

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           [2018-09-06 v2.20
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 ]
19 <*dtx>
20 \newif\ifoldlongtable
21 </dtx>

```

2 Introduction

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

2.1 Summary of control sequences

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

<code>\AllTeX</code>	$(\mathbb{A})\mathrm{T}_{\mathrm{E}}\mathrm{X}$
<code>\AMS</code>	American Mathematical Society
<code>\AmSTeX</code>	
<code>\aw</code>	A-W (abbreviation for Addison-Wesley)
<code>\API</code>	
<code>\AW</code>	Addison-Wesley
<code>\BibTeX</code>	
<code>\CandT</code>	Computers & Typesetting
<code>\ConTeXt</code>	Con $\mathrm{T}_{\mathrm{E}}\mathrm{X}$ t
<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>	$\varepsilon\text{-}\mathrm{T}_{\mathrm{E}}\mathrm{X}$
<code>\ExTeX</code>	$\varepsilon_{\chi}\mathrm{T}_{\mathrm{E}}\mathrm{X}$
<code>\Ghostscript</code>	
<code>\Hawaii</code>	Hawai'i
<code>\HTML</code>	
<code>\ISBN</code>	ISBN
<code>\ISO</code>	
<code>\ISSN</code>	ISSN
<code>\JTeX</code>	
<code>\JoT</code>	The Joy of $\mathrm{T}_{\mathrm{E}}\mathrm{X}$
<code>\LaTeX</code>	
<code>\LyX</code>	
<code>\MacOSX</code>	Mac OS X
<code>\MathML</code>	
<code>\Mc</code>	M with raised c
<code>\MF</code>	METAFONT
<code>\mf</code>	METAFONT
<code>\MFB</code>	The Metafontbook
<code>\MP</code>	METAPOST
<code>\mp</code>	MetaPost (in text only: still ‘ \mp ’ in math)
<code>\OMEGA</code>	Omega ‘logo’ (Ω)
<code>\OCP</code>	Omega compiled process
<code>\OOXML</code>	
<code>\OTP</code>	Omega translation process
<code>\mtex</code>	multilingual $\mathrm{T}_{\mathrm{E}}\mathrm{X}$
<code>\NTS</code>	New Typesetting System
<code>\pcMF</code>	pcMF
<code>\PCTeX</code>	
<code>\pcTeX</code>	

<code>\Pas</code>	Pascal
<code>\PiCTeX</code>	
<code>\plain</code>	plain (in typewriter font)
<code>\POBox</code>	P. O. Box
<code>\PS</code>	PostScript (with hyphenation)
<code>\SC</code>	Steering Committee
<code>\SGML</code>	SGML
<code>\SliTeX</code>	
<code>\slMF</code>	Metafont, slanted: deprecated: use <code>\textsl</code> instead
<code>\stTeX</code>	T _E X for the Atari ST
<code>\SVG</code>	
<code>\TANGLE</code>	
<code>\TB</code>	The T _E Xbook
<code>\TeX</code>	(Although nearly every package defines this, most, including plain, are missing the 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>	T _E X Users Group
<code>\UNIX</code>	
<code>\VAX</code>	
<code>\VnTeX</code>	
<code>\VorTeX</code>	
<code>\XeT</code>	
<code>\XeTeX</code>	reflected and lowered first ‘E’
<code>\XeLaTeX</code>	with extra space before ‘L’
<code>\XML</code>	
<code>\WEB</code>	
<code>\WEAVE</code>	
<code>\WYSIWYG</code>	

Macros for things that are slightly more significant.

<code>\NoBlackBoxes</code>	turns off marginal rules marking overfull boxes
<code>\BlackBoxes</code>	turns them back on
<code>\newline</code>	horizontal glue plus a break
<code>\ifundefined#1</code>	checks argument with <code>\csname</code> against <code>\relax</code>
<code>\topsmash</code>	smashes above baseline (from AMSTeX)
<code>\botsmash</code>	smashes below baseline (from AMSTeX)
<code>\smash</code>	smashes both (from plain)

<code>\ulap</code>	lap upwards
<code>\dlap</code>	lap downwards
<code>\xlap</code>	reference point at center horizontally; 0 width
<code>\ylap</code>	reference point at center vertically; 0 height, depth
<code>\zlap</code>	combination <code>\xlap</code> and <code>\ylap</code>
<code>\basezero</code>	to avoid insertion of <code>baselineskip</code> and <code>lineskip</code> glue
<code>\nullhrule</code>	empty <code>\hrule</code>
<code>\nullvrule</code>	empty <code>\vrule</code>
<code>\makestrut[#1;#2]</code>	ad hoc struts; #1=height, #2=depth
<code>\today</code>	today's date
<code>\SetTime</code>	converts <code>\time</code> to hours, minutes
<code>\now</code>	displays time in hours and minutes
<code>\Now</code>	shows current date and time
<code>\ifPrelimDraft</code>	flag to indicate status as preliminary draft
<code>\rtitlex</code>	<i>TUGboat</i> volume and number info for running head
<code>\midrttitle</code>	information for center of running head
<code>\HorzR@gisterRule</code>	pieces of registration marks ('trimmarks')
<code>\DownShortR@gisterRule</code>	
<code>\UpShortR@gisterRule</code>	
<code>\ttopregister</code>	top registration line with 'T' in center
<code>\tbotregister</code>	bottom registration line with inverted 'T' in center
<code>\topregister</code>	register actually used
<code>\botregister</code>	
<code>\raggedskip</code>	parameters used for ragged settings
<code>\raggedstretch</code>	
<code>\raggedparfill</code>	
<code>\raggedspaces</code>	
<code>\raggedright</code>	
<code>\raggedleft</code>	
<code>\raggedcenter</code>	
<code>\normalspaces</code>	
<code>\raggedbottom</code>	
<code>\bull</code>	square bullet
<code>\cents</code>	'cents' sign
<code>\Dag</code>	superscripted dagger
<code>\careof</code>	c/o
<code>\sfrac</code>	slashed fraction (arguments optionally separated by a slash)
<code>\cs</code>	control sequence name <code>\cs{name}→\name</code>
<code>\env</code>	environment name <code>\env{name}→\begin{name}</code>
<code>\meta</code>	meta-argument name

	<code>\meta{name}→⟨name⟩</code>
<code>\dash</code>	en-dash surrounded by thinspaces; only breakable AFTER
<code>\Dash</code>	em-dash, as above
<code>\hyph</code>	permit automatic hyphenation after an actual hyphen
<code>\slash</code>	‘breakable’ slash
<code>\nth</code>	for obtaining ‘1 st ’, ‘2 nd ’, 3 rd , etc.
<code>\tubissue</code>	gets <code>\TUB</code> followed by volume and issue numbers
<code>\xEdNote</code>	Editor’s Note:
<code>\Review:</code>	Review: (for title of book review article)
<code>\reviewitem</code>	begin data for item being reviewed
<code>\revauth</code>	with one argument, author(s) of item being reviewed
<code>\revtitle</code>	with one argument, title of ...
<code>\revpubinfo</code>	with one argument, other info pertaining to ...
<code>\endreviewitem</code>	end data for item being reviewed
<code>\booktitle</code>	with one argument, format book title in text
<code>\Input</code>	<code>\input</code> with some other bookkeeping for case where multiple articles are put together
<code>\TBremark</code>	reminder to <i>TUGboat</i> editorial staff
<code>\TBenableRemarks</code>	enable <code>\TBremarks</code> (normally suppressed)
<code>\pagexref</code>	used to write out page numbers to screen and external files
<code>\pagexrefON</code>	
<code>\pagexrefOFF</code>	
<code>\xref to</code>	used for symbolic cross-reference to other pages
<code>\xref toON</code>	in <i>TUGboat</i>
<code>\xref toOFF</code>	
<code>\TBdriver</code>	marks code which only takes effect when articles are run together in a driver file
<code>\signaturemark</code>	items for signatures
<code>\signaturewidth</code>	

3 L^AT_EX 2_ε *TUGboat* class file

3.1 Setup and options

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

```

22 <{*tugboatcls>
23 \csname tugstyloaded@ \endcsname
24 \def\tugstyloaded@{\tugstyinit\endinput}

```

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

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

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

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

draft vs. preprint vs. final.

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

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

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

```

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

```

Similarly, ignore one/two-side options.

```

66 \DeclareOption{oneside}{\TBWarning{Option \CurrentOption\space ignored}}
67 \DeclareOption{twoside}{\ds@oneside}

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```


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

```
84 \ExecuteOptions{draft,extralabel,numbersec,rawcite,runningminimal}
85 \ProcessOptions
86 \LoadClass[twoside]{article}
```

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

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

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

```
91 \def\EdNoteFont{\fontfamily{cmr}\fontseries{m}\fontshape{ui}%
92     \selectfont}
93 \ltugboatcls
```

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

```
94 \*common
95 \IfFileExists{mflogo.sty}%
96     {\RequirePackage{mflogo}}%
97 \ltugcomn {\TBWarning
98 \tugcomn} {\PackageWarning{\tugcomn}
99     {Package mflogo.sty not available --\MessageBreak
100     Proceeding to emulate mflogo.sty}
101 \DeclareRobustCommand{\logofamily}{%
102     \not@math@alphabet\logofamily\relax
103     \fontencoding{U}\fontfamily{logo}\selectfont}
104 \DeclareTextFontCommand{\textlogo}{\logofamily}
105 \def\MF{\textlogo{META}}-\textlogo{FONT}\@
106 \def\MP{\textlogo{META}}-\textlogo{POST}\@
107 \DeclareFontFamily{U}{logo}{}
108 \DeclareFontShape{U}{logo}{m}{n}{%
109     <8><9>gen*logo%
110     <10><10.95><12><14.4><17.28><20.74><24.88>logo10%
111 }{}
112 \DeclareFontShape{U}{logo}{m}{sl}{%
113     <8><9>gen*logosl%
114     <10><10.95><12><14.4><17.28><20.74><24.88>logosl10%
115 }
```

```

116   \DeclareFontShape{U}{logo}{m}{it}{%
117       <->ssub*logo/m/sl%
118   }{}%
119 }

```

3.2 Resetting at start of paper

`\ResetCommands` We store a set of commands that should be executed at the start of each paper, before any paper-specific customisation. These commands (stored in the token register `\ResetCommands`) include things such as resetting section and footnote numbers, re-establishing default settings of typesetting parameters, and so on. The user (or more typically, editor) may execute the commands by using the command `\StartNewPaper`. Things I've not yet thought of may be added to the list of commands, by

```

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

```

3.3 Helpful shorthand (common code with Plain styles)

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

```

130 <!*latex>
131 \def\makeescape#1{\catcode'#1=0 }
132 \def\makebgroup#1{\catcode'#1=1 }
133 \def\makeegroup#1{\catcode'#1=2 }
134 \def\makemath #1{\catcode'#1=3 }
135 </!latex>
136 <!*latex>
137 \def\makeescape#1{\catcode'#1=\z@}
138 \def\makebgroup#1{\catcode'#1=\@ne}
139 \def\makeegroup#1{\catcode'#1=\tw@}
140 \def\makemath #1{\catcode'#1=\thr@@}
141 </!latex>
142 \def\makealign #1{\catcode'#1=4 }
143 \def\makeeol #1{\catcode'#1=5 }
144 \def\makeparm #1{\catcode'#1=6 }
145 \def\makesup #1{\catcode'#1=7 }
146 \def\makesub #1{\catcode'#1=8 }
147 \def\makeignore#1{\catcode'#1=9 }

```

```

148 \def\makespace #1{\catcode'#1=10 }
149 \def\makeletter#1{\catcode'#1=11 }
150 \chardef\other=12
151 \let\makeother\@makeother
152 \def\makeactive#1{\catcode'#1=13 }
153 \def\makecomment#1{\catcode'#1=14 }

```

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

```

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

```

`\SaveCS#1` and `\RestoreCS#1` save and restore 'meanings' of control sequences. Again this is useful in cases where one doesn't want to localize or where global definitions clobber a control sequence which is needed later with its 'old' definition.

```

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

```

To distinguish between macro files loaded

```

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

```

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

```

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

3.4 Abbreviations and logos

Font used for the METAFONT logo, etc.

```

169 \DeclareRobustCommand{\AllTeX}{(\La\kern-.075em)\kern-.075emTeX}
170 \def\AMS{American Mathematical Society}
171 \def\AmS{$\mathcal{A}$\kern-.1667em\lower.5ex\hbox
172   {$\mathcal{M}$}\kern-.125em$\mathcal{S}$}
173 \def\AmSLaTeX{\AmS-\LaTeX}
174 \def\AmSTeX{\AmS-\TeX}
175 \def\ANSI{\acro{ANSI}}

```

```

176 \def\API{\acro{API}}
177 \def\ASCII{\acro{ASCII}}
178 \def\aw{\acro{A\kern.04em\raise.115ex\hbox{-}W}}
179 \def\AW{Addison\kern.1em-\penalty\z@\hskip\z@skip Wesley}
180 %
181 % make \BibTeX work in slanted contexts too; it's common in titles, and
182 % especially burdensome to hack in .bib files.
183 \def\Bib{%
184   \ifdim \fontdimen1\font>0pt
185     B{\SMC\SMC IB}%
186   \else
187     B\textsc{ib}%
188   \fi
189 }
190 \def\BibLaTeX{\Bib\kern.02em \LaTeX}
191 \def\BibTeX{\Bib\kern-.08em \TeX}
192 %
193 \def\BSD{\acro{BSD}}
194 \def\CandT{\textsl{Computers \& Typesetting}}
195 % must not define \CJK, because the CJK package does.
196
197 We place our \kern after \- so that it disappears if the hyphenation is taken:
198
199 \def\ConTeXt{C\kern-.0333em\-\kern-.0667em\TeX\kern-.0333em}
200 \def\CMkIV{\ConTeXt\ \MkIV}
201 \def\Cplusplus{C\plusplus}
202 \def\plusplus{\raisebox{.7ex}{$_{++}$}}
203 \def\CPU{\acro{CPU}}
204 \def\CSzabbr{\ensuremath{\cal C}\kern-.1667em\lower.5ex\hbox{$\cal S$}}
205 \def\CSS{\acro{CSS}}
206 \def\CSTUG{\CSzabbr\acro{TUG}}
207 \def\CSV{\acro{CSV}}
208 \def\CTAN{\acro{CTAN}}
209 \def\DTD{\acro{DTD}}
210 \def\DTK{\acro{DTK}}
211 \def\DVD{\acro{DVD}}
212 \def\DVI{\acro{DVI}}
213 \def\DVIPDFMx{\acro{DVIPDFM}$x$}
214 \def\DVItOVDU{DVItO\kern-.12em VDU}
215 \def\ECMA{\acro{ECMA}}
216 \def\EPS{\acro{EPS}}
217 \DeclareRobustCommand{\eTeX}{\ensuremath{\varepsilon}\kern-.125em\TeX}
218 \DeclareRobustCommand{\ExTeX}{%
219   \ensuremath{\textstyle\varepsilon_\kern-0.15em\cal X}}\kern-.2em\TeX}
220 \def\FAQ{\acro{FAQ}}
221 \def\FTP{\acro{FTP}}
222 \def\Ghostscript{Ghost\script}
223 \def\GNU{\acro{GNU}}
224 \def\GUI{\acro{GUI}}
225 \def\Hawaii{Hawai'i}
226 \def\HTML{\acro{HTML}}

```

```

224 \def\HTTP{\acro{HTTP}}
225 \def\IDE{\acro{IDE}}
226 \def\IEEE{\acro{IEEE}}
227 \def\ISBN{\acro{ISBN}}
228 \def\ISO{\acro{ISO}}
229 \def\ISSN{\acro{ISSN}}
230 \def\JPEG{\acro{JPEG}}
231 \def\JTeX{\leavevmode\hbox{\lower.5ex\hbox{J}\kern-.18em\TeX}}
232 \def\JoT{\textsl{The Joy of \TeX}}
233 \DeclareRobustCommand{\KOMAScript}{\textsf{K\kern.05em O\kern.05em%
234     M\kern.05em A\kern.1em-\kern.1em Script}}
235 \def\LAMSTeX{L\raise.42ex\hbox{\kern-.3em
236     $\m@th$\fontsize\sf@size\z@\selectfont
237     $\m@th\mathcal{A}$}%
238     \kern-.2em\lower.376ex\hbox{$\m@th\mathcal{M}$}\kern-.125em
239     {$\m@th\mathcal{S}$}-\TeX}
240 % This code
241 % is hacked from its definition of \cs{LaTeX}; it allows slants (for
242 % example) to propagate into the raised (small) ‘A’:
243 % \begin{macrocode}
244 \DeclareRobustCommand{\La}%
245     {\L\kern-.36em
246     {\setbox0\hbox{T}%
247     \vbox to\ht0{\hbox{$\m@th$%
248         \csname S@\f@size\endcsname
249         \fontsize\sf@size\z@
250         \math@fontsfalse\selectfont
251         A}%
252         \vss}%
253     }}

```

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

```

254 <!!latex>\def\LaTeX{\La\kern-.15em\TeX}
255 \def\LyX{L\kern-.1667em\lower.25em\hbox{Y}\kern-.125emX}
256 \def\MacOSX{Mac\,\acro{OS}\,X}
257 \def\MathML{Math\acro{ML}}
258 \def\Mc{\setbox\TestBox=\hbox{M}\vbox
259     to\ht\TestBox{\hbox{c}\vfil}} % for Robert McGaffey

```

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

```

260 \def\mf{\textsc{Metafont}}
261 \def\MFB{\textsl{The \MF\kern1pt book}}
262 \def\MkIV{Mk\acro{IV}}
263 \let\TB@comp\mp

```

```

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

```

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

```

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

```

```

312 \DeclareRobustCommand{\TeX}{T\kern-.1667em\lower.424ex\hbox{E}\kern-.125emX\@}
313 \def\TeXhax{\TeX hax}
314 \def\TeXMaG{\TeX M\kern-.1667em\lower.5ex\hbox{A}%
315   \kern-.2267emG\@}
316 \def\TeXtures{\textit{Textures}}
317 \let\Textures=\TeXtures
318 \def\TeXworks{\TeX\kern-.07em works}
319 \def\TeXXeT{\TeX-{}-\XeT}
320 \def\TFM{\acro{TFM}}
321 \expandafter\ifx\csname XeTeXrevision\endcsname\relax
322 \def\Thanh{H\char'~Th\relax\raise 0.5ex\hbox{\char'~Th}\char'~anh}% non-XeTeX
323 \else
324 \def\Thanh{H\char'~Th\textcirc{e}\char'~Th}\char'~anh}% xunicode drops the acute else
325 \fi
326 \def\TikZ{Ti{\em k}Z}
327 \def\TTN{\textsl{TTN}\@}
328 \def\TTN{\textsl{\TeX{} and TUG News}}
329 \let\texttub\textsl % redefined in other situations
330 \def\TUB{\texttub{TUGboat}}
331 \def\TUG{\TeX\ \UG}
332 \def\tug{\acro{TUG}}
333 \def\UG{Users Group}
334 \def\UNIX{\acro{UNIX}}
335 % omit \UTF, since other packages use it for Unicode character access.
336 \def\VAX{V\kern-.12em A\kern-.1em X\@}
337 \def\VnTeX{V\kern-.03em n\kern-.02em \TeX}
338 \def\VorTeX{V\kern-2.7\p@\lower.5ex\hbox{O\kern-1.4\p@ R}\kern-2.6\p@\TeX}
339 \def\XeT{X\kern-.125em\lower.424ex\hbox{E}\kern-.1667emT\@}
340 \def\XML{\acro{XML}}
341 \def\WEB{\texttt{WEB}\@}
342 \def\WEAVE{\texttt{WEAVE}\@}
343 \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 Eplain.) Also, at Barbara's suggestion, if the current font is slanted, we rotate by 180 instead of reflecting so there is at least a chance to look ok. (The magic values here seem more or less ok for cmsl and cmti.)

```

344 \def\tubreflect#1{%
345   \ifundefined{reflectbox}{%
346     \TBerror{A graphics package must be loaded for \string\XeTeX}%
347   }{%
348     \ifdim \fontdimen1\font>0pt
349       \raise 1.75ex \hbox{\kern.1em\rotatebox{180}{#1}}\kern-.1em
350     \else
351       \reflectbox{#1}%
352     \fi
353   }%
354 }
355 \def\tubhideheight#1{\setbox0=\hbox{#1}\ht0=0pt \dp0=0pt \box0 }

```

```

356 \def\XekernbeforeE{-.125em}
357 \def\XekernafterE{-.1667em}
358 \DeclareRobustCommand{\Xe}{\leavevmode
359   \tubhideheight{\hbox{X%
360     \setbox0=\hbox{\TeX}\setbox1=\hbox{E}%
361     \lower\dp0\hbox{\raise\dp1\hbox{\kern\XekernbeforeE\tubreflect{E}}}%
362     \kern\XekernafterE}}}
363 \def\XeTeX{\Xe\TeX}
364 \def\XeLaTeX{\Xe{\kern.11em \LaTeX}}
365 %
366 \def\XHTML{\acro{XHTML}}
367 \def\XSL{\acro{XSL}}
368 \def\XSLF0{\acro{XSL}\raise.08ex\hbox{-}\acro{F0}}
369 \def\XSLT{\acro{XSLT}}

```

3.5 General typesetting rules

```

370 \newlinechar='^^J
371 \normallineskiplimit=\p@
372 \clubpenalty=10000
373 \widowpenalty=10000
374 \def\NoParIndent{\parindent=\z@}
375 \newdimen\normalparindent
376 \normalparindent=20\p@
377 \def\NormalParIndent{\global\parindent=\normalparindent}
378 \NormalParIndent
379 \def\BlackBoxes{\overfullrule=5\p@}
380 \def\NoBlackBoxes{\overfullrule=\z@}
381 \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.

```

382 \edef\allowhyphens{\noexpand\hyphenpenalty\the\hyphenpenalty\relax
383   \noexpand\exhyphenpenalty\the\exhyphenpenalty\relax}
384 \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`.

```

385 \newbox\T@stBox           \newbox\TestBox
386 \newcount\T@stCount       \newcount\TestCount

```



```

387 \newdimen\T@stDimen          \newdimen\TestDimen
388 \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).

```

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

```

L^AT_EX conventions which are also useful here.

```

390 <*\latex>
391 \let\@@input\input
392 \def\iinput#1{\@@input#1 }
393 \def\@inputcheck{\if\@nextchar\bgroup
394 \expandafter\iinput\else\expandafter\@@input\fi}
395 \def\input{\futurelet\@nextchar\@inputcheck}
396 </!\latex>

```

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

```

397 \newif\iftop@                \newif\ifbot@
398 \def\topsmash{\top@true\bot@false\smash@}
399 \def\botsmash{\top@false\bot@true\smash@}
400 \def\smash{\top@true\bot@true\smash@}
401 \def\smash@{\relax\ifmmode\def\next{\mathpalette\mathsm@sh}%
402 \else\let\next\makesm@sh\fi\next }
403 \def\finism@sh{\iftop@\ht\z@\z@\fi\ifbot@\dp\z@\z@\fi\box\z@}

```

Vertical ‘laps’; cf. \llap and \rlap

```

404 \long\def\ulap#1{\vbox to \z@{\vss#1}}
405 \long\def\dlap#1{\vbox to \z@{#1\vss}}

```

And centered horizontal and vertical ‘laps’

```

406 \def\xlap#1{\hb@xt@\z@{\hss#1\hss}}
407 \long\def\ylap#1{\vbox to \z@{\vss#1\vss}}
408 \long\def\zlap#1{\ylap{\xlap{#1}}}

```

Avoid unwanted vertical glue when making up pages.

```

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

```

Empty rules for special occasions

```

410 \def\nullhrule{\hrule \@height\z@ \@depth\z@ \@width\z@ }
411 \def\nullvrule{\vrule \@height\z@ \@depth\z@ \@width\z@ }

```

Support ad-hoc strut construction.

```

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

```

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

```

413 \def\drawoutlinebox[#1;#2;#3]{\T@stDimen=#3
414 \vbox to#1{\hrule \@height\T@stDimen \@depth\z@
415 \vss\hb@xt@#2{\vrule \@width\T@stDimen
416 \hfil\makestrut[#1;\z@]%
417 \vrule \@width\T@stDimen}\vss
418 \hrule \@height\T@stDimen \@depth\z@}}

```

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

```

419 <*\latex>
420 \def\today{\number\day\space \ifcase\month\or
421         Jan \or Feb \or Mar \or Apr \or May \or Jun \or
422         Jul \or Aug \or Sep \or Oct \or Nov \or Dec \fi
423         \number\year}
424 </!\latex>

Current time; this may be system dependent!

425 \newcount\hours
426 \newcount\minutes
427 \def\SetTime{\hours=\time
428         \global\divide\hours by 60
429         \minutes=\hours
430         \multiply\minutes by 60
431         \advance\minutes by-\time
432         \global\multiply\minutes by-1 }
433 \SetTime
434 \def\now{\number\hours:\ifnum\minutes<10 0\fi\number\minutes}
435 \def\Now{\today\ \now}
436 \newif\ifPrelimDraft
437 \def\midrttitle{\ifPrelimDraft {\textsl{preliminary 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> 438 \newdimen\raggedskip \raggedskip=\z@ 439 \newdimen\raggedstretch \raggedstretch=5em % ems of font set now (10pt) 440 \newskip\raggedparfill \raggedparfill=\z@ plus 1fil 441 \def\raggedspaces{\spaceskip=.3333em \relax \xspaceskip=.5em \relax } </pre>
<p><code>\raggedright</code></p> <p><code>\raggedleft</code></p> <p><code>\raggedcenter</code></p> <p><code>\normalspaces</code></p>	<p>Some applications may have to add stretch, in order to avoid all overfull boxes.</p> <p>We define the following uses of the above skips, etc.</p> <pre> 442 \def\raggedright{% 443 \nohyphens 444 \rightskip=\raggedskip plus \raggedstretch \raggedspaces 445 \parfillskip=\raggedparfill 446 } 447 \def\raggedleft{% 448 \nohyphens 449 \leftskip=\raggedskip plus \raggedstretch \raggedspaces 450 \parfillskip=\z@skip 451 } 452 \def\raggedcenter{% 453 \nohyphens 454 \leftskip=\raggedskip plus \raggedstretch 455 \rightskip=\leftskip \raggedspaces </pre>

```

456 \parindent=\z@ \parfillskip=\z@skip
457 }
458 \def\normalspaces{\spaceskip\z@skip \xspaceskip\z@skip}

```

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

```

459 \DeclareRobustCommand{\nobreakspace}{%
460 \unskip\nobreak\ \ignorespaces}

```

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

```

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

```

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

```

489 \ensuremath{\rangle}%
490 }
491 %
492 % Use \tt rather than \texttt because italic typewriter is just too ugly,
493 % and upright works well enough in both italic and bold contexts.
494 \DeclareRobustCommand{\cs}[1]{\tt \char'\#1}
495 %
496 % This command was defined much later than the other, so let's not
497 % conflict with any existing definitions that might be out there.
498 % Don't allow hyphenations or other line breaks.
499 \DeclareRobustCommand{\tubbraced}[1]{\mbox{\texttt{\char'\#1\char'\}}}
500 %
501 % Well, just the \begin part. Never seen it used.
502 \DeclareRobustCommand{\env}[1]{\cs{begin}\tubbraced{#1}}
503 %
504 % Not sure why we ever want this instead of LaTeX's \, (using \kern),
505 % but fine, just keeping it.
506 \DeclareRobustCommand{\thinskip}{\hskip 0.16667em\relax}
507 %

```

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

```

508 \def\endash{--}
509 \def\emdash{\endash-}
510 \def\d@sh#1#2{\unskip#1\thinskip#2\thinskip\ignorespaces}
511 \def\dash{\d@sh\nobreak\endash}
512 \def\Dash{\d@sh\nobreak\emdash}
513 \def\ldash{\d@sh\empty{\hbox{\endash}\nobreak}}
514 \def\rdash{\d@sh\nobreak\endash}
515 \def\Ldash{\d@sh\empty{\hbox{\emdash}\nobreak}}
516 \def\Rdash{\d@sh\nobreak\emdash}

```

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

```

517 \def\hyph{-\penalty\z@\hskip\z@skip }
518 \def\slash{/\penalty\z@\hskip\z@skip }

```

Adapted from `comp.text.tex` posting by Donald Arseneau, 26 May 93.

L^AT_EX 2_ε-isation added by Robin Fairbairns. Destroys both the `TestCounts`.

```

519 \def\nth#1{%
520   \def\reserved@a##1##2\@nil{\ifcat##1n%
521     0%
522     \let\reserved@b\ensuremath
523   \else##1##2%
524     \let\reserved@b\relax
525   \fi}%
526   \TestCount=\reserved@a#1\@nil\relax
527   \ifnum\TestCount < 0 \multiply\TestCount by\m@ne \fi % subdue negatives
528   \T@stCount=\TestCount
529   \divide\T@stCount by 100 \multiply\T@stCount by 100

```

```

530 \advance\TestCount by-\T@stCount % n mod 100
531 \ifnum\TestCount >20 \T@stCount=\TestCount
532 \divide\T@stCount by 10 \multiply\T@stCount by 10
533 \advance\TestCount by-\T@stCount % n mod 10
534 \fi
535 \reserved@b{#1}%
536 \textsuperscript{\ifcase\TestCount th% 0th
537 \or st% 1st
538 \or nd% 2nd
539 \or rd% 3rd
540 \else th% nth
541 \fi}%
542 }

```

3.8 Reviews

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

```

543 \def\Review{\ifnextchar{\@Review}{\@Review:}}
544 \def\@Review{\ifnextchar[%]
545 {\@Rev}%
546 {\@Rev[Book review]}}
547 \def\@Rev[#1]#2{{\ignorespaces#1\unskip\enspace\ignorespaces
548 \slshape\mdseries#2}}
549 \def\reviewitem{\addvspace{\BelowTitleSkip}%
550 \def\revauth##1{\def\therevauth{##1, }\ignorespaces}%
551 \def\revtitle##1{\def\therevtitle{{\slshape##1}. }\ignorespaces}%
552 \def\revpubinfo##1{\def\therevpubinfo{##1.}\ignorespaces}%
553 }
554 \def\endreviewitem{{\noindent\interlinepenalty=10000
555 \therevauth\therevtitle\therevpubinfo\endgraf}%
556 \vskip\medskipamount
557 }
558 \def\booktitle#1{{\slshape#1/}}

```

3.9 Dates, volume and issue numbers, etc.

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

`\vol 19, 1.`

To use: `\issdate March 1998.`

`\issueseqno=58`

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

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

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

```

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

```

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

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

```

577 <!\latex>\def\tubissue#1(#2)%
578 <*\latex>
579 \def\tubissue#1{\@ifnextchar(%)
580     {\@tubissue@b{#1}}
581     {\@tubissue@a{#1}}}%
582 \def\@tubissue@b#1(#2){\@tubissue@a{#1}{#2}}
583 \def\@tubissue@a#1#2%
584 </\latex>
585     {\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`

```

586 \def\infil@{\jobname}
587 \def\Input #1 {\ifnum\issueseqno<0
588     \def\infil@{#1}%
589     \else
590     \def\infil@{tb\number\issueseqno#1}
591     \fi
592     \edef\jobname{\infil@}\@readFLN
593     @@input \infil@relax

```

```

594 \if@RMKopen
595 \immediate\closeout\@TBremarkfile\@RMKopenfalse
596 \fi
597 }

```

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

```

598 \newif\if@RMKopen \@RMKopenfalse
599 \newwrite\@TBremarkfile
600 \def\@TBremark#1{%
601 \if@RMKopen
602 \else
603 \@RMKopentrue\immediate\openout\@TBremarkfile=\infil@.rmk
604 \fi
605 \toks@={#1}%
606 \immediate\write\@TBremarkfile{^^J\the\toks@}%
607 \immediate\write16{^^JTremark:: \the\toks@^^J}%
608 }

```

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

```

609 \let\TBremark=\gobble

```

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

```

610 \def\TBAenableRemarks{\let\TBremark\@TBremark}

```

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

```

611 \def\TUBedit#1{}

```

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

```

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

```

The following needs to work entirely in T_EX's mouth

```

623 \def\tubfilename#1{\expandafter\ifx\csname file@@#1\endcsname\relax
624   #1\else\csname file@@#1\endcsname\fi}
625 \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.

626 <*\latex>
627 \def\pagexrefON#1{%
628     \write-1{\def\expandafter\noexpand\csname#1\endcsname{\number\pageno}}%
629     \write\ppoutfile{%
630         \def\expandafter\noexpand\csname#1\endcsname{\number\pageno}}%
631     }
632 \def\PageXrefON#1{%
633     \immediate\write-1{\def\expandafter
634         \noexpand\csname#1\endcsname{\number\pageno}}%
635     \immediate\write\ppoutfile{\def\expandafter
636         \noexpand\csname#1\endcsname{\number\pageno}}%
637 </!\latex>
638 <*\latex>
639 \def\pagexrefON#1{%
640     \write-1{\def\expandafter\noexpand\csname#1\endcsname{\number\c@page}}%
641     \write\ppoutfile{%
642         \def\expandafter\noexpand\csname#1\endcsname{\number\c@page}}%
643     }
644 \def\PageXrefON#1{%
645     \immediate\write-1{\def\expandafter
646         \noexpand\csname#1\endcsname{\number\c@page}}%
647     \immediate\write\ppoutfile{\def\expandafter
648         \noexpand\csname#1\endcsname{\number\c@page}}%
649 </\latex>
650 \def\pagexrefOFF#1{}
651 \let\pagexref=\pagexrefOFF
652 \def\PageXrefOFF#1{}
653 \let\PageXref=\PageXrefOFF
654 \def\xreftoON#1{%
655     \ifundefined{#1}%
656     ???\TBremark{Need cross reference for #1.}%
657     \else\csname#1\endcsname\fi}
658 \def\xreftoOFF#1{???}
659 \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.

```

660 \let\TBdriver\gobble

```

Some hyphenation exceptions:


```

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

```

3.10 Page dimensions, glue, penalties etc

```

701 \textheight 54pc
702 \textwidth 39pc
703 \columnsep 1.5pc
704 \columnwidth 18.75pc
705 \hfuzz 1pt
706 \parindent \normalparindent
707 \parskip \z@ % \@plus\p@

```

```

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

```

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

3.11 Messing about with the L^AT_EX logo

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

Here's the command for the user to define 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.

```

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

```

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

```

741 \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.

```

742 \DeclareLaTeXLogo{cmss}{bx}{n}{.3}{.15}
743 \DeclareLaTeXLogo{lmss}{bx}{n}{.3}{.15}
744 %
745 \DeclareLaTeXLogo{cmr}{m}{it}{.29}{.2}
746 \DeclareLaTeXLogo{lmr}{m}{it}{.29}{.2}
747 %
748 \DeclareLaTeXLogo{cmr}{m}{sl}{.29}{.15}
749 \DeclareLaTeXLogo{lmr}{m}{sl}{.29}{.15}
750 %
751 \DeclareLaTeXLogo{cmr}{bx}{it}{.29}{.2}
752 \DeclareLaTeXLogo{lmr}{bx}{it}{.29}{.2}
753 %
754 \DeclareLaTeXLogo{cmr}{bx}{sl}{.29}{.2}
755 \DeclareLaTeXLogo{lmr}{bx}{sl}{.29}{.2}
756 %
757 \DeclareLaTeXLogo{bch}{m}{n}{.2}{.08}
758 \DeclareLaTeXLogo{bch}{m}{it}{.2}{.08}

```

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

```

759 \DeclareRobustCommand{\LaTeX}{\expandafter\let\expandafter\reserved@a
760   \csname @LaTeX@f@family/\f@series/\f@shape\endcsname
761   \ifx\reserved@a\relax\let\reserved@a\@LaTeX@default\fi
762   \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.

```

763 \newcommand{\@LaTeX}[2]{%
764   %\wlog{latex logo family=\f@family/\f@series/\f@shape -> #1, #2.}%
765   L\kern-#1em
766   {\sbox\z@ T%
767     \vbox to\ht0{\hbox{$\m@th$%
768       \csname S@\f@size\endcsname
769       \fontsize\sf@size\z@
770       \math@fontsfalse\selectfont
771       A}%
772     \vss}%
773   }%
774   \kern-#2em%
775   \TeX}

```

3.12 Authors, contributors, addresses, signatures

An article may have several authors (of course), so we permit an `\author` command for each of them. The names are then stored in a set of `\csnames` called `\author1`,

\author2, ... Similarly, there are several \address<n> and \netaddress<n> and \PersonalURL<n> commands set up for each article.

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

```
776 \def\theauthor#1{\csname theauthor#1\endcsname}
777 \def\theaddress#1{\csname theaddress#1\endcsname}
778 \def\thenetaddress#1{\csname thenetaddress#1\endcsname}
779 \def\thePersonalURL#1{\csname thePersonalURL#1\endcsname}
```

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

```
780 <!!latex>\newcount\@tempcnta
781 \def\@defaultauthorlist{%
782   \@getauthorlist\@firstofone
783 }
```

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

```
784 \def\@getauthorlist#1{%
785   \count@\authornumber
786   \advance\count@ by -2
787   \@tempcnta0
```

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

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

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

```
797     \ifnum\count@>1
798       \count@\authornumber
799       \advance\count@ by \m@ne
800       #1{\ignorespaces\theauthor{\number\count@}\unskip\@tubauthorlastsep}%
801     \fi
```

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

```
802     #1{\ignorespaces\theauthor{\number\authornumber}\unskip}
803   \fi
```

```

804 }
805 %
806 \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...)

807 \def\signature#1{\def\@signature{#1}}
808 \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

809 \def\@defaultsignature{%
810     \let\thanks\@gobble
811     \frenchspacing
812     %
813     \ifnum\authornumber<0

      if \authornumber < 0, we are in a contributor's section

814         \medskip
815         \signaturemark
816         \theauthor{\number\authornumber}\\
817         \theaddress{\number\authornumber}\\
818         \allowhyphens
819         \thenetaddress{\number\authornumber}\\
820         \thePersonalURL{\number\authornumber}\\
821     \else

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

822         \count@=0
823         \loop
824             \ifnum\count@<\authornumber
825                 \medskip
826                 \advance\count@ by \@ne
827                 \signaturemark
828                 \theauthor{\number\count@}\\
829                 \theaddress{\number\count@}\\
830                 {%
831                     \allowhyphens
832                     \thenetaddress{\number\count@}\\
833                     \thePersonalURL{\number\count@}\\
834                 }%
835             \repeat
836         \fi
837     }%
838 }
839 \newdimen\signaturewidth \signaturewidth=12pc

```

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

```

840 \newcommand{\makesignature}[1][\medskipamount]{%
    check the value the user has put in \signaturewidth: it may be at most
    1.5pc short of \columnwidth
841 \@tempdima\signaturewidth
842 \advance\@tempdima 1.5pc
843 \ifdim \@tempdima>\columnwidth
844 \signaturewidth \columnwidth
845 \advance\signaturewidth -1.5pc
846 \fi
847 \par
848 \penalty9000
849 \vspace{#1}%
850 \rightline{%
851 \vbox{\hsize\signaturewidth \ninepoint \raggedright
852 \parindent \z@ \everypar={\hangindent 1pc }%
853 \parskip \z@skip
854 \def\|{\unskip\hfil\break}%
855 \def\\{\endgraf}%
856 \def\phone{\rm Phone: }%
857 \def\tubmultipleaffilauthor{\\ \hspace*{1em}}%
858 \rm \@signature}%
859 }%
860 \ifnum\authornumber<0 \endgroup\fi
861 }
862 \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.

```

863 \def\tubmultipleaffilauthor{\unskip, \ignorespaces}%
864 \def\tubmultipleaffilnet{\textrm{\unskip~, \ignorespaces}}

```

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

```

865 \newcount\authornumber
866 \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`).

```

867 \def\author{%

```

```

868 \global\advance\authornumber\@ne
869 \TB@author
870 }

```

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

```

871 \def\contributor{%
872   \begingroup
873   \authornumber\m@ne
874   \TB@author
875 }

```

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

```

876 \def\TB@author#1{%
877   \expandafter\def\csname theauthor\number\authornumber\endcsname
878     {\ignorespaces#1\unskip}%
879   \expandafter\def\csname theaddress\number\authornumber\endcsname
880     {\TBWarningNL{Address for #1\space missing}\@gobble}%
881   \expandafter\def\csname thenetaddress\number\authornumber\endcsname
882     {\TBWarningNL{Net address for #1\space missing}\@gobble}%
883   \expandafter\let\csname thePersonalURL\number\authornumber\endcsname
884     \@gobble
885 }
886 \def\EDITORnoaddress{%
887   \expandafter\let\csname theaddress\number\authornumber\endcsname
888     \@gobble
889 }
890 \def\EDITORnonetaddress{%
891   \expandafter\let\csname thenetaddress\number\authornumber\endcsname
892     \@gobble
893 }

```

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

```

894 \def\address#1{%
895   \expandafter\def\csname theaddress\number\authornumber\endcsname
896     {\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!*

```

897 \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.

```
898 \newcommand{\netaddress}[1][\relax]{%
899   \begingroup
900   \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.

```
901 #1\@sanitize\makespace\ \makeactive\@%
902 \makeescape! \makebgroup[ \makeegroup]% seems more useful than literals
903 \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?!***)

```
904 \def\@relay@netaddress#1{%
905   \ProtectNetChars
906   \expandafter\protected@xdef
907     \csname thenetaddress\number\authornumber\endcsname
908     {\protect\leavevmode\textrm{\@network}%
909     {\protect\NetAddrChars\net
910       \ignorespaces#1\unskip}}}%
911 \endgroup
912 }
```

`\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.

```
913 \def\personalURL{\begingroup
914   \@sanitize\makespace\ \makeactive\@
915   \makeactive\.\makeactive%\makeactive\/\@personalURL}%
916 \def\@personalURL#1{%
917   \ProtectNetChars
918   \expandafter\protected@xdef
919     \csname thePersonalURL\number\authornumber\endcsname{%
920     \protect\leavevmode
921     {%
922       \protect\URLchars\net
923       \ignorespaces#1\unskip
924     }%
925   }%
926 \endgroup
927 }
```


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...

```

928 {%
929   \makecomment\*
930   \makeactive\@
931   \gdef\netaddrat{\makeactive\@*
932     \def@{\discretionary{\char"40}{\char"40}}
933     \makeactive\%
934     \gdef\netaddrpercent{\makeactive\%*
935       \def%{\discretionary{\char"25}{\char"25}}
936       \makeactive\%
937       \gdef\netaddrdot{\makeactive\%*
938         \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.

```

939   \gdef\NetAddrChars{\netaddrat \netaddrpercent \netaddrdot}
940   \makeactive\%
941   \gdef\URLchars{*
942     \NetAddrChars
943     \makeactive\%
944     \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.

```

945   \gdef\ProtectNetChars{*
946     \def@{\protect@}*
947     \def%{\protect%}*
948     \def.{\protect.}*
949     \def/{\protect/}*
950   }
951 }

```

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).

```

952 \if@compatibility
953   \DeclareRobustCommand{\net}{\normalfont\ttfamily\mathgroup\symtypewriter}
954 \else
955   \DeclareOldFontCommand{\net}{\ttfamily\upshape\mdseries}{\mathtt}
956 \fi
957 \def\authorlist#1{\def\@author{#1}}
958 \def\@author{\@defaultauthorlist}

```

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

```
\mspmetavar
959 \def\mspmetavar#1#2{}
```

3.13 Article title

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

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

```
960 \newif\if@articletitle
961 \def\maketitle{\@ifstar
962   {\@articletitlefalse\@r@maketitle}%
963   {\@articletitletrue\@r@maketitle}%
964 }
965 \def\@r@maketitle{\par
966   \ifdim\PreTitleDrop > \z@
967     \loop
968       \ifdim \PreTitleDrop > \textheight
969         \vbox{}\vfil\eject
970         \advance\PreTitleDrop by -\textheight
971       \repeat
972       \vbox to \PreTitleDrop{}
973       \global\PreTitleDrop=\z@
974   \fi
975   \begingroup
976   \setcounter{footnote}{0}
977   \global\@topnum\z@ % disallow floats above the title
978   \def\thefootnote{\fnsymbol{footnote}}
979   \@maketitle
980   \@thanks
981   \endgroup
982   \setcounter{footnote}{0}
983   \gdef\@thanks{}
984 }
```

```

\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.

985 \def\rhTitle{}% avoid error if no author or title
986 \renewcommand{\title}{\@dblarg\TB@title}
987 \def\TB@title[#1]#2{\gdef\@title{#2}%
988 \bgroup
989 \let\thanks\@gobble
990 \def\{\{\unskip\space\ignorespaces}%
991 \protected@xdef\rhTitle{#1}%
992 \egroup
993 }

\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.

994 \def\shortTitle #1{\def\rhTitle{#1}}
995 \newif\ifshortAuthor
996 \def\shortAuthor #1{\def\rhAuthor{#1}\shortAuthortrue}

```

3.14 Section titles

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

Define the distance between articles which are run together:

```
997 \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).

```

998 \newdimen\stbaselineskip \stbaselineskip=18\p@
999 \newdimen\stfontheight
1000 \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.

```

1001 \newif\ifWideSecTitle
1002 \newif\iftubtitlerulefullwidth
1003 \newif\ifSecTitle \SecTitlefalse
1004 \newcommand{\sectitle}{%
1005 \SecTiteltrue
1006 \@ifstar
1007 {\WideSecTiteltrue\def\s@ctitle}%

```

```

1008     {\WideSecTitlefalse\def\s@ctitle}%
1009 }

```

`\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.

```

1010 \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.

```

1011 \newskip\AboveTitleSkip    \AboveTitleSkip=12\p@
1012 \newskip\BelowTitleSkip    \BelowTitleSkip=8\p@
1013 \newdimen\strulethickness    \strulethickness=.6\p@

```

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

```

1014 \def\@sectitle #1{%
1015   \par
1016   \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.

```

1017   \ifWideSecTitle\else\secsep\fi
1018   {%
1019     \fboxrule\strulethickness
1020     \fboxsep\z@
1021     \noindent\framebox[\hsize]{%
1022       \vbox{%
1023         \raggedcenter
1024         \let\\\@sectitle@newline
1025         \sectitlefont
1026         \makestrut[2\stfontheight;\z@]%
1027         #1%
1028         \makestrut[\z@;\stfontheight]\endgraf
1029       }%
1030     }%
1031   }%
1032   \nobreak
1033   \vskip\baselineskip
1034 }

```

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

```

1035 \newcommand{\@sectitle@newline}[1][\z@]{%
1036   \ifdim#1>\z@
1037     \makestrut[\z@;#1]%
1038   \fi
1039   \unskip\break
1040 }
```

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).

```

1041 \def\@makesectitle{\ifSecTitle
1042   \global\SecTitlefalse
1043   \ifWideSecTitle
1044     \twocolumn[\@sectitle{\s@ctitle}]%
1045     \global\WideSecTitlefalse
1046   \else
1047     \@sectitle{\s@ctitle}%
1048   \fi
1049 \else
1050   \vskip\AboveTitleSkip
1051   \kern\topskip
1052   \hrule \@height\z@ \@depth\z@ \@width 10\p@
1053   \kern-\topskip
1054   \kern-\strulethickness
1055   \iftubtitlerulefullwidth
1056     \hrule \@height\strulethickness \@depth\z@ width\textwidth
1057   \else
1058     \hrule \@height\strulethickness \@depth\z@
1059   \fi
1060   \kern\medskipamount
1061   \nobreak
1062 \fi
1063 }
```

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

```

1064 \def\@maketitle{%
1065   \@makesectitle
1066   \if@articletitle{%
1067     \nohyphens \interlinepenalty\@M
1068     \setbox0=\hbox{%
1069       \let\thanks\@gobble
1070       \let\=\quad
1071       \let\and=\quad
1072       \ignorespaces\@author}%
1073     {%
1074       \noindent\bf\raggedright\ignorespaces\frenchspacing\@title\endgraf
1075     }%
1076     \ifdim \wd0 < 5\p@ % omit if author is null
```

```

1077     \else
      Since we have  $\backslash\text{BelowTitleSkip} + 4\text{pt} = \backslash\text{baselineskip}$ , we say:
1078     \nobreak \vskip 4\p@
1079     {%
1080     \leftskip=\normalparindent
1081     \raggedright
1082     \def\and{\unskip\}%
1083     \noindent\@author\endgraf
1084     }%
1085     \fi
1086     \nobreak
1087     \vskip\BelowTitleSkip
1088   }\fi%
1089   \global\@afterindentfalse
1090   \aftergroup\@afterheading
1091 }

```

Dedications are ragged right, in italics.

```

1092 \newenvironment{dedication}%
1093 {\raggedright\noindent\itshape\ignorespaces}%
1094 {\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.

```

1095 \def\@tubonecolumnabstractstart{%
1096     \list{}\listparindent\normalparindent
1097     \itemindent\z@ \leftmargin\@tubfullpageindent
1098     \rightmargin\leftmargin \parsep \z@\item[]\ignorespaces
1099 }
1100 \def\@tubonecolumnabstractfinish{%
1101     \endlist
1102 }
1103 \renewenvironment{abstract}%
1104 {\begin{SafeSection}%
1105     \section*{%
1106         \if@tubtwocolumn\else \hspace*\@tubfullpageindent\fi
1107         Abstract}%
1108     \if@tubtwocolumn\else \@tubonecolumnabstractstart \fi
1109 }%
1110 {\if@tubtwocolumn\else \@tubonecolumnabstractfinish \fi
1111     \end{SafeSection}}
1112 \newenvironment{longabstract}%
1113 {\begin{SafeSection}%
1114     \section*{Abstract}%
1115     \bgroup\small
1116 }%
1117 {\endgraf\egroup

```

```

1118 \end{SafeSection}%
1119 \vspace{.25\baselineskip}
1120 \begin{center}
1121   {$--*--$}
1122 \end{center}
1123 \vspace{.5\baselineskip}}

```

3.15 Section headings

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

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

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

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

```

1124 \if@numbersec
1125 \def\section{\TB@startsection{\section}%
1126                               1%
1127                               \z@
1128                               {-8\p@ \@plus-2\p@ \@minus-2\p@}%
1129                               {4\p@}%
1130                               {\normalsize\bf\raggedright\hyphenpenalty=\@M}}
1131 \def\subsection{\TB@startsection{\subsection}%
1132                               2%
1133                               \z@
1134                               {-8\p@ \@plus-2\p@ \@minus-2\p@}%
1135                               {4\p@}%
1136                               {\normalsize\bf\raggedright\hyphenpenalty=\@M}}
1137 \def\subsubsection{\TB@startsection{\subsubsection}%
1138                               3%
1139                               \z@
1140                               {-8\p@ \@plus-2\p@ \@minus-2\p@}%
1141                               {4\p@}%
1142                               {\normalsize\bf\raggedright\hyphenpenalty=\@M}}
1143 \def\paragraph{\TB@startsection{\paragraph}%
1144                               4%
1145                               \z@
1146                               {4\p@ \@plus1\p@ \@minus1\p@}%
1147                               {-1em}%
1148                               {\normalsize\bf}}

```

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

```

1149 \else
1150 \setcounter{secnumdepth}{0}
1151 \def\section{\TB@nolimelabel

```

```

1152         \TB@startsection{{section}%
1153                     1%
1154                     \z@
1155                     {-8\p@ \@plus-2\p@ \@minus-2\p@}%
1156                     {4\p@}%
1157         {\normalsize\bf\raggedright\hyphenpenalty=\@M}}
1158 \def\subsection{\TB@nolimelabel
1159         \TB@startsection{{subsection}%
1160                     2%
1161                     \z@
1162                     {-8\p@ \@plus-2\p@ \@minus-2\p@}%
1163                     {-0.5em\@plus-\fontdimen3\font}%
1164         {\normalsize\bf\raggedright\hyphenpenalty=\@M}}
1165 \def\subsubsection{\TB@nolimelabel
1166         \TB@startsection{{subsubsection}%
1167                     3%
1168                     \parindent
1169                     {-8\p@ \@plus-2\p@ \@minus-2\p@}%
1170                     {-0.5em\@plus-\fontdimen3\font}%
1171         {\normalsize\bf\raggedright\hyphenpenalty=\@M}}
1172 \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`.

```

1173 \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).

```

1174 \def\TB@safe@startsection#1{\@startsection#1}

```

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

```

1175 \newenvironment{SafeSection}%
1176 {\let\TB@startsection\TB@safe@startsection}%
1177 {}

```

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

The three inappropriate ones are subparagraph (indistinguishable from paragraph), and chapter and part. The last seemed almost to be defined in an early version of these macros, since there was a definition of `\l@part`. I've not got down

²Thurber, *The Wonderful O*

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.

```

1178 \if@numbersec
1179   \def\subparagraph{\TB@nosection\subparagraph\paragraph}
1180 \else
1181   \def\paragraph{\TB@nosection\paragraph\subsubsection}
1182   \def\subparagraph{\TB@nosection\subparagraph\subsubsection}
1183 \fi
1184 \def\chapter{\TB@nosection\chapter\section}
1185 \def\part{\TB@nosection\part\section}
1186 \def\TB@nosection#1#2{\TBWarning{class does not support \string#1,
1187   \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.

```

1188 \def\TBtocsectionfont{\normalfont}
1189 \newskip\TBtocsectionspace \TBtocsectionspace=1.0em\@plus\p@
1190 \def\l@section#1#2{\addpenalty{\@secpenalty}%
1191   \addvspace{\TBtocsectionspace}%
1192   \@tempdima 1.5em
1193   \begingroup
1194     \parindent\z@ \rightskip\z@ % article style makes \rightskip > 0
1195     \parfillskip\z@
1196     \TBtocsectionfont
1197     \leavevmode\advance\leftskip\@tempdima\hskip-\leftskip#1\nobreak\hfil
1198     \nobreak\hb@xt@\@pnumwidth{\hss #2}\par
1199   \endgroup}

```

3.16 Appendices

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

```

1200 \renewcommand\appendix{\par
1201   \renewcommand\thesection{\@Alph\c@section}%
1202   \setcounter{section}{0}%
1203   \if@numbersec
1204     \else

```

```

1205 \setcounter{secnumdepth}{1}%
1206 \fi

```

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

```

1207 \def\@tempa{appendix}
1208 \ifx\@tempa\@currenvir
1209 \expandafter\@appendix@env
1210 \fi
1211 }

```

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

```

1212 \newcommand{\app@prefix@section}{}
1213 \newcommand{\@appendix@env}[1][Appendix]{%
1214 \renewcommand{\@secntformat}[1]{\csname app@prefix@##1\endcsname
1215 \csname the##1\endcsname\quad}%
1216 \renewcommand{\app@prefix@section}{#1 }%
1217 }

```

Ending an appendix environment is pretty trivial...

```

1218 \let\endappendix\relax

```

3.17 References

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

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

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

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

```

1219 \def\TB@nolimelabel{%
1220 \def\@currentlabel{%
1221 \protect\TBWarning{%
1222 Invalid reference to numbered label on page \thepage
1223 \MessageBreak made%
1224 }%
1225 \textbf{?!?}%
1226 }%
1227 }

```

3.18 Title references

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

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

```

1228 \let\TB@@sect\@sect
1229 \let\TB@@ssect\@ssect
1230 \def\@sect#1#2#3#4#5#6[#7]#8{%
1231   \def\@currentlabelname{#7}%
1232   \TB@@sect{#1}{#2}{#3}{#4}{#5}{#6}[{#7}]{#8}%
1233 }
1234 \def\@ssect#1#2#3#4#5{%
1235   \def\@currentlabelname{#5}%
1236   \TB@@ssect{#1}{#2}{#3}{#4}{#5}%
1237 }
```

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>`.

```

1238 \let\@savelatexlabel=\label % so save original LaTeX command
1239 %
1240 \def\label#1{% de
1241   \@savelatexlabel{#1}%
1242   \@bsphack
1243   \if@filesw
1244     \protected@write\@auxout{%
1245       {\string\newlabel{nr@#1}{\@currentlabel}{\@currentlabelname}}}%
1246   \fi
1247   \@esphack
1248 }
```

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

```

1249 \let\@currentlabelname\@empty
```

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

```

1250 \DeclareRobustCommand{\nameref}[1]{\expandafter\@setref
1251   \csname r@nr@#1\endcsname\@secondoftwo{#1}}
```

3.19 Float captions

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

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

`\@tubfullpageindent`

```
1252 \newdimen\@tubfullpageindent
1253 \@tubfullpageindent = \if@tubtwocolumn 4.875pc \else 3.875pc \fi
1254 \let\tubcaptionleftglue=\hfil
```

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

`\tubcaptionleftglue`

```
1255 \let\tubcaptionleftglue=\hfil
```

Ok, here is `\@makecaption`.

```
1256 \def\tubcaptionfonts{\small}%
1257 \long\def\@makecaption#1#2{%
1258   \vskip\abovecaptionskip
1259   \sbox\@tempboxa{\tubcaptionfonts \frenchspacing \tubmakecaptionbox{#1}{#2}}% try in an hbox
1260   \ifdim \wd\@tempboxa > \hsize
1261     {% caption doesn't fit on one line; set as a paragraph.
1262       \tubcaptionfonts \raggedright \hyphenpenalty=\@M \parindent=1em
1263       % indent full-width captions {figure*}, but not single-column {figure}.
1264       \ifdim\hsize = \textwidth
1265         \leftskip=\@tubfullpageindent \rightskip=\leftskip
1266         \advance\rightskip by 0pt plus2em % increase acceptable raggedness
1267       \fi
1268       \noindent \tubmakecaptionbox{#1}{#2}\par}%
1269   \else
1270     % fits on one line; use the hbox, centered. Do not reset its glue.
1271     \global\@minipagefalse
1272     \hb@xt@\hsize{\tubcaptionleftglue\box\@tempboxa\hfil}%
1273   \fi
1274   \vskip\belowcaptionskip}
1275 %
1276 \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.

```
1277 \def\fnun@figure{\tubcaptionfonts \bf \figurename\nobreakspace\thefigure}}
1278 \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.

```
1279 \setlength\abovecaptionskip{6pt plus1pt minus1pt}
```

3.20 Size changing commands

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

```

1280 \renewcommand{\normalsize}{%
1281     \@setfontsize\normalsize\@xpt\@xipt
1282     \abovedisplayskip=3\p@\@plus 3\p@\@minus\p@
1283     \belowdisplayskip=\abovedisplayskip
1284     \abovedisplayshortskip=\z@\@plus 3\p@
1285     \belowdisplayshortskip=\p@\@plus 3\p@\@minus\p@
1286 }
1287
1288 \renewcommand{\small}{%
1289     \@setfontsize\small\@ixpt{11}%
1290     \abovedisplayskip=2.5\p@\@plus 2.5\p@\@minus\p@
1291     \belowdisplayskip=\abovedisplayskip
1292     \abovedisplayshortskip=\z@\@plus 2\p@
1293     \belowdisplayshortskip=\p@\@plus 2\p@\@minus\p@
1294 }
1295
1296 \renewcommand{\footnotesize}{%
1297     \@setfontsize\footnotesize\@viipt{9.5}%
1298     \abovedisplayskip=3\p@\@plus 3\p@\@minus\p@
1299     \belowdisplayskip=\abovedisplayskip
1300     \abovedisplayshortskip=\z@\@plus 3\p@
1301     \belowdisplayshortskip=\p@\@plus 3\p@\@minus\p@
1302 }

```

3.21 Lists and other text inclusions

```

1303 \def\@listi{%
1304     \leftmargin\leftmarginii\parsep=\p@\@plus\p@\@minus\p@
1305     \itemsep=\parsep
1306     \listparindent=1em
1307 }
1308
1309 \def\@listii{%
1310     \leftmargin\leftmarginii
1311     \labelwidth=\leftmarginii \advance\labelwidth-\labelsep
1312     \topsep=2\p@\@plus\p@\@minus\p@
1313     \parsep=\p@\@plus\p@\@minus\p@
1314     \itemsep=\parsep
1315     \listparindent=1em
1316 }
1317
1318 \def\@listiii{%
1319     \leftmargin=\leftmarginiii
1320     \labelwidth=\leftmarginiii \advance\labelwidth-\labelsep
1321     \topsep=\p@\@plus\p@\@minus\p@
1322     \parsep=\z@
1323     \itemsep=\topsep
1324     \listparindent=1em
1325 }
1326 \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.

```
1327 \renewcommand{\quotation}{\list{}{\listparindent 1.5em
1328 \rightmargin.5\leftmargin\parsep \z@\@plus\p@}\item[]}
```

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

```
1329 \newenvironment{compactitemize}%
1330 {\begin{itemize}%
1331 \setlength{\itemsep}{0pt}%
1332 \setlength{\parskip}{0pt}%
1333 \setlength{\parsep}{0pt}%
1334 }%
1335 {\end{itemize}}
1336 %
1337 \newenvironment{compactenumerate}%
1338 {\begin{enumerate}%
1339 \setlength{\itemsep}{0pt}%
1340 \setlength{\parskip}{0pt}%
1341 \setlength{\parsep}{0pt}%
1342 }%
1343 {\end{enumerate}}
1344 %
1345 \newenvironment{compactdescription}%
1346 {\begin{description}%
1347 \setlength{\itemsep}{0pt}%
1348 \setlength{\parskip}{0pt}%
1349 \setlength{\parsep}{0pt}%
1350 }%
1351 {\end{description}}
1352 %
```

3.22 Some fun with verbatim

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

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

```
1353 %\let\@TB@verbatim\@verbatim
1354 \let\@TB@verbatim\verbatim
1355 \let\@TB@endverbatim\endverbatim
```

Impose an optional argument on the environment.

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

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

```

1356 \def\verbatim{\par\obeylines
1357 \futurelet\reserved@a\@switch@sqbverbatim}
1358 %
1359 \def\@switch@sqbverbatim{\ifx\reserved@a[%]
1360 \expandafter\@sqbverbatim\else
1361 \def\reserved@b{\@sqbverbatim[]}\expandafter\reserved@b\fi}
1362 %
1363 \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.

```

1364 \def\ruled{\let@if@ruled@iftrue}%
    The command \makevmeta says to make !i...j do <...>.
1365 \def\makevmeta{\makeescape\! \let\<\tubverb@meta \tubverb@clearliglist}
1366 \def\tubverb@meta##1>{\meta{##1}}
```

The default verbatim defines “i̇,- as active characters to do stop ligatures; remove i̇ from the list so we get normal characters. Just hope that the CM i̇ ligatures aren’t used.

```

1367 \def\tubverb@clearliglist{%
1368 \def\verbatim@nolig@list{\do\‘\do\,\do\’\do\~}%
1369 }
```

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

```

1370 #1\@TBverbatim}
```

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

```

1371 \def\@verbatim{%
    First, we deal with \ruled:
1372 \if@ruled\trivlist\item\hrule\kern5\p@\nobreak\fi
    Now, the code out of the original verbatim environment:
1373 \trivlist \item\relax
1374 \if@minipage\else\vskip\parskip\fi
1375 \leftskip\@totalleftmargin\rightskip\z@skip
1376 \parindent\z@\parfillskip\@flushglue\parskip\z@skip
1377 @@par
1378 \@tempwafalse
1379 \def\par{%
```

```

1380 \if@tempswa
1381 \leavevmode \null \@@par\penalty\interlinepenalty
1382 \else
1383 \@tempswatrue
1384 \ifhmode\@@par\penalty\interlinepenalty\fi
1385 \fi}%
1386 \obeylines \verbatim@font \@noligs
1387 \let\do\@makeoother \dospecials
1388 \everypar \expandafter{\the\everypar \unpenalty}%
1389 }% 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).

```

1390 \def\endverbatim{\@TBendverbatim
1391 \if@ruled\kern5\p@\hrule\endtrivlist\fi}

```

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

```

1392 \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.

```

1393 \AtBeginDocument{%
1394 \ifpackageloaded{microtype}
1395 {\g@addto@macro\@verbatim{\microtypesetup{activate=false}}}{\}
1396 }

```

3.23 Bibliography

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

```

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

```

The available citation commands are:

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

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

```
1397 \if@Harvardcite
1398 \let\@internalcite\cite
```

Normal forms.

```
1399 \def\cite{\def\@citesep{-1000}%
1400   \def\@cite##1##2{##1\if@tempswa , ##2\fi}}%
1401   \def\citeauthoryear##1##2##3{##1, ##3}\@internalcite}
1402 \def\citeNP{\def\@citesep{-1000}%
1403   \def\@cite##1##2{##1\if@tempswa , ##2\fi}}%
1404   \def\citeauthoryear##1##2##3{##1, ##3}\@internalcite}
1405 \def\citeN{\def\@citesep{-1000}%
1406   \def\@cite##1##2{##1\if@tempswa , ##2\else{}}\fi}%
1407   \def\citeauthoryear##1##2##3{##1 (##3)\@citedata}
1408 \def\citeA{\def\@citesep{-1000}%
1409   \def\@cite##1##2{##1\if@tempswa , ##2\fi}}%
1410   \def\citeauthoryear##1##2##3{##1}\@internalcite}
1411 \def\citeANP{\def\@citesep{-1000}%
1412   \def\@cite##1##2{##1\if@tempswa , ##2\fi}}%
1413   \def\citeauthoryear##1##2##3{##1}\@internalcite}
```

Abbreviated forms (using *et al.*)

```
1414 \def\shortcite{\def\@citesep{-1000}%
1415   \def\@cite##1##2{##1\if@tempswa , ##2\fi}}%
1416   \def\citeauthoryear##1##2##3{##2, ##3}\@internalcite}
1417 \def\shortciteNP{\def\@citesep{-1000}%
1418   \def\@cite##1##2{##1\if@tempswa , ##2\fi}}%
1419   \def\citeauthoryear##1##2##3{##2, ##3}\@internalcite}
1420 \def\shortciteN{\def\@citesep{-1000}%
1421   \def\@cite##1##2{##1\if@tempswa , ##2\else{}}\fi}%
1422   \def\citeauthoryear##1##2##3{##2 (##3)\@citedata}
1423 \def\shortciteA{\def\@citesep{-1000}%
1424   \def\@cite##1##2{##1\if@tempswa , ##2\fi}}%
1425   \def\citeauthoryear##1##2##3{##2}\@internalcite}
1426 \def\shortciteANP{\def\@citesep{-1000}%
1427   \def\@cite##1##2{##1\if@tempswa , ##2\fi}}%
1428   \def\citeauthoryear##1##2##3{##2}\@internalcite}
```

When just the year is needed:

```
1429 \def\citeyear{\def\@citesep{-1000}%
1430   \def\@cite##1##2{##1\if@tempswa , ##2\fi}}%
1431   \def\citeauthoryear##1##2##3{##3}\@citedata}
1432 \def\citeyearNP{\def\@citesep{-1000}%
1433   \def\@cite##1##2{##1\if@tempswa , ##2\fi}}%
1434   \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.

```

1435 \def\@citedata{%
1436     \ifnextchar [{\@tempwattrue\@citedatax}%
1437     {\@tempwafalse\@citedatax[]}%
1438 }
1439
1440 \def\@citedatax[#1]#2{%
1441 \if@filesw\immediate\write\@auxout{\string\citation{#2}}\fi%
1442 \def\@citea{}\@cite{\@for\@citeb:=#2\do%
1443     {\@citea\def\@citea{, }\@ifundefined% by Young
1444         {b@\@citeb}{\bf ?}%
1445         \@warning{Citation ‘\@citeb’ on page \thepage \space undefined}}%
1446 {\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.

```

1447 \def\@citex[#1]#2{%
1448 \if@filesw\immediate\write\@auxout{\string\citation{#2}}\fi%
1449 \def\@citea{}\@cite{\@for\@citeb:=#2\do%
1450     {\@citea\def\@citea{; }\@ifundefined% by Young
1451         {b@\@citeb}{\bf ?}%
1452         \@warning{Citation ‘\@citeb’ on page \thepage \space undefined}}%
1453 {\csname b@\@citeb\endcsname}}{#1}}%

```

No labels in the bibliography.

```

1454 \def\@biblabel#1{}

```

Set length of hanging indentation for bibliography entries.

```

1455 \newlength{\bibhang}
1456 \setlength{\bibhang}{2em}

```

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

```

1457 \newdimen\bibindent
1458 \bibindent=1.5em
1459 \@ifundefined{refname}%
1460     {\newcommand{\refname}{References}}%
1461     {}%

```

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

```

1462 \def\thebibliography#1{% for harvardcite
1463     \let\TB@startsection\TB@safe@startsection
1464     \section*{\refname
1465         \@mkboth{\uppercase{\refname}}{\uppercase{\refname}}}%
1466     \list{[\arabic{enumi}]}{%
1467         \labelwidth\z@ \labelsep\z@
1468         \leftmargin\bibindent
1469         \itemindent -\bibindent
1470         \listparindent \itemindent
1471         \parsep \z@
1472         \usecounter{enumi}}%
1473     \def\newblock{}%

```

```

1474 \BibJustification
1475 \frenchspacing % more than just period, see comments below
1476 }

```

etal Other bibliography odds and ends.

```

\bibentry 1477 \def\etal{et\,al.\@}
1478 \def\bibentry{%
1479 \smallskip
1480 \hangindent=\parindent
1481 \hangafter=1
1482 \noindent
1483 \sloppy
1484 \clubpenalty500 \widowpenalty500
1485 \frenchspacing
1486 }

```

\bibliography Changes made to accommodate TUB file naming conventions

```

\bibliographystyle 1487 \def\bibliography#1{%
1488 \if@filesw
1489 \immediate\write\@auxout{\string\bibdata{\@tubfilename{#1}}}%
1490 \fi
1491 \@input{\jobname.bbl}%
1492 }
1493 \def\bibliographystyle#1{%
1494 \if@filesw
1495 \immediate\write\@auxout{\string\bibstyle{\@tubfilename{#1}}}%
1496 \fi
1497 }

```

\thebibliography If the user's asked to use L^AT_EX's default citation mechanism (using the `rawcite`
 \TB@thebibliography 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, `amsen.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 `amsen'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.

```

1498 \else % not harvardcite
1499 \let\TB@origthebibliography\thebibliography
1500 \def\thebibliography{%
1501 \let\TB@startsection\TB@safe@startsection
1502 \def\sloppy{\frenchspacing\BibJustification}%
1503 \TB@origthebibliography} % latex's thebibliography now reads args.
1504 \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 `\TB@@sloppy` is appropriate. (`\BibJustification` is nevertheless reset to its default value at the start of a paper.)

```

1505 \let\TB@@sloppy\sloppy
1506 \let\BibJustification\TB@@sloppy
1507 \newcommand{\SetBibJustification}[1]{%
1508   \renewcommand{\BibJustification}{#1}%
1509 }
1510 \ResetCommands\expandafter{\the\ResetCommands
1511   \let\BibJustification\TB@@sloppy
1512 }
```

3.24 Registration marks

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

```

1513 \def\HorzR@gisterRule{\vrule \@height 0.2\p@ \@depth\z@ \@width 0.5in }
1514 \def\DownShortR@gisterRule{\vrule \@height 0.2\p@ \@depth 1pc \@width 0.2\p@ }
1515 \def\UpShortR@gisterRule{\vrule \@height 1pc \@depth\z@ \@width 0.2\p@ }

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

1516 \def\ttopregister{\dlap{%
1517   \hb@xt@\trimwd{\HorzR@gisterRule \hfil \HorzR@gisterRule
1518     \HorzR@gisterRule \hfil \HorzR@gisterRule}%
1519   \hb@xt@\trimwd{\hfil \DownShortR@gisterRule \hfil}}}%
1520 \def\tbotregister{\ulap{%
1521   \hb@xt@\trimwd{\hfil \UpShortR@gisterRule \hfil}%
1522   \hb@xt@\trimwd{\HorzR@gisterRule \hfil \HorzR@gisterRule
1523     \HorzR@gisterRule \hfil \HorzR@gisterRule}}}%
1524 \def\topregister{\ttopregister}
1525 \def\botregister{\tbotregister}
```

3.25 Running heads

```

1526 \def \rtitlex{\def\texttub##1{{\normalsize\textrm{##1}}}\TUB, \volx }
1527 \def\PrelimDraftfooter{%
1528   \dlap{\kern\textheight\kern3pc
1529     \rlap{\hb@xt@\pagewd{\midrttitle\hfil\midrttitle}}
1530   }}
```

registration marks; these are temporarily inserted in the running head

```

1531 \def\MakeRegistrationMarks{}
1532 \def\UseTrimMarks{%
1533   \def\MakeRegistrationMarks{%
1534     \ulap{\rlap{%
1535       \vbox{\dlap{\vbox to\trimlgt{\vfil\botregister}}}%
1536       \topregister\vskip \headmargin \vskip 10\p@}}}%
1537   }
1538 % put issue identification and page number in header.
```

```

1539 \def\@oddhead{\MakeRegistrationMarks\PrelimDraftfooter
1540 \normalsize\csname normalshape\endcsname\rm \tubheadhook
1541 \rtitlex\qquad\midrttitle \hfil \thepage}
1542 \def\@evenhead{\MakeRegistrationMarks\PrelimDraftfooter
1543 \normalsize\csname normalshape\endcsname\rm \tubheadhook
1544 \thepage\hfil\midrttitle\qquad\rtitlex}
1545
1546 % can be used to reset the font, e.g., tb98kuester.
1547 \def\tubheadhook{}
1548
1549 % in case the official \author is too verbose for the footline.
1550 \def\tubrunningauthor{\@author}
1551
1552 % put title and author in footer.
1553 \def\@tubrunningfull{%
1554 \def\@oddfoot{% make line break commands produce a normal space
1555 \def\{\unskip\ \ignorespaces}%
1556 \let\newline=\%
1557 \frenchspacing
1558 \hfil\rhTitle}
1559 \def\@evenfoot{\tubrunningauthor\hfil}
1560 }
1561
1562 % empty footer.
1563 \def\@tubrunningminimal{%
1564 \def\@oddfoot{\hfil}%
1565 \def\@evenfoot{\hfil}%
1566 }
1567
1568 % empty footer and header.
1569 \def\@tubrunningoff{%
1570 \def\@oddfoot{\hfil}%
1571 \def\@evenfoot{\hfil}%
1572 \def\@oddhead{\hfil}%
1573 \def\@evenhead{\hfil}%
1574 }
1575
1576 \def\ps@headings{}
1577 \pagestyle{headings}

```

3.26 Output routine

Modified to alter \brokenpenalty across columns

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

```

1578 \def\@outputdblcol{\if@firstcolumn \global\@firstcolumnfalse
1579 \global\setbox\@leftcolumn\box\@outputbox
1580 \global\brokenpenalty10000

```

```

1581 \else \global\@firstcolumntrue
1582 \global\brokenpenalty100
1583 \setbox\@outputbox\vbox{\hb@xt@\textwidth{\hb@xt@\columnwidth
1584 {\box\@leftcolumn \hss}\hfil \vrule \@width\columnseprule\hfil
1585 \hb@xt@\columnwidth{\box\@outputbox \hss}}}\@combinedblfloats
1586 \@outputpage \begingroup \@dblfloatplacement \@startdblcolumn
1587 \@whilsw\if@fcolmade \fi{\@outputpage\@startdblcolumn}\endgroup
1588 \fi}

```

3.27 Font-related definitions and machinery

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

```

1589 \newif\ifFirstPar \FirstParfalse
1590 \def\smc{\sc}
1591 \def\ninepoint{\small}
1592 \</classtail>

```

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

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

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

```

1593 \<*common>
1594 \DeclareRobustCommand{\SMC}{%
1595 \ifx\@currsize\normalsize\small\else
1596 \ifx\@currsize\small\footnotesize\else
1597 \ifx\@currsize\footnotesize\scriptsize\else
1598 \ifx\@currsize\large\normalsize\else
1599 \ifx\@currsize\Large\large\else
1600 \ifx\@currsize\LARGE\Large\else
1601 \ifx\@currsize\scriptsize\tiny\else
1602 \ifx\@currsize\tiny\tiny\else
1603 \ifx\@currsize\huge\LARGE\else
1604 \ifx\@currsize\Huge\huge\else

```

```

1605          \small\SMC@unknown@warning
1606 \fi\fi\fi\fi\fi\fi\fi\fi\fi\fi
1607 }
1608 \newcommand{\SMC@unknown@warning}{\TBWarning{\string\SMC: nonstandard
1609   text font size command -- using \string\small}}
1610 \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.

```

1611 \newcommand{\acro}[1]{\textSMC{#1}\@}
1612 \</common>

```

3.28 Miscellaneous definitions

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

```

1613 <*classtail>
1614 \def\xEdNote{\@EdNoteFont Editor's note:\enspace }
1615 \def \EdNote{\@ifnextchar [%]
1616   {%
1617     \ifvmode
1618       \smallskip\noindent\let\@EdNote@\@EdNote@v
1619     \else
1620       \unskip\quad\def\@EdNote@{\unskip\quad}%
1621       \fi
1622       \@EdNote
1623   }%
1624   \xEdNote
1625 }
1626 \long\def\@EdNote[#1]{%
1627   [\thinspace\xEdNote\ignorespaces
1628     #1%
1629     \unskip\thinspace]%
1630   \@EdNote@
1631 }
1632 \def\@EdNote@v{\par\smallskip}

```

Macros for Mittelbach's self-documenting style

```

1633 \def\SelfDocumenting{%
1634   \setlength\textwidth{31pc}
1635   \onecolumn
1636   \parindent \z@
1637   \parskip 2\p@\@plus\p@\@minus\p@
1638   \oddsidemargin 8pc
1639   \evensidemargin 8pc
1640   \marginparwidth 8pc
1641   \toks@\expandafter{\@oddhead}%
1642   \xdef\@oddhead{\hss\hb@xt@\pagewd{\the\toks@}}%

```

```

1643 \toks@\expandafter{\@evenhead}%
1644 \xdef\@evenhead{\hss\hb@xt@\pagewd{\the\toks@}}%
1645 \def\ps@titlepage{}%
1646 }
1647 \def\ps@titlepage{}
1648
1649 \long\def\@makefnmark#1{\parindent 1em\noindent\hb@xt@2em{}%
1650 \llap{\@makefnmark}\null$\mskip5mu$#1}
1651
1652 %% \long\def\@makefnmark#1{\parindent 1em
1653 %% \noindent
1654 %% \hb@xt@2em{\hss\@makefnmark}%
1655 %% \hskip0.27778\fontdimen6\textfont\z@\relax
1656 %% #1%
1657 %% }

```

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

```

1658 \newcommand{\tubraggedfoot}{\rightskip=\raggedskip plus\raggedstretch\relax}

```

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

```

\supportfootnote 1659 \def\creditfootnote{\nomarkfootnote\xEdNote}
1660 \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.

```

1661 \gdef\nomarkfootnote#1#2{\begingroup
1662 \def\thefootnote{}%
1663 % no period, please, also no fnmark.
1664 \def\@makefnmark##1{##1}%
1665 \footnotetext{\noindent #1#2}%
1666 \endgroup
1667 }

```

3.29 Initialization

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

```

1668 \if@Harvardcite
1669 \AtBeginDocument{%
1670 \bibliographystyle{ltugbib}%
1671 }
1672 \fi
1673 \authornumber\z@
1674 \let\@signature\@defaultsignature
1675 \InputIfFileExists{ltugboat.cfg}{\TBInfo{Loading ltugboat
1676 configuration information}}{}
1677 </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:

```
1678 \< *tugproccls>
1679 \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.

```
1680 \newif\if@proc@sober
1681 \newif\if@proc@numerable
1682 \DeclareOption{tug95}{%
1683   \@proc@soberfalse
1684   \@proc@numerablefalse
1685 }
1686 \DeclareOption{tug96}{%
1687   \@proc@sobertrue
1688   \@proc@numerablefalse
1689 }
1690 \DeclareOption{tug97}{%
1691   \@proc@sobertrue
1692   \@proc@numerabletrue
1693 }
1694 \DeclareOption{tug2002}{%
1695   \@proc@sobertrue
1696   \@proc@numerabletrue
1697   \let\if@proc@numbersec\iftrue
1698   \PassOptionsToClass{numbersec}{ltugboat}%
1699 }
```

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

```
1700 \DeclareOption{numbersec}{\let\if@proc@numbersec\iftrue
1701   \PassOptionsToClass{numbersec}{ltugboat}%
1702 }
1703 \DeclareOption{nonumber}{\let\if@proc@numbersec\iffalse
1704   \PassOptionsToClass{nonumber}{ltugboat}%
1705 }
```

`\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`.

```
1706 \newif\ifTB@title
1707 \DeclareOption{title}{\TB@titletrue}
1708 \DeclareOption{notitle}{\TB@titlefalse}
1709 \AtBeginDocument{\stepcounter{page}}
```

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

```

1710 \DeclareOption{tugproc}{%
1711   \ClassWarning{@tugclass}{Option \CurrentOption\space ignored}%
1712 }

```

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

```

1713 \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`...)

```

1714 \InputIfFileExists{@tugclass.cfg}{\ClassInfo{ltugproc}%
1715   {Loading ltugproc configuration information}}{}
1716 \@ifundefined{TUGprocExtraOptions}%
1717   {\let\TUGprocExtraOptions\@empty}%
1718   {\edef\TUGprocExtraOptions{,\TUGprocExtraOptions}}

```

`\tugProcYear` Now work out what year it is

```

1719 \@tempcnta\year
1720 \ifnum\@tempcnta<2000
1721   \divide\@tempcnta by100
1722   \multiply\@tempcnta by100
1723   \advance\@tempcnta-\year
1724   \@tempcnta-\@tempcnta
1725 \fi

```

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

```

1726 \edef\@tempa{\noexpand\providecommand\noexpand\tugProcYear
1727   {\ifnum10>\@tempcnta0\fi the\@tempcnta}}
1728 \@tempa
1729 \ClassInfo{ltugproc}{Class believes year is
1730   \expandafter\ifnum\tugProcYear<2000 19\fi\tugProcYear
1731   \@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.

```

1732 \expandafter\ifx\csname ds@tug\tugProcYear\endcsname\relax
1733   \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.

```

1734 \ExecuteOptions{tug\tugProcYear,title\TUGprocExtraOptions}
1735 \ProcessOptions
1736 \if@proc@numbersec
1737   \if@proc@numerable
1738   \else
1739     \ClassWarning{@tugclass}{This year's proceedings may not have
1740       numbered sections}%
1741   \fi
1742 \fi

```

Call `\tugboat`, adding whichever section numbering option is appropriate

```
1743 \LoadClass[\if@proc@numbersec numbersec\else nonumber\fi]{tugboat}
```

4.1 Proceedings titles

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

```
1744 \def\maketitle{%
1745   \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).
```

```
1746   \ifshortAuthor\else
1747     \global\let\rhAuthor\@empty
1748     \def\g@addto@rhAuthor##1{%
1749       \begingroup
1750         \toks@\expandafter{\rhAuthor}%
1751         \let\thanks\@gobble
1752         \protected@xdef\rhAuthor{\the\toks@##1}%
1753       \endgroup
1754     }%
1755     \@getauthorlist\g@addto@rhAuthor
1756   \fi

      now, the real business of setting the title

1757   \ifTB@title
1758     \setcounter{footnote}{0}%
1759     \renewcommand{\thefootnote}{\@fnsymbol\c@footnote}%
1760     \if@tubtwocolumn
1761       \twocolumn[\@maketitle]%
1762     \else
1763       \onecolumn
1764       \global\@topnum\z@
1765       \@maketitle
1766     \fi
1767     \@thanks
1768     \thispagestyle{TBproctitle}
1769   \fi
1770 \endgroup
1771 \TB@madetitletrue
1772 }
1773 \newif\ifTB@madetitle \TB@madetitlefalse
```

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

```
1774 \def\@TB@test@document{%
1775   \edef\@tempa{\the\everypar}
```

```

1776 \def \@tempb{\@nodocument}
1777 \ifx \@tempa\@tempb
1778 \@nodocument
1779 \fi
1780 }

\AUTHORfont Define the fonts for titles and things
\TITLEfont 1781 \def\AUTHORfont {\large\rmfamily\mdseries\upshape}
\addressfont 1782 \def\TITLEfont {\Large\rmfamily\mdseries\upshape}
\netaddrfont 1783 \def\addressfont{\small\rmfamily\mdseries\upshape}
1784 \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 1785 \newskip\aboveauthorskip \aboveauthorskip=18\p@ \@plus4\p@
1786 \newskip\belowauthorskip \belowauthorskip=\aboveauthorskip
1787 \newskip\belowabstractskip \belowabstractskip=14\p@ \@plus3\p@ \@minus2\p@

\@maketitle The body of \maketitle
1788 \def\@maketitle{%
1789 {\parskip\z@
1790 \frenchspacing
1791 \TITLEfont\raggedright\noindent\@title\par
1792 \count@=0
1793 \loop
1794 \ifnum\count@<\authornumber
1795 \vskip\aboveauthorskip
1796 \advance\count@\@ne
1797 {\AUTHORfont\theauthor{\number\count@}\endgraf}%
1798 \addressfont\theaddress{\number\count@}\endgraf
1799 {%
1800 \allowhyphens
1801 \hangindent1.5pc
1802 \netaddrfont\thenetaddress{\number\count@}\endgraf
1803 \hangindent1.5pc
1804 \thePersonalURL{\number\count@}\endgraf
1805 }%
1806 \repeat
1807 \vskip\belowauthorskip}%
1808 \if@abstract
1809 \centerline{\bfseries Abstract}%
1810 \vskip.5\baselineskip\rmfamily
1811 \@tubonecolumnabstractstart
1812 \the\abstract@toks
1813 \@tubonecolumnabstractfinish
1814 \global\@ignoretrue
1815 \fi
1816 \vskip\belowabstractskip
1817 \global\@afterindentfalse\aftergroup\@afterheading
1818 }

```

`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@`

```
1819 \newtoks\abstract@toks \abstract@toks{}
1820 \let\if@abstract\iffalse
1821 \def\abstract{%
```

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

```
1822 \ifTB@madetitle
1823 \TBWarning{abstract environment after \string\maketitle}
1824 \fi
1825 \def\@abstract@{abstract}%
1826 \ifx\@currenvir\@abstract@
1827 \else
1828 \TBEError{\string\abstract\space is illegal:%
1829 \MessageBreak
1830 use \string\begin{\@abstract@} instead}%
1831 {\@abstract@\space may only be used as an environment}
1832 \fi
1833 \global\let\if@abstract\iftrue
1834 {\ifnum0='}\fi
1835 \@abstract@getbody}
1836 \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}`

```
1837 \long\def\@abstract@getbody#1\end{%
1838 \global\abstract@toks\expandafter{\the\abstract@toks#1}%
1839 \@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.

```
1840 \def\@abstract@findend#1{%
1841 \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.

```
1842 \ifx\@tempa\@abstract@
1843 \expandafter\@abstract@end
1844 \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)

```

1845 \def\@tempb{document}%
1846 \ifx\@tempa\@tempb
1847 \TBError{\string\begin{\@abstract@}
1848 ended by \string\end{\@tempb}}%
1849 {You've forgotten \string\end{\@abstract@}}
1850 \else
1851 \global\abstract@toks\expandafter{\the\abstract@toks\end{#1}}%
1852 \expandafter\expandafter\expandafter\@abstract@getbody
1853 \fi
1854 \fi}

```

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

```

1855 \def\@abstract@end{\ifnum0='{ \fi}%
1856 \expandafter\end\expandafter{\@abstract@}}

```

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

```

1857 \renewcommand{\makesignature}{\TBWarning
1858 {\string\makesignature\space is invalid in proceedings issues}}

```

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

```

\ps@TBproc 1859 \def\ps@TBproctitle{\let\@oddhead\MakeRegistrationMarks
\dopagecommands 1860 \let\@evenhead\MakeRegistrationMarks
\setpagecommands 1861 \TB@definefeet
\TB@definefeet 1862 }
\pfoottext 1863 \def\ps@TBproc{%
\rfoottext 1864 \def\@oddhead{\MakeRegistrationMarks
1865 {%
1866 \hfil
1867 \def\{\{ \unskip\ \ignorespaces}%
1868 \rmfamily\rhTitle
1869 }%
1870 }%
1871 \def\@evenhead{\MakeRegistrationMarks
1872 {%
1873 \def\{\{ \unskip\ \ignorespaces}%
1874 \rmfamily\rhAuthor
1875 \hfil
1876 }%
1877 }%
1878 \TB@definefeet
1879 }
1880
1881 \advance\footskip8\p@ % for deeper running feet
1882
1883 \def\dopagecommands{\csname @@pagecommands\number\c@page\endcsname}

```

```

1884 \def\setpagecommands#1#2{\expandafter\def\csname @@pagecommands#1\endcsname
1885   {#2}}
1886 \def\TB@definefeet{%
1887   \def\@oddfoot{\ifpreprint\pfoottext\hfil\Now\hfil\thepage
1888     \else\rfoottext\hfil\thepage\fi\dopagecommands}%
1889   \def\@evenfoot{\ifpreprint\thepage\hfil\Now\hfil\pfoottext
1890     \else\thepage\hfil\rfoottext\fi\dopagecommands}%
1891 }
1892
1893 \def\pfoottext{\smc Preprint:
1894   Proceedings of the \volyr{} Annual Meeting}
1895 \def\rfoottext{\normalfont\TUB, \volx\Dash
1896   {Proceedings of the \volyr{} Annual Meeting}}
1897
1898 \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).

```

1899 \if@proc@numbersec
1900 \else
1901   \setcounter{secnumdepth}{0}
1902 \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.

```

1903 \if@proc@numbersec
1904 \else
1905   \if@proc@sober
1906     \def\section
1907       {\TB@nolimelabel
1908         \TB@startsection{section}%
1909           1%
1910           \z@%
1911           {-8\p@\@plus-2\p@\@minus-2\p@}%
1912           {6\p@}%
1913           {\normalsize\bfseries\raggedright}}
1914   \else
1915     \def\section
1916       {\TB@nolimelabel
1917         \TB@startsection{section}%
1918           1%
1919           \z@%

```

```

1920             {-8\p@\@plus-2\p@\@minus-2\p@}%
1921             {6\p@}%
1922             {\large\bfseries\raggedright}}
1923 \fi
1924 \def\subsection
1925     {\TB@nolimelabel
1926     \TB@startsection{{subsection}%
1927     2%
1928     \z@%
1929     {6\p@\@plus 2\p@\@minus2\p@}%
1930     {-5\p@\@plus -\fontdimen3\the\font}%
1931     {\normalsize\bfseries}}}
1932 \def\subsubsection
1933     {\TB@nolimelabel
1934     \TB@startsection{{subsubsection}%
1935     3%
1936     \parindent%
1937     \z@%
1938     {-5\p@\@plus -\fontdimen3\the\font}%
1939     {\normalsize\bfseries}}}
1940 \fi
1941 \ltugproccls

```

5 Plain T_EX styles

```

1942 \tugboatsty
1943 % err...
1944 \tugboatsty
1945 \tugprocsty
1946 % err...
1947 \tugprocsty

```

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

```

1948 \tugboatsty
1949 \obsoletefile{ltugboat.cls}{ltugboat.sty}
1950 \LoadClass{ltugboat}
1951 \tugboatsty
1952 \tugprocsty
1953 \obsoletefile{ltugproc.cls}{ltugproc.sty}
1954 \LoadClass{ltugproc}
1955 \tugprocsty

```