\endcsname
863       \fontsize\sf@size\z@
```

```

864             \math@fontsfalse\selectfont
865             A}%
866         \vss}%
867     }%
868     \kern-#2em%
869     \TeX}

```

3.13 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>` and `\ORCID<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.

```

870 \def\theauthor#1{\csname theauthor#1\endcsname}
871 \def\theaddress#1{\csname theaddress#1\endcsname}
872 \def\thenetaddress#1{\csname thenetaddress#1\endcsname}
873 \def\thePersonalURL#1{\csname thePersonalURL#1\endcsname}
874 \def\theORCID#1{\csname theORCID#1\endcsname}

```

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

```

875 <!\latex>\newcount\@tempcnta
876 \def\@defaultauthorlist{%
877   \@getauthorlist\@firstofone
878 }

```

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

```

879 \def\@getauthorlist#1{%
880   \count@\authornumber
881   \advance\count@ by -2
882   \@tempcnta0

```

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

```

883   \loop
884     \ifnum\count@>0
885       \advance\@tempcnta by \@ne
886       #1{\ignorespaces\theauthor{\number\@tempcnta}\unskip, }%
887       \advance\count@ by \m@ne
888   \repeat
889   \count@\authornumber
890   \advance\count@ by -\@tempcnta
891   \ifnum\authornumber>0

```

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

```

892 \ifnum\count@>1
893 \count@\authornumber
894 \advance\count@ by \m@ne
895 #1{\ignorespaces\theauthor{\number\count@}\unskip\@tubauthorlastsep}%
896 \fi

```

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

```

897 #1{\ignorespaces\theauthor{\number\authornumber}\unskip}
898 \fi
899 }
900 %
901 \def\@tubauthorlastsep{, }% until 2018, was: "\ and "

```

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...)

```

902 \def\signature#1{\def\@signature{#1}}
903 \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`

```

904 \def\@defaultsignature{%
905 \let\thanks\@gobble
906 \frenchspacing
907 %
908 \ifnum\authornumber<0
909 \medskip
910 \signaturemark
911 \theauthor{\number\authornumber}\\
912 \theaddress{\number\authornumber}\\
913 \allowhyphens
914 \thenetaddress{\number\authornumber}\\
915 \thePersonalURL{\number\authornumber}\\
916 \theORCID{\number\authornumber}\\
917 \else
918 \authornumber ≥ 0, so we are in the body of an ordinary article
919 \count@=0
920 \loop
921 \ifnum\count@<\authornumber
922 \medskip
923 \advance\count@ by \@ne
924 \signaturemark
925 \theauthor{\number\count@}\\

```

```

925         \theaddress{\number\count@}\
926     {%
927         \allowhyphens
928         \thenetaddress{\number\count@}\
929         \thePersonalURL{\number\count@}\
930         \theORCID{\number\count@}\
931     }%
932 \repeat
933 \fi
934 }%
935 }
936 \newdimen\signaturewidth \signaturewidth=12pc
    The optional argument to \makesignature is useful in some circumstances (e.g.,
    multi-contributor articles)
937 \newcommand{\makesignature}[1][\medskipamount]{%
    check the value the user has put in \signaturewidth: it may be at most
    1.5pc short of \columnwidth
938 \@tempdima\signaturewidth
939 \advance\@tempdima 1.5pc
940 \ifdim \@tempdima>\columnwidth
941     \signaturewidth \columnwidth
942     \advance\signaturewidth -1.5pc
943 \fi
944 \par
945 \penalty9000
946 \vspace{#1}%
947 \rightline{%
948     \vbox{\hsize\signaturewidth \ninepoint \raggedright
949         \parindent \z@ \everypar={\hangindent 1pc }%
950         \parskip \z@skip
951         \def\|\{\unskip\hfil\break}%
952         \def\\{\endgraf}%
953         \def\phone{\rm Phone: }%
954         \def\tubmultipleaffilauthor{\\ \hspace*{1em}}%
955         \rm \@signature}%
956     }%
957 \ifnum\authornumber<0 \endgroup\fi
958 }
959 \def\signaturemark{\leavevmode\llap{$\diamond$\enspace}}
    The idea here is that if multiple authors share affiliation information, we need
    only typeset the affiliation once. We separate by commas for the \maketitle,
    and put on separate lines in the \makesignature. Similarly, within \netaddress,
    !tubmultipleaffilnet separates with a space before and after the comma, while
    . (All this per bb.) See tb122childs-trotter.ltx for an example.
960 \def\tubmultipleaffilauthor{\unskip, \ignorespaces}%
961 \def\tubmultipleaffilnet{\unskip\textrm{\,,\ \ignorespaces}}

```

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

```
962 \newcount\authornumber
963 \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`).

```
964 \def\author{%
965   \global\advance\authornumber\@ne
966   \TB@author
967 }
```

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

```
968 \def\contributor{%
969   \begingroup
970   \authornumber\m@ne
971   \TB@author
972 }
```

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* and *ORCID* are optional anyway).

```
973 \def\TB@author#1{%
974   \expandafter\def\csname theauthor\number\authornumber\endcsname
975     {\ignorespaces#1\unskip}%
976   \expandafter\def\csname theaddress\number\authornumber\endcsname
977     {\TBWarningNL{Address for #1\space missing}\@gobble}%
978   \expandafter\def\csname thenetaddress\number\authornumber\endcsname
979     {\TBWarningNL{Net address for #1\space missing}\@gobble}%
980   \expandafter\let\csname thePersonalURL\number\authornumber\endcsname
981     \@gobble
982   \expandafter\let\csname theORCID\number\authornumber\endcsname
983     \@gobble
984   }
985 \def\EDITORnoaddress{%
986   \expandafter\let\csname theaddress\number\authornumber\endcsname
987     \@gobble
988 }
989 \def\EDITORnonetaddress{%
990   \expandafter\let\csname thenetaddress\number\authornumber\endcsname
991     \@gobble
992 }
```

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

```
993 \def\address#1{%
994   \expandafter\def\csname theaddress\number\authornumber\endcsname
995     {\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!*

```
996 \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.

```
997 \newcommand{\netaddress}[1][\relax]{%
998   \begingroup
999   \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.

```
1000 #1\@sanitize\makespace\ \makeactive\@%
1001 \makeescape! \makebgroup[ \makeegroup]% seems more useful than literals
1002 \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?!*)

```
1003 \def\@relay@netaddress#1{%
1004   \ProtectNetChars
1005   \expandafter\protected@xdef
1006     \csname thenetaddress\number\authornumber\endcsname
1007     {\protect\leavevmode\textrm{\@network}%
1008      {\protect\NetAddrChars\net
1009       \ignorespaces#1\unskip}}%
1010   \endgroup
1011 }
```

`\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.

```
1012 \def\personalURL{\begingroup
```

```

1013 \@sanitize\makespace\ \makeactive\@
1014 \makeactive\.\makeactive%\makeactive\/\@personalURL}%
1015 \def\@personalURL#1{%
1016 \ProtectNetChars
1017 \expandafter\protected@xdef
1018 \cename thePersonalURL\number\authornumber\endcsname{%
1019 \protect\leavevmode
1020 {%
1021 \protect\URLchars\net
1022 \ignorespaces#1\unskip
1023 }%
1024 }%
1025 \endgroup
1026 }

```

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...

```

1027 {%
1028 \makecomment\*
1029 \makeactive\@
1030 \gdef\netaddrat{\makeactive\@*
1031 \def@{\discretionary{\char"40}{-}{\char"40}}}%
1032 \makeactive\%
1033 \gdef\netaddrpercent{\makeactive\%*
1034 \def%{\discretionary{\char"25}{-}{\char"25}}}%
1035 \makeactive\.
1036 \gdef\netaddrdot{\makeactive\.*
1037 \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.

```

1038 \gdef\NetAddrChars{\netaddrat \netaddrpercent \netaddrdot}
1039 \makeactive\/
1040 \gdef\URLchars{*
1041 \NetAddrChars
1042 \makeactive\/*
1043 \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.

```

1044 \gdef\ProtectNetChars{*
1045 \def@{\protect@}*
1046 \def%{\protect%}*
1047 \def.{\protect.}*
1048 \def/{\protect/}*
1049 }
1050 }

```

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

```

1051 \if@compatibility
1052   \DeclareRobustCommand{\net}{\normalfont\ttfamily\mathgroup\syntypewriter}
1053 \else
1054   \DeclareOldFontCommand{\net}{\ttfamily\upshape\mdseries}{\mathtt}
1055 \fi
1056 \def\authorlist#1{\def\@author{#1}}
1057 \def\@author{\@defaultauthorlist}

```

`\ORCID` inserts ‘ORCID’ and then argument into the `\theORCID<n>` for this author. Also, we want `\small` for this.

```

1058 \def\ORCID#1{%
1059   \expandafter\def\csname theORCID\number\authornumber\endcsname
1060     {\leavevmode \ignorespaces {\SMC ORCID} #1\unskip}}

```

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`

```

1061 \def\mspmetavar#1#2{}

```

3.14 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 `\@r@maketitle` flushes out the latest `\sectitle` (or whatever) but does nothing else.

Provide machinery (`\PreTitleDrop` 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.

In addition, if the `secondcolstart` option was specified, do `\null\newpage` to move over. This is separate from `\PreTitleDrop`, for no particular reason.

```

1062 \newif\if@articletitle
1063 \def\maketitle{\@ifstar
1064   {\@articletitlefalse\@r@maketitle}%
1065   {\@articletitletrue\@r@maketitle}%
1066 }
1067 \def\@r@maketitle{\par
1068   \ifdim\PreTitleDrop > \z@

```

```

1069 \loop
1070 \ifdim \PreTitleDrop > \textheight
1071 \vbox{}\vfil\eject
1072 \advance\PreTitleDrop by -\textheight
1073 \repeat
1074 \vbox to \PreTitleDrop{}
1075 \global\PreTitleDrop=\z@
1076 \fi
1077 \iftubsecondcolstart \null\newpage\fi
1078 \begingroup
1079 \setcounter{footnote}{0}
1080 \global\@topnum\z@ % disallow floats above the title
1081 \def\thefootnote{\fnsymbol{footnote}}
1082 \@maketitle
1083 \@thanks
1084 \endgroup
1085 \setcounter{footnote}{0}
1086 \gdef\@thanks{}
1087 }

\title We redefine the \title command, so as to set the \rhTitle command at the same
\TB@title 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.

1088 \def\rhTitle{}% avoid error if no author or title
1089 \renewcommand{\title}{\@dblarg\TB@title}
1090 \def\TB@title[#1]#2{\gdef\@title{#2}%
1091 \bgroup
1092 \let\thanks\@gobble
1093 \def\{\unskip\space\ignorespaces}%
1094 \protected@xdef\rhTitle{#1}%
1095 \egroup
1096 }

\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.

1097 \def\shortTitle #1{\def\rhTitle{#1}}
1098 \newif\ifshortAuthor
1099 \def\shortAuthor #1{\def\rhAuthor{#1}\shortAuthortrue}

```

3.15 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:

```

1100 \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).

```
1101 \newdimen\stbaselineskip      \stbaselineskip=18\p@
1102 \newdimen\stfontheight
1103 \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.

```
1104 \newif\ifWideSecTitle
1105 \newif\iftubtitlerulefullwidth
1106 \newif\ifSecTitle \SecTitlefalse
1107 \newcommand{\sectitle}{%
1108   \SecTiteltrue
1109   \@ifstar
1110     {\WideSecTiteltrue\def\s@ctitle}%
1111     {\WideSecTitelfalse\def\s@ctitle}%
1112 }
```

`\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.

```
1113 \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.

```
1114 \newskip\AboveTitleSkip \AboveTitleSkip=12\p@
1115 \newskip\BelowTitleSkip \BelowTitleSkip=8\p@
1116 \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 \LaTeX 's `\framebox` command, on the grounds that one doesn't keep a dog and bark for oneself...

```
1117 \def\@sectitle #1{%
1118   \par
1119   \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.

```

1120 \ifWideSecTitle\else\secsep\fi
1121 {%
1122   \fboxrule\strulethickness
1123   \fboxsep\z@
1124   \noindent\framebox[\hsize]{%
1125     \vbox{%
1126       \raggedcenter
1127       \let\\ \@sectitle@newline
1128       \sectitlefont
1129       \makestrut[2\stfontheight;\z@]%
1130       #1%
1131       \makestrut[\z@;\stfontheight]\endgraf
1132     }%
1133   }%
1134 }%
1135 \nobreak
1136 \vskip\baselineskip
1137 }

```

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

```

1138 \newcommand{\@sectitle@newline}[1][\z@]{%
1139   \ifdim#1>\z@
1140     \makestrut[\z@;#1]%
1141   \fi
1142   \unskip\break
1143 }

```

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).

```

1144 \def\@makesectitle{\ifSecTitle
1145   \global\SecTitlefalse
1146   \ifWideSecTitle
1147     \twocolumn[\@sectitle{\s@ctitle}]%
1148     \global\WideSecTitlefalse
1149   \else
1150     \@sectitle{\s@ctitle}%
1151   \fi
1152 \else
1153   \vskip\AboveTitleSkip
1154   \kern\topskip
1155   \hrule \@height\z@ \@depth\z@ \@width 10\p@
1156   \kern-\topskip
1157   \kern-\strulethickness
1158   \iftubtitlerulefullwidth
1159     \hrule \@height\strulethickness \@depth\z@ width\textwidth

```

```

1160 \else
1161 \hrule \@height\strulethickness \@depth\z@
1162 \fi
1163 \kern\medskipamount
1164 \nobreak
1165 \fi
1166 }

```

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

```

1167 \def\@maketitle{%
1168 \@makesecttitle
1169 \if@articletitle{%
1170 \nohyphens \interlinepenalty\@M
1171 \setbox0=\hbox{%
1172 \let\thanks\@gobble
1173 \let\=\quad
1174 \let\and=\quad
1175 \ignorespaces\@author}%
1176 {%
1177 \noindent\bf\raggedright\ignorespaces\frenchspacing
1178 \let\BibTeX=\bfBibTeX % else LaTeX Font Warning:
1179 % Font shape 'OT1/cmr/bx/sc' undefined
1180 \@title\endgraf
1181 }%
1182 \ifdim \wd0 < 5\p@ % omit if author is null
1183 \else
    Since we have  $\BelowTitleSkip + 4pt = \baselineskip$ , we say:
1184 \nobreak \vskip 4\p@
1185 {%
1186 \leftskip=\normalparindent
1187 \raggedright
1188 \def\and{\unskip\}%
1189 \noindent\@author\endgraf
1190 }%
1191 \fi
1192 \nobreak
1193 \vskip\BelowTitleSkip
1194 }\fi%
1195 \global\@afterindentfalse
1196 \aftergroup\@afterheading
1197 }

```

Dedications are ragged right, in italics.

```

1198 \newenvironment{dedication}%
1199 {\raggedright\noindent\itshape\ignorespaces}%
1200 {\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.

```

1201 \def\tubonecolumnabstractstart{%
1202     \list{}\listparindent\normalparindent
1203     \itemindent\z@ \leftmargin\tubfullpageindent
1204     \rightmargin\leftmargin \parsep \z@\item[]\ignorespaces
1205 }
1206 \def\tubonecolumnabstractfinish{%
1207     \endlist
1208 }
1209 \renewenvironment{abstract}%
1210 {\begin{SafeSection}%
1211     \section*{%
1212         \if@tubtwocolumn\else \hspace*{\@tubfullpageindent}\fi
1213         Abstract}%
1214     \if@tubtwocolumn\else \@tubonecolumnabstractstart \fi
1215 }%
1216 {\if@tubtwocolumn\else \@tubonecolumnabstractfinish \fi
1217     \end{SafeSection}}
1218 \newenvironment{longabstract}%
1219 {\begin{SafeSection}%
1220     \section*{Abstract}%
1221     \bgroup\small
1222 }%
1223 {\endgraf\egroup
1224     \end{SafeSection}%
1225     \vspace{.25\baselineskip}
1226     \begin{center}
1227         {$---$}
1228     \end{center}
1229     \vspace{.5\baselineskip}}

```

3.16 Section headings

Redefine style of section headings to match plain *TUGboat*. Negative beforeskip 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.

```

1230 \def\tubsechook{}
1231 \if@numbersec
1232     \def\section{\TB@startsection{\section}%
1233                                     1%
1234                                     \z@
1235                                     {-8\p@ \@plus-2\p@ \@minus-2\p@}%

```

```

1236             {4\p@}%
1237         {\normalsize\bf\raggedright\hyphenpenalty\@M\tubsechook}}
1238 \def\subsection{\TB@startsection{subsection}%
1239             2%
1240             \z@
1241             {-8\p@ \@plus-2\p@ \@minus-2\p@}%
1242             {4\p@}%
1243         {\normalsize\bf\raggedright\hyphenpenalty\@M\tubsechook}}
1244 \def\subsubsection{\TB@startsection{subsubsection}%
1245             3%
1246             \z@
1247             {-8\p@ \@plus-2\p@ \@minus-2\p@}%
1248             {4\p@}%
1249         {\normalsize\bf\raggedright\hyphenpenalty\@M\tubsechook}}
1250 \def\paragraph{\TB@startsection{paragraph}%
1251             4%
1252             \z@
1253             {4\p@ \@plus1\p@ \@minus1\p@}%
1254             {-1em}%
1255             {\normalsize\bf\tubsechook}}

```

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

```

1256 \else
1257     \setcounter{secnumdepth}{0}
1258     \def\section{\TB@nolimlabel
1259         \TB@startsection{section}%
1260             1%
1261             \z@
1262             {-8\p@ \@plus-2\p@ \@minus-2\p@}%
1263             {4\p@}%
1264         {\normalsize\bf\raggedright\hyphenpenalty\@M\tubsechook}}
1265     \def\subsection{\TB@nolimlabel
1266         \TB@startsection{subsection}%
1267             2%
1268             \z@
1269             {-8\p@ \@plus-2\p@ \@minus-2\p@}%
1270             {-0.5em\@plus-\fontdimen3\font}%
1271         {\normalsize\bf\raggedright\hyphenpenalty\@M\tubsechook}}
1272     \def\subsubsection{\TB@nolimlabel
1273         \TB@startsection{subsubsection}%
1274             3%
1275             \parindent
1276             {-8\p@ \@plus-2\p@ \@minus-2\p@}%
1277             {-0.5em\@plus-\fontdimen3\font}%
1278         {\normalsize\bf\raggedright\hyphenpenalty\@M\tubsechook}}
1279 \fi

```

`\TB@startsection` used to warn about * versions of sectioning commands when numbering wasn't in effect. But that eventually seemed a useless complaint,

since it can be useful 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`.

```
1280 \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).
1281 \def\TB@safe@startsection#1{\@startsection#1}

    The SafeSection environment allows use of *-forms of sectioning environ-
    ments. It's not documented for the general public: it's intended as an editor's
    facility.
1282 \newenvironment{SafeSection}%
1283 {\let\TB@startsection\TB@safe@startsection}%
1284 {}
```

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'¹).

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.

```
1285 \if@numbersec
1286   \def\subparagraph{\TB@nosection\subparagraph\paragraph}
1287 \else
1288   \def\paragraph{\TB@nosection\paragraph\subsubsection}
1289   \def\subparagraph{\TB@nosection\subparagraph\subsubsection}
1290 \fi
1291 \def\chapter{\TB@nosection\chapter\section}
1292 \def\part{\TB@nosection\part\section}
1293 \def\TB@nosection#1#2{\TBWarning{class does not support \string#1,
1294   \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 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.

¹Thurber, *The Wonderful O*

```

1295 \def\TBtocsectionfont{\normalfont}
1296 \newskip\TBtocsectionspace \TBtocsectionspace=1.0ex\@plus\p@
1297 \def\l@section#1#2{\addpenalty{\@secpenalty}%
1298 \addvspace{\TBtocsectionspace}%
1299 \@tempdima 1.5em
1300 \begingroup
1301 \parindent\z@ \rightskip\z@ % article style makes \rightskip > 0
1302 \parfillskip\z@
1303 \TBtocsectionfont
1304 \leavevmode\advance\leftskip\@tempdima\hskip-\leftskip#1\nobreak\hfil
1305 \nobreak\hb@xt@\@pnumwidth{\hss #2}\par
1306 \endgroup}

```

3.17 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 (`\TBnolabel` happens before the `\refstepcounter`, so its effects get lost ... what a clever piece of design that was). So here we go:

```

1307 \renewcommand{\appendix}{\par
1308 \renewcommand{\thesection}{\@Alph\c@section}%
1309 \setcounter{section}{0}%
1310 \if@numbersec
1311 \else
1312 \setcounter{secnumdepth}{1}%
1313 \fi

```

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

```

1314 \def\@tempa{appendix}
1315 \ifx\@tempa\@currentenv
1316 \expandafter\@appendix@env
1317 \fi
1318 }

```

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

```

1319 \newcommand{\app@prefix@section}{}
1320 \newcommand{\@appendix@env}[1][Appendix]{%
1321 \renewcommand{\@secntformat}[1]{\csname app@prefix@##1\endcsname
1322 \csname the##1\endcsname\quad}%
1323 \renewcommand{\app@prefix@section}{#1 }%
1324 }

```

Ending an appendix environment is pretty trivial...

```

1325 \let\endappendix\relax

```

3.18 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.

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

```
1326 \def\TB@nolimelabel{%
1327   \def\@currentlabel{%
1328     \protect\TBWarning{%
1329       Invalid reference to numbered label on page \thepage
1330       \MessageBreak made%
1331     }%
1332     \textbf{?!?}%
1333   }%
1334 }
```

3.19 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.

```
1335 \let\TB@@sect\@sect
1336 \let\TB@@ssect\@ssect
1337 \def\@sect#1#2#3#4#5#6[#7]#8{%
1338   \def\@currentlabelname{#7}%
1339   \TB@@sect{#1}{#2}{#3}{#4}{#5}{#6}[[#7]]{#8}%
1340 }
1341 \def\@ssect#1#2#3#4#5{%
1342   \def\@currentlabelname{#5}%
1343   \TB@@ssect{#1}{#2}{#3}{#4}{#5}%
1344 }
```

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>`.

```

1345 \let\@savelatexlabel=\label % so save original LaTeX command
1346 %
1347 \def\label#1{% de
1348   \@savelatexlabel{#1}%
1349   \@bsphack
1350   \if@filesw
1351     \protected@write\@auxout{%
1352       {\string\newlabel{nr@#1}{\@currentlabel}{\@currentlabelname}}}%
1353   \fi
1354   \@esphack
1355 }

```

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

```
1356 \let\@currentlabelname\@empty
```

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

```

1357 \DeclareRobustCommand{\nameref}[1]{\expandafter\@setref
1358   \csname r@nr@#1\endcsname\@secondoftwo{#1}}

```

3.20 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
```

```

1359 \newdimen\@tubfullpageindent
1360 \@tubfullpageindent = \if@tubtwocolumn 4.875pc \else 3.875pc \fi

```

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

```
\tubcaptionleftglue
```

```
1361 \let\tubcaptionleftglue=\hfil
```

For *TUGboat*, we like 9pt captions to help differentiate from the main text.

```
1362 \def\tubcaptionfonts{\small}%
```

Ok, here is `\@makecaption`.

```

1363 \long\def\@makecaption#1#2{%
1364   \vskip\abovcaptionskip
1365   % try in an hbox:
1366   \sbox\@tempboxa{\tubcaptionfonts \frenchspacing \tubmakecaptionbox{#1}{#2}}%
1367   \ifdim \wd\@tempboxa > \hsize
1368     {% caption doesn't fit on one line; set as a paragraph.
1369       \tubcaptionfonts \raggedright \hyphenpenalty=\@M \parindent=1em

```

```

1370      % indent full-width captions {figure*}, but not single-column {figure}.
1371      \ifdim\hsize = \textwidth
1372          \leftskip=\@tubfullpageindent \rightskip=\leftskip
1373          \advance\rightskip by 0pt plus2em % increase acceptable raggedness
1374      \fi
1375      \noindent \tubmakecaptionbox{#1}{#2}\par}%
1376  \else
1377      % fits on one line; use the hbox, usually centered. Do not reset its glue.
1378      \global\@minipagefalse
1379      \hb@xt@\hsize{\tubcaptionleftglue\box\@tempboxa\hfil}%
1380  \fi
1381  \vskip\belowcaptionskip}
1382 %
1383 \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.

```

1384 \def\fnun@figure{{\tubcaptionfonts \bf \figurename\nobreakspace\thefigure}}
1385 \def\fnun@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.

```

1386 \setlength\abovecaptionskip{6pt plus1pt minus1pt}

```

3.21 Size changing commands

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

```

1387 \renewcommand{\normalsize}{%
1388     \@setfontsize\normalsize\@xpt\@xipt
1389     \abovedisplayskip=3\p@\@plus 3\p@\@minus\p@
1390     \belowdisplayskip=\abovedisplayskip
1391     \abovedisplayshortskip=\z@\@plus 3\p@
1392     \belowdisplayshortskip=\p@\@plus 3\p@\@minus\p@
1393 }
1394
1395 \renewcommand{\small}{%
1396     \@setfontsize\small\@ixpt{11}%
1397     \abovedisplayskip=2.5\p@\@plus 2.5\p@\@minus\p@
1398     \belowdisplayskip=\abovedisplayskip
1399     \abovedisplayshortskip=\z@\@plus 2\p@
1400     \belowdisplayshortskip=\p@\@plus 2\p@\@minus\p@
1401 }
1402
1403 \renewcommand{\footnotesize}{%
1404     \@setfontsize\footnotesize\@viipt{9.5}%
1405     \abovedisplayskip=3\p@\@plus 3\p@\@minus\p@
1406     \belowdisplayskip=\abovedisplayskip
1407     \abovedisplayshortskip=\z@\@plus 3\p@

```

```

1408 \belowdisplayshortskip=\p@\@plus 3\p@\@minus\p@
1409 }

```

3.22 Lists and other text inclusions

```

1410 \def\@listi{%
1411 \leftmargin\leftmarginii\parsep=\p@\@plus\p@\@minus\p@
1412 \itemsep=\parsep
1413 \listparindent=1em
1414 }
1415
1416 \def\@listii{%
1417 \leftmargin\leftmarginii
1418 \labelwidth=\leftmarginii \advance\labelwidth-\labelsep
1419 \topsep=2\p@\@plus\p@\@minus\p@
1420 \parsep=\p@\@plus\p@\@minus\p@
1421 \itemsep=\parsep
1422 \listparindent=1em
1423 }
1424
1425 \def\@listiii{%
1426 \leftmargin=\leftmarginiii
1427 \labelwidth=\leftmarginiii \advance\labelwidth-\labelsep
1428 \topsep=\p@\@plus\p@\@minus\p@
1429 \parsep=\z@
1430 \itemsep=\topsep
1431 \listparindent=1em
1432 }
1433 \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.
1434 \renewcommand{\quotation}{\list{}{\listparindent 1.5em
1435 \rightmargin.5\leftmargin\parsep \z@\@plus\p@}\item[]}

    The compactitemize, compactenumerate, and compactdescription envi-
    ronments, without space between the items.
1436 \newenvironment{compactitemize}%
1437 {\begin{itemize}%
1438 \setlength{\itemsep}{0pt}%
1439 \setlength{\parskip}{0pt}%
1440 \setlength{\parsep}{0pt}%
1441 }%
1442 {\end{itemize}}
1443 %
1444 \newenvironment{compactenumerate}%
1445 {\begin{enumerate}%
1446 \setlength{\itemsep}{0pt}%
1447 \setlength{\parskip}{0pt}%
1448 \setlength{\parsep}{0pt}%
1449 }%

```

```

1450   {\end{enumerate}}
1451 %
1452 \newenvironment{compactdescription}%
1453   {\begin{description}%
1454     \setlength{\itemsep}{0pt}%
1455     \setlength{\parskip}{0pt}%
1456     \setlength{\parsep}{0pt}%
1457   }%
1458   {\end{description}}
1459 %

```

3.23 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.

```

1460 %\let\@TB@verbatim\@verbatim
1461 \let\@TBverbatim\verbatim
1462 \let\@TBendverbatim\endverbatim

```

Impose an optional argument on the environment.

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

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

```

1463 \def\verbatim{\par\obeylines
1464   \futurelet\reserved@a\@switch@sqbverbatim}
1465 %
1466 \def\@switch@sqbverbatim{\ifx\reserved@a[%]
1467   \expandafter\@sqbverbatim\else
1468   \def\reserved@b{\@sqbverbatim[]}\expandafter\reserved@b\fi}
1469 %
1470 \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.

```

1471 \def\ruled{\let\if@ruled\iftrue}%

```

The command `\makevmeta` says to make `!;...;` do `<...>`.

```

1472 \def\makevmeta{\makeescape\! \let\<\tubverb@meta \tubverb@clearliglist}
1473 \def\tubverb@meta##1>{\meta{##1}}

```

The default verbatim defines ‘ \mathfrak{z} ’ as active characters to stop ligatures; remove \mathfrak{z} from the list so we get normal characters. Just hope that the CM \mathfrak{z} ligatures aren’t used.

```

1474 \def\tubverb@clearliglist{%
1475   \def\verbatim@nolig@list{\do\‘\do\,\do\’\do\-%
1476 }

```

Then we execute the arguments we’ve got, and relay to a (hacked) copy of the L^AT_EX verbatim environment.

```

1477 #1\@TBverbatim}

```

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

```

1478 \def\@verbatim{%

```

First, we deal with `\ruled`:

```

1479   \if@ruled\trivlist\item\hrule\kern5\p@\nobreak\fi

```

Now, the code out of the original verbatim environment:

```

1480 \trivlist \item\relax
1481 \if@minipage\else\vskip\parskip\fi
1482 \leftskip\@totalleftmargin\rightskip\z@skip
1483 \parindent\z@\parfillskip\@flushglue\parskip\z@skip
1484 \@@par
1485 \@tempwafalse
1486 \def\par{%
1487   \if@tempswa
1488     \leavevmode \null \@@par\penalty\interlinepenalty
1489   \else
1490     \@tempswatrue
1491     \ifhmode\@@par\penalty\interlinepenalty\fi
1492   \fi}%
1493 \obeylines \verbatim@font \@noligs
1494 \let\do\@makeother \dospecials
1495 \everypar \expandafter{\the\everypar \unpenalty}%
1496 }% end |\@sqbverbatim|

```

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).

```

1497 \def\endverbatim{\@TBendverbatim
1498   \if@ruled\kern5\p@\hrule\endtrivlist\fi}

```

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

```

1499 \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, and messes with the visible fixed-width alignment.

```
1500 \AtBeginDocument{%
1501   \@ifpackageloaded{microtype}
1502     {\g@addto@macro\@verbatim{\microtypesetup{activate=false}}}{\}
1503 }
```

3.24 Bibliography

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

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

The available citation commands are:

```
\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 `LATEX`’s default citation mechanism.

```
1504 \if@Harvardcite
1505 \let\@internalcite\cite
```

Normal forms.

```
1506 \def\cite{\def\@citesep{-1000}%
1507   \def\@cite##1##2{##1\if@tempswa , ##2\fi}}%
1508   \def\citeauthoryear##1##2##3{##1, ##3}\@internalcite}
1509 \def\citeNP{\def\@citesep{-1000}%
1510   \def\@cite##1##2{##1\if@tempswa , ##2\fi}}%
1511   \def\citeauthoryear##1##2##3{##1, ##3}\@internalcite}
1512 \def\citeN{\def\@citesep{-1000}%
1513   \def\@cite##1##2{##1\if@tempswa , ##2\else{}}\fi}%
1514   \def\citeauthoryear##1##2##3{##1 (##3)\@citedata}
1515 \def\citeA{\def\@citesep{-1000}%
1516   \def\@cite##1##2{##1\if@tempswa , ##2\fi}}%
1517   \def\citeauthoryear##1##2##3{##1}\@internalcite}
1518 \def\citeANP{\def\@citesep{-1000}%
```

```

1519 \def\cite##1##2{##1\if@tempswa , ##2\fi}%
1520 \def\citeauthoryear##1##2##3{##1}\@internalcite}
Abbreviated forms (using et al.)
1521 \def\shortcite{\def\@citesep{-1000}}%
1522 \def\cite##1##2{##1\if@tempswa , ##2\fi}%
1523 \def\citeauthoryear##1##2##3{##2, ##3}\@internalcite}
1524 \def\shortciteNP{\def\@citesep{-1000}}%
1525 \def\cite##1##2{##1\if@tempswa , ##2\fi}%
1526 \def\citeauthoryear##1##2##3{##2, ##3}\@internalcite}
1527 \def\shortciteN{\def\@citesep{-1000}}%
1528 \def\cite##1##2{##1\if@tempswa , ##2\else{}}\fi}%
1529 \def\citeauthoryear##1##2##3{##2 (##3)\@citedata}
1530 \def\shortciteA{\def\@citesep{-1000}}%
1531 \def\cite##1##2{##1\if@tempswa , ##2\fi}%
1532 \def\citeauthoryear##1##2##3{##2}\@internalcite}
1533 \def\shortciteANP{\def\@citesep{-1000}}%
1534 \def\cite##1##2{##1\if@tempswa , ##2\fi}%
1535 \def\citeauthoryear##1##2##3{##2}\@internalcite}

```

When just the year is needed:

```

1536 \def\citeyear{\def\@citesep{-1000}}%
1537 \def\cite##1##2{##1\if@tempswa , ##2\fi}%
1538 \def\citeauthoryear##1##2##3{##3}\@citedata}
1539 \def\citeyearNP{\def\@citesep{-1000}}%
1540 \def\cite##1##2{##1\if@tempswa , ##2\fi}%
1541 \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.

```

1542 \def\@citedata{%
1543     \ifnextchar [{\@tempswatrue\@citedatax}%
1544                 {\@tempswafalse\@citedatax[]}%
1545 }
1546
1547 \def\@citedatax[#1]#2{%
1548 \if@filesw\immediate\write\@auxout{\string\citation{#2}}\fi%
1549 \def\@citea{\@cite{\@for\@citeb:=#2\do%
1550     {\@citea\def\@citea{, }\@ifundefined% by Young
1551         {b@\@citeb}{\bf ?}%
1552         \@warning{Citation ‘\@citeb’ on page \thepage \space undefined}}}%
1553 {\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.

```

1554 \def\@citex[#1]#2{%
1555 \if@filesw\immediate\write\@auxout{\string\citation{#2}}\fi%
1556 \def\@citea{\@cite{\@for\@citeb:=#2\do%
1557     {\@citea\def\@citea{; }\@ifundefined% by Young
1558         {b@\@citeb}{\bf ?}%

```

```

1559      \@warning{Citation ‘\@citeb’ on page \thepage \space undefined}}}%
1560 {\csname b@\@citeb\endcsname}}}{#1}}%
      No labels in the bibliography.
1561 \def\@biblabel#1{}
      Set length of hanging indentation for bibliography entries.
1562 \newlength{\bibhang}
1563 \setlength{\bibhang}{2em}
      Indent second and subsequent lines of bibliographic entries. Stolen from open-
      bib.sty: \newblock is set to {}.
1564 \newdimen\bibindent
1565 \bibindent=1.5em
1566 \@ifundefined{refname}%
1567   {\newcommand{\refname}{References}}}%
1568   {}%
      For safety’s sake, suppress the \TB@startsection warnings here...
1569 \def\thebibliography#1{% for harvardcite
1570   \let\TB@startsection\TB@safe@startsection
1571   \section*{\refname
1572     \@mkboth{\uppercase{\refname}}{\uppercase{\refname}}}%
1573   \list{[\arabic{enumi}]}{%
1574     \labelwidth\z@ \labelsep\z@
1575     \leftmargin\bibindent
1576     \itemindent -\bibindent
1577     \listparindent \itemindent
1578     \parsep \z@
1579     \usecounter{enumi}}}%
1580 \def\newblock{}%
1581 \BibJustification
1582 \frenchspacing % more than just period, see comments below
1583 }

etal Other bibliography odds and ends.
\bibentry 1584 \def\etal{et\,al.\@}
1585 \def\bibentry{%
1586   \smallskip
1587   \hangindent=\parindent
1588   \hangafter=1
1589   \noindent
1590   \sloppy
1591   \clubpenalty500 \widowpenalty500
1592   \frenchspacing
1593 }

\bibliography Changes made to accommodate TUB file naming conventions
\bibliographystyle 1594 \def\bibliography#1{%
1595   \if@files
1596     \immediate\write\@auxout{\string\bibdata{\@tubfilename{#1}}}%

```

```

1597 \fi
1598 \@input{\jobname.bbl}%
1599 }
1600 \def\bibliographystyle#1{%
1601 \if@filesw
1602 \immediate\write\@auxout{\string\bibstyle{\@tubfilename{#1}}}%
1603 \fi
1604 }

```

`\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*@startsection since we always have, though that is no longer needed.

```

1605 \else % not harvardcite
1606 \let\TB@origthebibliography\thebibliography
1607 \def\thebibliography{%
1608 \let\TB@startsection\TB@safe@startsection
1609 \def\sloppy{\frenchspacing\BibJustification}%
1610 \TB@origthebibliography} % latex's thebibliography now reads args.
1611 \fi % not harvardcite

```

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

```

1612 \let\TB@@sloppy\sloppy
1613 \let\BibJustification\TB@@sloppy
1614 \newcommand{\SetBibJustification}[1]{%
1615 \renewcommand{\BibJustification}{#1}%
1616 }
1617 \ResetCommands\expandafter{\the\ResetCommands
1618 \let\BibJustification\TB@@sloppy
1619 }

```

3.25 Registration marks

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

```

1620 \def\HorzR@gisterRule{\vrule \@height 0.2\p@ \@depth\z@ \@width 0.5in }
1621 \def\DownShortR@gisterRule{\vrule \@height 0.2\p@ \@depth 1pc \@width 0.2\p@ }
1622 \def\UpShortR@gisterRule{\vrule \@height 1pc \@depth\z@ \@width 0.2\p@ }

```

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

```

1623 \def\ttopregister{\dlap{%
1624     \hb@xt@\trimwd{\HorzR@gisterRule \hfil \HorzR@gisterRule
1625         \HorzR@gisterRule \hfil \HorzR@gisterRule}}%
1626     \hb@xt@\trimwd{\hfil \DownShortR@gisterRule \hfil}}
1627 \def\tbotregister{\ulap{%
1628     \hb@xt@\trimwd{\hfil \UpShortR@gisterRule \hfil}}%
1629     \hb@xt@\trimwd{\HorzR@gisterRule \hfil \HorzR@gisterRule
1630         \HorzR@gisterRule \hfil \HorzR@gisterRule}}}
1631 \def\topregister{\ttopregister}
1632 \def\botregister{\tbotregister}

```

3.26 Running headers and footers

```

1633 \def\rtitlex{\def\texttub##1{{\normalsize\textrm{##1}}}\TUB, \volx}

    registration marks; these are temporarily inserted in the running head
1634 \def\MakeRegistrationMarks{}
1635 \def\UseTrimMarks{%
1636     \def\MakeRegistrationMarks{%
1637         \ulap{\rlap{%
1638             \vbox{\dlap{\vbox to\trimlgt{\vfil\botregister}}}%
1639             \topregister\vskip \headmargin \vskip 10\p{}}}%
1640     }
1641 % put issue identification and page number in header.
1642 \def\@oddhead{\MakeRegistrationMarks
1643     \frenchspacing
1644     \normalsize\csname normalshape\endcsname\rm \tubheadhook
1645     \rtitlex\quad \midrtitle\hfil \rtitlenexttopage\quad \thepage}
1646 \def\@evenhead{\MakeRegistrationMarks
1647     \frenchspacing
1648     \normalsize\csname normalshape\endcsname\rm \tubheadhook
1649     \thepage \quad\rtitlenexttopage \hfil\midrtitle \quad\rtitlex}
1650
1651 % can be used to reset the font, e.g., tb98kuester.
1652 \def\tubheadhook{}
1653
1654 % in case the official \author is too verbose for the footline.
1655 % (the \shortauthor / \rhAuthor stuff is only enabled for proceedings, fix!)
1656 \def\tubrunningauthor{\@author}
1657
1658 % put title and author in footer.
1659 \def\@tubrunningfull{%
1660     \def\@oddfoot{% make line break commands produce a normal space
1661         \def\{\unskip\ \ignorespaces}%
1662         \let\newline=\%
1663         \tubtypesetdoi
1664         \frenchspacing\hfil\rhTitle}
1665     \def\@evenfoot{%
1666         \let\thanks\@gobble

```

```

1667 \tubtypesetdoi
1668 \frenchspacing\tubrunningauthor\hfil}
1669 }
1670
1671 % empty footer.
1672 \def\@tubrunningminimal{%
1673 \def\@oddfoot{\tubtypesetdoi\hfil}%
1674 \def\@evenfoot{\tubtypesetdoi\hfil}%
1675 }
1676
1677 % empty footer and header.
1678 \def\@tubrunningoff{%
1679 \@tubrunningminimal
1680 \def\@oddhead{\hfil}%
1681 \def\@evenhead{\hfil}%
1682 }
1683
1684 \def\ps@headings{}
1685 \pagestyle{headings}

```

Typeset the doi. The format we decided on looks like: <https://doi.org/10.47397/tb/41-3/tb12> where the last element is the \jobname.

We put this below the footline. The footer definitions above specify that it is always called, even if the regular footer is empty.

If the article started in the second column (option [secondcolstart]), we manually move the doi over.

We do not check for validity of \volno, \issno, \jobname. For testing, etc., seems simpler to just typeset what we've got. Other scripts will verify consistency.

```

1686 %
1687 \def\tubdoiprefix{10.47397/tb} % the number crossref assigned us
1688 %
1689 \def\tubtypesetdoi{\iftubomitdoioption\else % if not explicit omission ...
1690 \iftubfinaloption % do this if [final], even if pageno>900
1691 \vbox to 0pt{% don't impact normal layout
1692 \edef\thedoi{\ifnum\count0>900 xnot\fi % but make url invalid if >900
1693 doi.org/\tubdoiprefix/\volno-\issno/\jobname}%
1694 \scriptsize
1695 \vskip\baselineskip
1696 \iftubsecondcolstart \moveright \tubcolwidthandgutter \fi
1697 \rlap{\expandafter\tbsurl\expandafter{\thedoi}}%
1698 \vss
1699 }%
1700 \global\let\tubtypesetdoi\empty % only do it once, no matter what.
1701 \fi
1702 \fi}
1703 %
1704 %

```

3.27 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...

```
1705 \def\@outputdblcol{\if@firstcolumn \global\@firstcolumnfalse
1706   \global\setbox\@leftcolumn\box\@outputbox
1707   \global\brokenpenalty10000
1708 \else \global\@firstcolumntrue
1709   \global\brokenpenalty100
1710   \setbox\@outputbox\vbox{\hb@xt@\textwidth{\hb@xt@\columnwidth
1711     {\box\@leftcolumn \hss}\hfil \vrule \@width\columnseprule\hfil
1712     \hb@xt@\columnwidth{\box\@outputbox \hss}}}\@combinedblfloats
1713   \@outputpage \begingroup \@dblfloatplacement \@startdblcolumn
1714   \@whiles\if@fcolmade \fi{\@outputpage\@startdblcolumn}\endgroup
1715   \fi}
```

3.28 Font-related definitions and machinery

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

```
1716 \newif\ifFirstPar \FirstParfalse
1717 \def\smc{\sc}
1718 \def\ninepoint{\small}
1719 \</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 `\@currsiz`: 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 `\@currsiz` is to get the commonest cases out of the way first.)

```
1720 \<common>
```

```

1721 \DeclareRobustCommand{\SMC}{%
1722   \ifx\@currsize\normalsize\small\else
1723   \ifx\@currsize\small\footnotesize\else
1724   \ifx\@currsize\footnotesize\scriptsize\else
1725   \ifx\@currsize\large\normalsize\else
1726   \ifx\@currsize\Large\large\else
1727   \ifx\@currsize\LARGE\Large\else
1728   \ifx\@currsize\scriptsize\tiny\else
1729   \ifx\@currsize\tiny\tiny\else
1730   \ifx\@currsize\huge\LARGE\else
1731   \ifx\@currsize\Huge\huge\else
1732   \small\SMC@unknown@warning
1733 \fi\fi\fi\fi\fi\fi\fi\fi\fi
1734 }
1735 \newcommand{\SMC@unknown@warning}{\TBWarning{\string\SMC: nonstandard
1736   text font size command -- using \string\small}}
1737 \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.

```

1738 \newcommand{\acro}[1]{\textSMC{#1}\@}
1739 \common

```

3.29 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!)

```

1740 \*classtail
1741 \def\xEdNote{\@EdNoteFont Editor's note:\enspace }
1742 \def\EdNote{\@ifnextchar[%
1743   {%
1744     \ifvmode
1745     \smallskip\noindent\let\@EdNote@\@EdNote@v
1746     \else
1747     \unskip\quad\def\@EdNote@{\unskip\quad}%
1748     \fi
1749     \@EdNote
1750   }%
1751   \xEdNote
1752 }
1753 \long\def\@EdNote[#1]{%
1754   [\thinspace\xEdNote\ignorespaces
1755     #1%
1756     \unskip\thinspace]%
1757   \@EdNote@
1758 }
1759 \def\@EdNote@v{\par\smallskip}

```

Macros for Mittelbach's self-documenting style

```

1760 \def\SelfDocumenting{%
1761   \setlength\textwidth{31pc}
1762   \onecolumn
1763   \parindent \z@
1764   \parskip 2\p@\@plus\p@\@minus\p@
1765   \oddsidemargin 8pc
1766   \evensidemargin 8pc
1767   \marginparwidth 8pc
1768   \toks@\expandafter{\@oddhead}%
1769   \xdef\@oddhead{\hss\hb@xt@\pagewd{\the\toks@}}%
1770   \toks@\expandafter{\@evenhead}%
1771   \xdef\@evenhead{\hss\hb@xt@\pagewd{\the\toks@}}%
1772   \def\ps@titlepage{%
1773   }
1774   \def\ps@titlepage{}
1775
1776   \long\def\@makefnmark#1{\parindent 1em\noindent\hb@xt@2em{}}%
1777   \llap{\@makefnmark}\null$\mskip5mu$#1}
1778
1779   %% \long\def\@makefnmark#1{\parindent 1em
1780   %%   \noindent
1781   %%   \hb@xt@2em{\hss\@makefnmark}%
1782   %%   \hskip0.27778\fontdimen6\textfont\z@\relax
1783   %%   #1%
1784   %% }

```

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

```

1785 \newcommand{\tubraggedfoot}{\rightskip=\raggedskip plus\raggedstretch\relax}

```

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

```

\supportfootnote 1786 \def\creditfootnote{\nomarkfootnote\xEdNote}
1787 \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.

```

1788 \gdef\nomarkfootnote#1#2{\begingroup
1789   \def\thefootnote{}%
1790   % no period, please, also no fnmark.
1791   \def\@makefnmark##1{##1}%
1792   \footnotetext{\noindent #1#2}%
1793   \endgroup
1794 }

```

3.30 Initialization

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

```

1795 \if@Harvardcite
1796   \AtBeginDocument{%
1797     \bibliographystyle{ltugbib}%
1798   }
1799 \fi
1800 \authornumber\z@
1801 \let\@signature\@defaultsignature
1802 \InputIfFileExists{ltugboat.cfg}{\TBInfo{Loading ltugboat
1803                                           configuration information}}{}
1804 \</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:

```

1805 <*ltugproccls>
1806 \def\@tugclass{ltugproc}

```

`\if@proc@sober` TUG'96 proceedings switched to more sober headings still; so the `tug95` option
`\if@proc@numerable` 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.

```

1807 \newif\if@proc@sober
1808 \newif\if@proc@numerable
1809 \DeclareOption{tug95}{%
1810   \@proc@soberfalse
1811   \@proc@numerablefalse
1812 }
1813 \DeclareOption{tug96}{%
1814   \@proc@sobertrue
1815   \@proc@numerablefalse
1816 }
1817 \DeclareOption{tug97}{%
1818   \@proc@sobertrue
1819   \@proc@numerabletrue
1820 }
1821 \DeclareOption{tug2002}{%
1822   \@proc@sobertrue
1823   \@proc@numerabletrue
1824   \let\if@proc@numbersec\iftrue
1825   \PassOptionsToClass{numbersec}{ltugboat}%
1826 }

```

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

```

1827 \DeclareOption{numbersec}{\let\if@proc@numbersec\iftrue
1828   \PassOptionsToClass{numbersec}{ltugboat}%
1829 }
1830 \DeclareOption{nonumber}{\let\if@proc@numbersec\iffalse
1831   \PassOptionsToClass{nonumber}{ltugboat}%

```

```

1832 }

\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.
1833 \newif\ifTB@title
1834 \DeclareOption{title}{\TB@titletrue}
1835 \DeclareOption{notitle}{\TB@titlefalse}
1836 \AtBeginDocument{\stepcounter{page}}

        There are these people who seem to think tugproc is an option as well as a
        class...
1837 \DeclareOption{tugproc}{%
1838   \ClassWarning{\@tugclass}{Option \CurrentOption\space ignored}%
1839 }

        All other options are simply passed to ltugboat...
1840 \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 TEXie...)
1841 \InputIfFileExists{\@tugclass.cfg}{\ClassInfo{ltugproc}%
1842   {Loading ltugproc configuration information}}{}
1843 \ifundefined{TUGprocExtraOptions}%
1844   {\let\TUGprocExtraOptions\empty}%
1845   {\edef\TUGprocExtraOptions{,\TUGprocExtraOptions}}

\tugProcYear Now work out what year it is
1846 \@tempcnta\year
1847 \ifnum\@tempcnta<2000
1848   \divide\@tempcnta by100
1849   \multiply\@tempcnta by100
1850   \advance\@tempcnta-\year
1851   \@tempcnta-\@tempcnta
1852 \fi

        And use that for calculating a year for us to use.
1853 \edef\@tempa{\noexpand\providecommand\noexpand\tugProcYear
1854   {\ifnum10>\@tempcnta0\fi\the\@tempcnta}}
1855 \@tempa
1856 \ClassInfo{ltugproc}{Class believes year is
1857   \expandafter\ifnum\tugProcYear<2000 19\fi\tugProcYear
1858   \@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.
1859 \expandafter\ifx\csname ds@tug\tugProcYear\endcsname\relax
1860   \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.

```

1861 \ExecuteOptions{tug\tugProcYear,title\TUGprocExtraOptions}
1862 \ProcessOptions
1863 \if@proc@numbersec
1864   \if@proc@numerable
1865   \else
1866     \ClassWarning{\@tugclass}{This year’s proceedings may not have
1867       numbered sections}%
1868   \fi
1869 \fi

```

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

```

1870 \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.

```

1871 \def\maketitle{%
1872   \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).

1873   \ifshortAuthor\else
1874     \global\let\rhAuthor\@empty
1875     \def\g@addto@rhAuthor##1{%
1876       \begingroup
1877         \toks@\expandafter{\rhAuthor}%
1878         \let\thanks\@gobble
1879         \protected@xdef\rhAuthor{\the\toks@##1}%
1880       \endgroup
1881     }%
1882     \@getauthorlist\g@addto@rhAuthor
1883   \fi

      now, the real business of setting the title

1884   \ifTB@title
1885     \setcounter{footnote}{0}%
1886     \renewcommand{\thefootnote}{\@fnsymbol\c@footnote}%
1887     \if@tubtwocolumn
1888       \twocolumn[\@maketitle]%
1889     \else
1890       \onecolumn
1891       \global\@topnum\z@
1892       \@maketitle
1893     \fi
1894   \@thanks

```

```

1895     \thispagestyle{TBproctitle}
1896     \fi
1897 \endgroup
1898 \TB@madetitletrue
1899 }
1900 \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 LATEX bug report latex/2212, submitted by Robin Fair-
bairns, for details.

1901 \def\@TB@test@document{%
1902   \edef\@tempa{\the\everypar}
1903   \def \@tempb{\@nodocument}
1904   \ifx \@tempa\@tempb
1905     \@nodocument
1906   \fi
1907 }

\AUTHORfont Define the fonts for titles and things
\TITLEfont 1908 \def\AUTHORfont {\large\rmfamily\mdseries\upshape}
\addressfont 1909 \def\TITLEfont {\Large\rmfamily\mdseries\upshape}
\netaddrfont 1910 \def\addressfont{\small\rmfamily\mdseries\upshape}
1911 \def\netaddrfont{\small\ttfamily\mdseries\upshape}

\aboveauthorskip Some changeable skips to permit variability in page layout depending on the par-
\belowauthorskip ticular paper's page breaks.
\belowabstractskip 1912 \newskip\aboveauthorskip \aboveauthorskip=18\p@ \@plus4\p@
1913 \newskip\belowauthorskip \belowauthorskip=\aboveauthorskip
1914 \newskip\belowabstractskip \belowabstractskip=14\p@ \@plus3\p@ \@minus2\p@

\@maketitle The body of \maketitle

1915 \def\@maketitle{%
1916   {\parskip\z@
1917     \frenchspacing
1918     \TITLEfont\raggedright\noindent\@title\par
1919     \count@=0
1920     \loop
1921     \ifnum\count@<\authornumber
1922       \vskip\aboveauthorskip
1923       \advance\count@\@ne
1924       {\AUTHORfont\theauthor{\number\count@}\endgraf}%
1925       \addressfont\theaddress{\number\count@}\endgraf
1926     }%
1927     \allowhyphens
1928     \hangindent1.5pc
1929     \netaddrfont\thenetaddress{\number\count@}\endgraf
1930     \hangindent1.5pc
1931     \thePersonalURL{\number\count@}\endgraf
1932   }%

```

```

1933     \repeat
1934     \vskip\belowauthorskip}%
1935     \if@abstract
1936         \centerline{\bfseries Abstract}%
1937         \vskip.5\baselineskip\rmfamily
1938         \@tubonecolumnabstractstart
1939             \the\abstract@toks
1940         \@tubonecolumnabstractfinish
1941         \global\@ignoretrue
1942     \fi
1943     \vskip\belowabstractskip
1944     \global\@afterindentfalse\aftergroup\@afterheading
1945 }

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@

1946 \newtoks\abstract@toks \abstract@toks{}
1947 \let\if@abstract\iffalse
1948 \def\abstract{%

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

1949 \ifTB@madetitle
1950     \TBWarning{abstract environment after \string\maketitle}
1951 \fi
1952 \def\@abstract@{abstract}%
1953 \ifx\@currenvir\@abstract@
1954 \else
1955     \TBError{\string\abstract\space is illegal:%
1956         \MessageBreak
1957         use \string\begin{\@abstract@} instead}%
1958     {\@abstract@\space may only be used as an environment}
1959 \fi
1960 \global\let\if@abstract\iftrue
1961 {\ifnum0='}\fi
1962 \@abstract@getbody}
1963 \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}

1964 \long\def\@abstract@getbody#1\end{%
1965     \global\abstract@toks\expandafter{\the\abstract@toks#1}%
1966     \@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.

```
1967 \def\@abstract@findend#1{%
1968   \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.

```
1969   \ifx\@tempa\@abstract@
1970     \expandafter\@abstract@end
1971   \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)

```
1972     \def\@tempb{document}%
1973     \ifx\@tempa\@tempb
1974       \TBError{\string\begin{\@abstract@}
1975         ended by \string\end{\@tempb}}%
1976       {You’ve forgotten \string\end{\@abstract@}}
1977     \else
1978       \global\abstract@toks\expandafter{\the\abstract@toks\end{#1}}%
1979       \expandafter\expandafter\expandafter\@abstract@getbody
1980     \fi
1981   \fi}
```

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

```
1982 \def\@abstract@end{\ifnum0='{ \fi}%
1983   \expandafter\end\expandafter{\@abstract@}}
```

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

```
1984 \renewcommand{\makesignature}{\TBWarning
1985   {\string\makesignature\space is invalid in proceedings issues}}
```

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

```
   \ps@TBproc 1986 \def\ps@TBproctitle{\let\@oddhead\MakeRegistrationMarks
\dopagecommands 1987   \let\@evenhead\MakeRegistrationMarks
\setpagecommands 1988   \TB@definefeet
\TB@definefeet 1989 }
   \pfoottext 1990 \def\ps@TBproc{%
   \rfoottext 1991   \def\@oddhead{\MakeRegistrationMarks
1992     {%
1993       \hfil
1994       \def\{\unskip\ \ignorespaces}%
1995       \rmfamily\rhTitle
1996     }%
1997   }%
1998   \def\@evenhead{\MakeRegistrationMarks
```

```

1999    {%
2000      \def\{\unskip\ \ignorespaces}%
2001      \rmfamily\rhAuthor
2002      \hfil
2003    }%
2004  }%
2005  \TB@definefeet
2006 }
2007
2008 \advance\footskip8\p@    % for deeper running feet
2009
2010 \def\dopagecommands{\csname @@pagecommands\number\c@page\endcsname}
2011 \def\setpagecommands#1#2{\expandafter\def\csname @@pagecommands#1\endcsname
2012   {#2}}
2013 \def\TB@definefeet{%
2014   \def\@oddfoot{\ifpreprint\pfoottext\hfil\Now\hfil\thepage
2015     \else\rfoottext\hfil\thepage\fi\dopagecommands}%
2016   \def\@evenfoot{\ifpreprint\thepage\hfil\Now\hfil\pfoottext
2017     \else\thepage\hfil\rfoottext\fi\dopagecommands}%
2018 }
2019
2020 \def\pfoottext{{\smc Preprint}:
2021   Proceedings of the \volyr{ } Annual Meeting}
2022 \def\rfoottext{\normalfont\TUB, \volx\Dash
2023   {Proceedings of the \volyr{ } Annual Meeting}}
2024
2025 \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).

```

2026 \if@proc@numbersec
2027 \else
2028   \setcounter{secnumdepth}{0}
2029 \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.

```

2030 \if@proc@numbersec
2031 \else
2032   \if@proc@sober
2033     \def\section
2034       {\TB@nolimelabel

```

```

2035         \TB@startsection{{section}%
2036                             1%
2037                             \z@%
2038                             {-8\p@\@plus-2\p@\@minus-2\p@}%
2039                             {6\p@}%
2040                             {\normalsize\bfseries\raggedright}}
2041     \else
2042         \def\section
2043             {\TB@nolimelabel
2044              \TB@startsection{{section}%
2045                              1%
2046                              \z@%
2047                              {-8\p@\@plus-2\p@\@minus-2\p@}%
2048                              {6\p@}%
2049                              {\large\bfseries\raggedright}}}
2050     \fi
2051     \def\subsection
2052         {\TB@nolimelabel
2053          \TB@startsection{{subsection}%
2054                          2%
2055                          \z@%
2056                          {6\p@\@plus 2\p@\@minus2\p@}%
2057                          {-5\p@\@plus -\fontdimen3\the\font}%
2058                          {\normalsize\bfseries}}}
2059     \def\subsubsection
2060         {\TB@nolimelabel
2061          \TB@startsection{{subsubsection}%
2062                          3%
2063                          \parindent%
2064                          \z@%
2065                          {-5\p@\@plus -\fontdimen3\the\font}%
2066                          {\normalsize\bfseries}}}
2067 \fi
2068 \ltugproccls

```

5 Plain T_EX styles

```

2069 \tugboatsty
2070 % err...
2071 \tugboatsty
2072 \tugprocsty
2073 % err...
2074 \tugprocsty

```

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

```

2075 \tugboatsty
2076 \obsoletefile{ltugboat.cls}{ltugboat.sty}
2077 \LoadClass{ltugboat}

```

```
2078 </ltugboatsty>
2079 <*ltugprocsty>
2080 \@obsoletefile{ltugproc.cls}{ltugproc.sty}
2081 \LoadClass{ltugproc}
2082 </ltugprocsty>
```