

Jade DSSSL $\text{\TeX}$ backend macros

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*Maintained at <https://github.com/LaTeX-Package-Repositories/jadetex>

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1 Introduction

1.1 Acknowledgements

Developed from the skeleton by David Megginson (dmeggins@microstar.com), who wrote the original Jade TeX_{FOT}Builder module. This version incorporates support for important changes made by Paul Prescod and Kathleen Marszalek for tables; those changes and the corresponding work in JadeTeX were commissioned by Novare International, to whom considerable thanks are due.

Considerable benefit has been had from corrections, additions and discussions from David Carlisle, Matthias Clasen, Ulrich Drepper and Christian Leutloff.

1.2 Usage

The file `jadetex.ltx` can either be loaded before the Jade output or (better) made into a format file for fast loading; it sits on top of L^AT_EX, so do:

```
tex -ini &hugelatex jadetex.ltx '\dump'
```

Be warned that because many elements can get labelled in JadeTeX, it is easy to run out of memory. You will very likely need to increase poolsize.

If you really want to gain speed and save memory, prepare an even more cut down L^AT_EX with unneeded chunks cut out. (such as the picture environment etc). Be careful and be legal, please.

We build on $\LaTeX$, but do not need a lot of the paraphernalia of the document classes, so we just load the minimal class, designed for this purpose. We also need access to input and output font encoding, color, graphics inclusion, and headers and footers; so we load some standard packages. The `inputenc` option is temporary, and needs more thought. Eventually we want Unicode input working, with Omega.

```

1 (*package)
2 \def\JadeTeXMajorVersion{3}
3 \def\JadeTeXMinorVersion{14}
4 \def\JadeTeXDate{2026/07/30}
5 \documentclass{minimal}
6 \RequirePackage{array}[1995/01/01]
7 \RequirePackage{longtable}[1995/01/01]
8 \RequirePackage{color}[1997/09/09]
9 \RequirePackage{colortbl}
10 \RequirePackage{marvosym}
11 \RequirePackage{graphicx}[1997/06/09]
12 \IfFileExists{multicol.sty}
13   {\RequirePackage{multicol}[1997/12/16]}
14   {\newenvironment{multicols}[1]%
15     {\typeout{Warning, at line \the\inputlineno, multicol package not available}}{}
16 }
17 \RequirePackage[normalem]{ulem}
18 \RequirePackage{fancyhdr}
19 \makeatletter
20 \count@ \time
21 \divide \count@ 60
22 \count2 = - \count@
23 \multiply \count2 60
24 \advance \count2 \time
25 \edef \today {%
26   \the \year / \two@digits{\the \month} / \two@digits{\the \day} : %
27   \two@digits{\the \count@} : \two@digits{\the \count2} }
28 \begingroup
29   \catcode \P = 12
30   \catcode \T = 12
31   \lowercase{\endgroup
32   \gdef \rem@ptetc#1.#2PT#3!{#1\ifnum#2>\z@.#2\fi}%
33 }
34 \def \strip@pt@and@otherjunk#1{\expandafter \rem@ptetc \the #1!}
35 \makeatother
36 \def \TeXFOTversion{0.0}
37 \makeatletter
38 \ifx \pushocplist \@undefined
39   \RequirePackage[implicit=true,colorlinks,linkcolor=black,bookmarks=true]{hyperre
40   \def \PDFBorders{0 0 0}
41   \RequirePackage[dsssl]{inputenc}[1997/12/20]
42   \RequirePackage{mlnames}
43   \RequirePackage{unicode}
44   \def \DefineCharacter#1#2#3{\expandafter \def \csname !#1\endcsname{#3}}
45   \def \DefineEntity#1#2{\expandafter \def \csname Ent#1\endcsname{#2}}
46   \def \Entity#1{\csname Ent#1\endcsname}
47   \input ucharacters.sty
48   \input uentities.sty

```

Define the characters under 127, normally not provided by ucharacters.sty

```

49 \DefineCharacter{32}{20}{\space }
50 \DefineCharacter{33}{21}{!}
51 \DefineCharacter{34}{22}{"}
52 \DefineCharacter{35}{23}{\#}
53 \DefineCharacter{36}{24}{\ifmmode \$\else \textdollar \fi}%
54 \DefineCharacter{37}{25}{\%}
55 \DefineCharacter{38}{26}{\&}
56 \DefineCharacter{39}{27}{\textquotesingle }
57 \DefineCharacter{40}{28}{( }
58 \DefineCharacter{41}{29}{) }
59 \DefineCharacter{42}{2A}{\ensuremath{\ast }}
60 \DefineCharacter{43}{2B}{\ensuremath{+}}
61 \DefineCharacter{44}{2C}{, }
62 \DefineCharacter{45}{2D}{\ensuremath{-}}
63 \DefineCharacter{46}{2E}{. }
64 \DefineCharacter{47}{2F}{/ }
65 \DefineCharacter{48}{30}{0}
66 \DefineCharacter{49}{31}{1}
67 \DefineCharacter{50}{32}{2}
68 \DefineCharacter{51}{33}{3}
69 \DefineCharacter{52}{34}{4}
70 \DefineCharacter{53}{35}{5}
71 \DefineCharacter{54}{36}{6}
72 \DefineCharacter{55}{37}{7}
73 \DefineCharacter{56}{38}{8}
74 \DefineCharacter{57}{39}{9}
75 \DefineCharacter{58}{3A}{:}
76 \DefineCharacter{59}{3B}{\ensuremath{;}}
77 \DefineCharacter{60}{3C}{\ensuremath{<}}
78 \DefineCharacter{61}{3D}{=}
79 \DefineCharacter{62}{3E}{\ensuremath{>}}
80 \DefineCharacter{63}{3F}{?}
81 \DefineCharacter{64}{40}{@}
82 \DefineCharacter{65}{41}{A}
83 \DefineCharacter{66}{42}{B}
84 \DefineCharacter{67}{43}{C}
85 \DefineCharacter{68}{44}{D}
86 \DefineCharacter{69}{45}{E}
87 \DefineCharacter{70}{46}{F}
88 \DefineCharacter{71}{47}{G}
89 \DefineCharacter{72}{48}{H}
90 \DefineCharacter{73}{49}{I}
91 \DefineCharacter{74}{4A}{J}
92 \DefineCharacter{75}{4B}{K}
93 \DefineCharacter{76}{4C}{L}
94 \DefineCharacter{77}{4D}{M}
95 \DefineCharacter{78}{4E}{N}
96 \DefineCharacter{79}{4F}{O}
97 \DefineCharacter{80}{50}{P}
98 \DefineCharacter{81}{51}{Q}
99 \DefineCharacter{82}{52}{R}
100 \DefineCharacter{83}{53}{S}
101 \DefineCharacter{84}{54}{T}

```

```

102 \DefineCharacter{85}{55}{U}
103 \DefineCharacter{86}{56}{V}
104 \DefineCharacter{87}{57}{W}
105 \DefineCharacter{88}{58}{X}
106 \DefineCharacter{89}{59}{Y}
107 \DefineCharacter{90}{5A}{Z}
108 \DefineCharacter{91}{5B}{[ ]}
109 \DefineCharacter{92}{5C}{\ifmmode \backslash \else \textbackslash \fi}%
110 \DefineCharacter{93}{5D}{[ ]}
111 \DefineCharacter{94}{5E}{\^{} }
112 \DefineCharacter{95}{5F}{\ensuremath{\_}}
113 \DefineCharacter{96}{60}{\textasciigrave }
114 \DefineCharacter{97}{61}{a}
115 \DefineCharacter{98}{62}{b}
116 \DefineCharacter{99}{63}{c}
117 \DefineCharacter{100}{64}{d}
118 \DefineCharacter{101}{65}{e}
119 \DefineCharacter{102}{66}{f}
120 \DefineCharacter{103}{67}{g}
121 \DefineCharacter{104}{68}{h}
122 \DefineCharacter{105}{69}{i}
123 \DefineCharacter{106}{6A}{j}
124 \DefineCharacter{107}{6B}{k}
125 \DefineCharacter{108}{6C}{l}
126 \DefineCharacter{109}{6D}{m}
127 \DefineCharacter{110}{6E}{n}
128 \DefineCharacter{111}{6F}{o}
129 \DefineCharacter{112}{70}{p}
130 \DefineCharacter{113}{71}{q}
131 \DefineCharacter{114}{72}{r}
132 \DefineCharacter{115}{73}{s}
133 \DefineCharacter{116}{74}{t}
134 \DefineCharacter{117}{75}{u}
135 \DefineCharacter{118}{76}{v}
136 \DefineCharacter{119}{77}{w}
137 \DefineCharacter{120}{78}{x}
138 \DefineCharacter{121}{79}{y}
139 \DefineCharacter{122}{7A}{z}
140 \DefineCharacter{123}{7B}{\ensuremath{\lbrace }}
141 \DefineCharacter{124}{7C}{\ensuremath{\vert }}
142 \DefineCharacter{125}{7D}{\ensuremath{\rbrace }}
143 \DefineCharacter{126}{7E}{\textasciitilde }
144 \else

```

If we are Omega, do some things differently. From Apostolos Syropoulos <apostolo@ocean1.ee.duth.gr>

```

145 \RequirePackage{omega}[1999/06/01]
146 \background{greek}
147 \RequirePackage{nohyperref}
148 \RequirePackage{mlnames}
149 \fi

```

This was suggested by Matthias Clasen, checking that the macros come from the right version of the Jade TeX backend. The package will have a n.m version number, where the n changes when Jade changes, and the m changes when the JadeTeX package changes.

```

150 \def\checkFOTversion#1{%
151 \ifx\#1\def\TeXFOTmajor{2}
152 \else
153 \def\TeXFOTmajor{#1}%
154 \fi
155 \let\next\relax
156 \ifnum\TeXFOTmajor>\JadeTeXMajorVersion
157 \message{Your file was generated by Jade TeX backend version \TeXFOTmajor}
158 \message{- these macros are for version \JadeTeXMajorVersion and lower. }
159 \message{I'll stop here...}
160 \let\next\@@end
161 \fi
162 \next}

```

2 Inherited characteristics

Here we list the default values; non-inherited characteristics will always be specified.

```

163 \def\AlignLeader{}
164 \def\AsisWrapIndent{}
165 \def\BackgroundColor{}
166 \let\BackgroundColorRed\@empty
167 \def\BackgroundLayer{}
168 \def\BackgroundTile{}
169 \def\BorderAlignment{}
170 \def\BorderOmitAtBreak{}
171 \def\BorderPresent{0}
172 \def\BorderPriority{}
173 \def\BoxBorderAlignment{}
174 \def\BoxCornerRadius{}
175 \def\BoxOpenEnd{}
176 \def\BoxType{}
177 \def\CellBackground{}
178 \def\CellCrossed{}
179 \def\CellRowAlignment{start}
180 \def\CellBeforeRowMargin{\z@}
181 \def\CellAfterRowMargin{\z@}
182 \def\CellBeforeColumnMargin{\z@}
183 \def\CellAfterColumnMargin{\z@}
184 \def\Color{}
185 \def\Country{}
186 \def\DisplayAlignment{}
187 \def\EndIndent{\z@}
188 \def\EndMargin{}
189 \def\ExpandTabs{}
190 \def\FieldAlign{start}
191 \def\FieldWidth{0pt}
192 \def\FillingDirection{}
193 \def\FirstLineStartIndent{0pt}
194 \def\FloatOutLineNumbers{}
195 \def\FloatOutMarginalia{}
196 \def\FloatOutSidelines{}
197 \def\fFamName{Times-Roman} % Use Adobe Times Roman by default
198 \def\fPosture{normal}

```

```

199 \def\fontProportionateWidth{medium}
200 \def\fontSize{10pt}
201 \def\fontStructure{}
202 \def\fontWeight{medium}
203 \def\GlyphAlignmentMode{}
204 \def\GlyphReorderMethod{}
205 \def\GlyphSubstMethod{}
206 \def\HangingPunct{}
207 \def\HeadingLevel{0}
208 \def\Hyphenate{}
209 \def\HyphenationKeep{}
210 \def\HyphenationLadderCount{}
211 \def\HyphenationMethod{}
212 \def\HyphenationPushCharCount{}
213 \def\HyphenationRemainCharCount{}
214 \def\IgnoreRecordEnd{}
215 \def\ImplicitBidiMethod{}
216 \def\InhibitLineBreaks{}
217 \def\InputWhitespaceTreatment{}
218 \def\JustifyGlyphSpaceMaxAdd{}
219 \def\JustifyGlyphSpaceMaxRemove{}
220 \def\KernMode{}
221 \def\Kern{}
222 \def\Language{}
223 \def\LastLineEndIndent{}
224 \def\LastLineJustifyLimit{}
225 \def\LastLineQuadding{}
226 \def\Layer{0}
227 \def\Ligature{}
228 \def\LineBreakingMethod{}
229 \def\LineCap{}
230 \def\LineCompositionMethod{}
231 \def\LineJoin{}
232 \def\LineNumberSep{}
233 \def\LineNumberSide{}
234 \def\LineRepeat{}
235 \def\LineSpacing{12pt}
236 \def\Lines{}
237 \def\MarginaliaKeepWithPrevious{}
238 \def\MarginaliaSep{}
239 \def\MarginaliaSide{}
240 \def\MathDisplayMode{display}
241 \def\MinLeaderRepeat{}
242 \def\MinLeading{2\p@}
243 \def\NColumnsSpanned{1}
244 \def\NumberedLines{}
245 \def\OrphanCount{}
246 \def\PositionPreference{}
247 \def\PrincipalModeSimultaneous{}
248 \def\Quadding{start}
249 \def\ScoreSpaces{}
250 \def\SidelineSep{}
251 \def\SidelineSide{}
252 \def\SpanWeak{}

```

```

253 \def\Span{0}
254 \def\StartIndent{\z@}
255 \def\StartMargin{}
256 \def\TableAutoWidthMethod{}
257 \def\TableCornerRadius{}
258 \def\TablePartOmitMiddleFooter{0}
259 \def\TablePartOmitMiddleHeader{0}
260 \def\TruncateLeader{}
261 \def\WidowCount{}
262 \def\WritingMode{}
263 \def\AlignLeader{1}% true
264 \def\BreakAfter{0}% false
265 \def\BreakAfterPriority{0}%
266 \def\BreakBefore{0}% false
267 \def\BreakBeforePriority{0}%
268 \def\CoalesceId{0}% false
269 \def\EntitySystemId{}% [required]
270 \def\EscapementDirection{}% [=writing-mode]
271 \def\EscapementSpaceAfterNom{\z@}%
272 \def\EscapementSpaceAfterMin{\z@}%
273 \def\EscapementSpaceAfterMax{\z@}%
274 \def\IdrefAddress{}%
275 \def\IsDisplay{0}% false
276 \def\Keep{0}% false
277 \def\KeepWithNext{0}% false
278 \def\KeepWithPrevious{0}% false
279 \def\MayViolateKeepAfter{0}% false
280 \def\MayViolateKeepBefore{0}% false
281 \def\MaxWidth{!}
282 \def\MaxHeight{!}
283 \def\NotationSystemId{}% [required]
284 \def\Orientation{}% [required]
285 \def\PageNColumns{1}
286 \def\PageNumberRestart{0}
287 \def\PageNumberFormat{1}
288 \expandafter\def\csname PageNumbering@1\endcsname#1{%
289     \expandafter\@arabic#1}
290 \expandafter\def\csname PageNumbering@i\endcsname#1{%
291     \expandafter\@roman#1}
292 \expandafter\def\csname PageNumbering@I\endcsname#1{%
293     \expandafter\@Roman#1}
294 \expandafter\def\csname PageNumbering@a\endcsname#1{%
295     \expandafter\@alph#1}
296 \expandafter\def\csname PageNumbering@A\endcsname#1{%
297     \expandafter\@Alph#1}
298 \expandafter\def\csname PageNumbering@0\endcsname#1{% this shouldn't happen
299     \expandafter\@arabic#1}
300 \expandafter\def\csname PageNumbering@\endcsname#1{%
301     \expandafter\@arabic#1}
302 \def\PageBalanceColumns{0}
303 \def\PageTwoSide{0}
304 \def\TwoSideStartOnRight{0}
305 \def\PageColumnSep{\z@}
306 \def\GridColumnSep{\z@}

```

```

307 \def\PositionPointShift{\z@}
308 \def\PositionPointShiftFactor{}
309 \def\PositionPointX{\z@}% ??
310 \def\PositionPointY{\z@}% ??
311 \def\PositionPreference{0}% false
312 \def\ScaleType{max-uniform}%
313 \def\ScaleX{}% [n/a] =scale
314 \def\ScaleY{}% [n/a] =scale
315 \def\ScoreLength{}% ??
316 \def\ScoreType{}% [required] =type
317 \def\sConditional{0}% false =space-after
318 \def\sForce{0}% false =space-after
319 \def\sMax{0pt}% =space-after
320 \def\sMaxFactor{0}% =space-after
321 \def\sMin{0pt}% =space-after
322 \def\sMinFactor{0}% =space-after
323 \def\sNom{0pt}% =space-after
324 \def\sNomFactor{0}% =space-after
325 \def\sPriority{0}% =space-after
326 \let\@sAfterMin\sMin
327 \let\@sAfterMax\sMax
328 \let\@sAfterNom\sNom
329 \let\@sAfterPriority\sPriority
330 \def\sbConditional{0}% false
331 \def\sbForce{0}% false
332 \def\sbMax{0pt}%
333 \def\sbMaxFactor{0}%
334 \def\sbMin{0pt}%
335 \def\sbMinFactor{0}%
336 \def\sbNom{0pt}%
337 \def\sbNomFactor{0}%
338 \def\sbPriority{0}%
339 \newdimen\CurrentSpaceNom
340 \newdimen\CurrentSpaceMin
341 \newdimen\CurrentSpaceMax
342 \newdimen\LastSpaceNom
343 \newdimen\LastSpaceMin
344 \newdimen\LastSpaceMax
345 \CurrentSpaceNom\z@
346 \CurrentSpaceMax\z@
347 \CurrentSpaceMin\z@
348 \LastSpaceNom\z@
349 \LastSpaceMax\z@
350 \LastSpaceMin\z@
351 \def\LastSpaceConditional{0}% false
352 \def\LastSpaceForce{0}% false
353 \def\LastSpaceMaxFactor{0}%
354 \def\LastSpaceMinFactor{0}%
355 \def\LastSpaceNomFactor{0}%
356 \def\LastSpacePriority{0}%
357 \def\TruncateLeader{0}% false
358 \def\Width{}% [required] *
359 \def\Length{}% [context]
360 \def\TableWidth{\hsize}%

```

```

361 \def\ColumnIndex{}% [contextual] =column-number?
362 \def\HeaderMargin{\z@}
363 \def\FooterMargin{\z@}
364 \def\LeftMargin{\z@}
365 \def\RightMargin{\z@}
366 \def\TopMargin{\z@}
367 \def\BottomMargin{\z@}
368 \def\PageWidth{211mm}
369 \def\PageHeight{297mm}
370 \def\placement{htbp}
371 \edef\OldFontSize{\fSize}
372 \edef\OldLineSpacing{\LineSpacing}
373 \edef\OldFontPosture{\fPosture}
374 \edef\OldFontProportionateWidth{\fProportionateWidth}
375 \edef\OldFontWeight{\fWeight}
376 \edef\OldfFamName{\fFamName}
377 \let\pageFontSize\fSize
378 \let\pageLineSpacing\LineSpacing
379 \let\pageFontPosture\fPosture
380 \let\pageFontProportionateWidth\fProportionateWidth
381 \let\pageFontWeight\fWeight
382 \let\pagefFamName\fFamName
383 \let\ColorRed\@empty
384 \def\listitem@content@mode{listitem-content-mode}
385 \newtoks\JadeTeXtoks
386 \def\@displaylevel{0}
387 \def\NoLig#1{#1\ifmmode\else\\fi}
388 \def\DEBUG#1{\typeout{DBG: #1 at \the\inputlineno}}

```

3 Nodes and labels

A node in mode ‘listitem-content-mode’ is allowed to be labeled, but normally only elements in empty mode get labels.

```

389 \let\Label\@empty
390 \let\Element\@empty
391 \def\Node#1{%
392 \ifnum\Mathcount>1\relax
393 \else
394 \ifx\\#1\\\else
395 \let\ProcessingMode\@empty
396 #1%
397 \ifx\ProcessingMode\@empty\else
398 \ifx\ProcessingMode\listitem@content@mode\else
399 \let\Label\@empty\let\Element\@empty
400 \fi
401 \fi
402 % \typeout{Node <\Label> or <\Element> -- pending at \the\inputlineno}%
403 \fi
404 \fi
405 }
406 \def\endNode#1{%
407 \let\Label\@empty\let\Element\@empty%\noindent
408 }

```

```

409 \def\PageLabel#1{%
410   \@bsphack
411   \expandafter\ifx\csname p@#1\endcsname\relax
412   \else
413   \protected@write\@auxout{}%
414     {\string\pagelabel{#1}{\thepage}}%
415   \fi
416   \@esphack}
417 \def\OriginalPageLabel#1{%
418   \@bsphack\protected@write\@auxout{}%
419     {\string\pagelabel{#1}{\thepage}}\@esphack}
420 \def\pagelabel#1#2{\global\@namedef{p@#1}{#2}}
421 \def\Pageref#1{\expandafter\@Setref\csname p@#1\endcsname{#1}}
422 \def\@qqq{qqq}
423 \def\@Setref#1#2{%
424   \ifx#1\relax
425     \immediate\write\@mainaux{\string\pagelabel{#2}{qqq}}%
426     \protect\G@refundefinedtrue
427     \nfss@text{\reset@font\bfseries ??}%
428     \@latex@warning{Reference `#2' on page \thepage \space
429       undefined}%
430   \else
431     \ifx#1\@qqq
432       \protect\G@refundefinedtrue
433       \nfss@text{\reset@font\bfseries ??}%
434       \@latex@warning{Reference `#2' on page \thepage \space undefined}%
435     \else
436       \ifNestedLink{#1}%
437       \else
438         \hyper@@link[Page]{}{page.#1}{#1}%
439 %       \typeout{Made a Link at \the\inputlineno, to page.#1}%
440       \fi
441     \fi
442   \fi
443 }
444 %
445 \def\insertCurrentNodePageNumber#1{%
446   \bgroup
447   \SetupICs{#1}%
448   \InlineNIC
449   \ifx\Label\@empty
450     \Pageref{\Element}%
451   \else
452     \Pageref{\Label}%
453   \fi
454   \endInlineNIC
455   \endSetupICs
456   \egroup
457 }

```

4 Atomic flow objects

```

458 \def\insertAlignmentPoint#1{}

```

4.1 Maths

4.1.1 General math sequences

```
459 \def\@display{display}
```

We are likely to meet nested math sequences, so maintain a counter to determine if we are at the outer level, and should turn math (display or inline) off or on.

```
460 \newcount\Mathcount
461 \def\MathSeq#1{%
462   \bgroup
463   \SetupICs{#1}%
464   \FlowObjectSetup{0}%
465   \global\advance\Mathcount by 1%
466   \let\Action\relax
467   \ifnum\Mathcount=1
468     \ifx\MathDisplayMode\@display
469       \let\Action\Dmath
470     \else
471       \let\Action\Imath
472     \fi
473   \fi
474   \Action
475 }
476 \def\endMathSeq{%
477   \global\advance\Mathcount by -1%
478   \let\Action\relax
479   \ifnum\Mathcount=0
480     \ifx\MathDisplayMode\@display\let\Action\endDmath\else\let\Action\Imath\fi
481   \fi
482   \Action
483   \endSetupICs
484   \egroup
485 }
486 \def\Dmath{\begingroup\abovedisplayskip\Jadeskip\global\Jadeskip\z@\[]
487 \def\endDmath{\}\endgroup}
488 \def\Imath{$}
489 \def\Cleanmath{\def\Node##1{}\def\endNode##1{}%
490 \def\MathSeq##1{}\def\endMathSeq##1{}
491 }
```

4.1.2 Fences

```
492 \def\FenceSerial#1#2#3#4{#1\FlowObjectSetup{0}%
493 {\Cleanmath
494 %
495 % #1: fence characteristics
496 % #2: fence contents
497 % #3 open character
498 % #4 close character
499 %
500 \ifx\#3\\\left.\else
501 \let\plainCharacter\Character
502 \let\Character\LeftDelimiterCharacter #3%
503 \let\Character\plainCharacter\fi
504 {#2}%
```

```

505 \ifx\\#4\\right.\else
506 \let\plainCharacter\Character
507 \let\Character\RightDelimiterCharacter #4%
508 \let\Character\plainCharacter\fi
509 }%
510 }

```

Simon Pepping added this, to really make sure the open and close characters of the fence are proper left and right.

```

511 \let\plainCharacter\Character
512 \def\LeftDelimiterCharacter#1{\DelimiterCharacter\left{#1}}%
513 \def\RightDelimiterCharacter#1{\DelimiterCharacter\right{#1}}%
514 \def\DelimiterCharacter#1#2{%
515   \SetupICs{}%
516   \expandafter\ifx\csname !#2\endcsname\relax
517     <#2>\typeout{Warning: Unknown character #2, at \the\inputlineno}%
518   \else\expandafter#1\csname !#2\endcsname\fi % #1 is \left or \right
519   \ifdim\EscapementSpaceAfterNom=\z@
520   \else
521     \@tempdima\EscapementSpaceAfterNom
522     \advance\@tempdima by -\EscapementSpaceAfterMin
523     \@tempdimb\EscapementSpaceAfterNom
524     \advance\@tempdimb by -\EscapementSpaceAfterMax
525     \hskip\EscapementSpaceAfterNom plus \@tempdimb minus \@tempdima%
526   \fi
527   \endSetupICs{}%
528 }

```

4.1.3 Fractions

These simply translate into {Numerator \over Denominator}

```

529 \def\FractionSerial#1{#1\FlowObjectSetup{0}\bgroup}
530 \def\endFractionSerial{\egroup}
531 \def\FractionDenominator{}
532 \def\endFractionDenominator{}
533 \def\FractionNumerator{}
534 \def\endFractionNumerator{\over }
535 \def\insertFractionBar{}

```

4.1.4 Marks

Waiting to be implemented.

```

536 \def\MarkOver#1#2\endMarkOver{}
537 \def\MarkUnder#1#2\endMarkUnder{}
538 \def\MarkSerial#1{}
539 \def\endMarkSerial{}

```

4.1.5 Operators/limits

```

540 \def\MathOperatorSerial#1{#1\FlowObjectSetup{0}\begingroup\Cleanmath}
541 \def\endMathOperatorSerial{\endgroup}
542 \def\MathOperatorOperator#1#2\endMathOperatorOperator#3{#1%
543   \mathop{#2}}
544 \def\MathOperatorLowerLimit#1{#1_\bgroup}
545 \def\endMathOperatorLowerLimit#1{\egroup}

```

```

546 \def\MathOperatorUpperLimit#1{#1^\bgroup}
547 \def\endMathOperatorUpperLimit#1{\egroup}

```

4.1.6 Radicals

```

548 \def\RadicalSerial#1\insertRadicalRadicalDefaulted#2#3\RadicalDegree#4#5\endRadical
549 \ifx\\#5\\\ensuremath{\sqrt{#3}}\else\ensuremath{\root #5 \of {#3}}\fi}

```

4.1.7 Grids

```

550 \newcount\GridCells
551 \newcount\GridRows
552 \newif\ifExplicitGrid
553 \def\Grid#1{#1%
554   \begingroup
555   \FlowObjectSetup{0}%
556   \Cleanmath
557   \global\GridCells\@ne\global\GridRows0
558   \ifnum\NColumns=0 \ExplicitGridtrue\def\NColumns{25}%
559   \else\ExplicitGridfalse\fi
560   \begin{array}{*{\NColumns}{c}}%
561 }
562 \def\endGrid{\end{array}\endgroup}
563 \def\GridCell#1{#1\FlowObjectSetup{0}}
564 \def\endGridCell#1{%
565   \ifnum\NColumns=\GridCells
566     \global\GridCells\@ne
567     \def\@tempa{\cr}%
568   \else
569     \global\advance\GridCells\@ne
570     \def\@tempa{&%
571   \fi
572   \@tempa}
573 \def\NewColumn{&}
574 \def\NewRow{\}

```

4.1.8 Superscript, subscript

```

575 \def\Subscript#1#2{_{#2}}
576 \def\Superscript#1#2{^{#2}}

```

4.1.9 Unmath

```

577 \def\Unmath#1#2{%
578   {\SetupICs{#1}\mbox{#2}\endSetupICs}%
579 }

```

4.1.10 ScriptSerial

```

580 \def\ScriptSerial#1#2#3#4#5#6#7#8{%
581   \ifx$#3#4$%
582   \else
583     \vphantom{#2}_{#4}^{#3}%
584   \fi
585   \ifx$#7#8$%
586     {#2}%
587   \else
588     {\mathop{#2}\limits_{#8}^{#7}}\vphantom{#2}%

```

```

589 \fi
590 _{#6}^{#5}}

```

4.2 External Graphic flow object class (clause 12.6.15)

How we include graphics depends on the NotationSystemId. Ulrich Drepper <drepper@ipd.info.uni-karlsruhe.de> worked this out, and he also made the alignment and indentation work correctly. If any other notation needs special handling it can be implemented by adding a macro `insertExternalGraphicNotationXXX` where XXX is the notation name.

```

591 \def\insertExternalGraphic#1{%
592   \begingroup
593   \SetupICs{#1}%
594   \expandafter\ifx\csname insertExternalGraphicNotation\NotationSystemId\endcsname
595   \insertExternalGraphicNotation%
596   \else
597   \csname insertExternalGraphicNotation\NotationSystemId\endcsname
598   \fi
599 \endgroup
600 }
601 \newbox\jadeGraphic
602 \newdimen\jadeGraphicHeight
603 \newdimen\jadeGraphicWidth
604 \def\insertExternalGraphicNotation{%
605   \ifnum\@TableNest>0\def\IsDisplay{0}\fi
606   \ExternalGraphicNIC
607   \ifcase\IsDisplay
608 % 0, its inline
609   \setbox\jadeGraphic=\hbox{\expandafter\IncludeGraphic\EntitySystemId\}%
610   \noindent%Enter hmode
611   \ifdim\PositionPointX>\z@
612     \kern -\PositionPointX
613   \fi
614   \ifnum\Layer>0%
615 % Graphic drawn at layer > 0 overwrites surrounding text
616     \jadeGraphicWidth=\wd\jadeGraphic
617     \raisebox{-\PositionPointY}{\z@}{\z@}{\box\jadeGraphic}
618     \kern\PositionPointX\kern-\jadeGraphicWidth
619   \else
620     \jadeGraphicHeight=\ht\jadeGraphic
621     \advance\jadeGraphicHeight by \dp\jadeGraphic
622     \advance\jadeGraphicHeight by -\PositionPointY
623     \raisebox{-\PositionPointY}{\jadeGraphicHeight}{\PositionPointY}{%
624 \box\jadeGraphic
625   }%
626   \fi
627 % 1 its display
628 \or%
629   \DisplayNIC
630   \@@par%
631   \@tempdima\columnwidth
632   \nointerlineskip
633   \ifdim\EndIndent>\z@
634     \advance\@tempdima by-\EndIndent
635   \fi

```

```

636 \ifdim\StartIndent>\z@
637 \advance\@tempdima by-\StartIndent
638 \moveright\StartIndent
639 \fi
640 \hbox to\@tempdima{%
641 \ifx\DisplayAlignment\A@center\hfill\fi%
642 \ifx\DisplayAlignment\A@end\hfill\fi%
643 \expandafter\IncludeGraphic\EntitySystemId\\%
644 \ifx\DisplayAlignment\A@center\hfill\fi%
645 \ifx\DisplayAlignment\A@start\hfill\fi%
646 }%
647 \@@par%
648 \else%
649 \expandafter\IncludeGraphic\EntitySystemId\\%
650 \fi
651 \endExternalGraphicNIC
652 \ifcase\IsDisplay
653 \or
654 \endDisplayNIC
655 \fi
656 }
657 \def\insertExternalGraphicNotationTEX{%
658 \input\EntitySystemId
659 }
660 \def\IncludeGraphic{\@ifnextchar<\@IncludeGraphic\@IncludeGraphic<>}}
661 \def\scale@max{max}
662 \def\scale@false{false}
663 \def\scale@maxuniform{max-uniform}

```

There are three situations: `ScaleX` and `ScaleY` are supplied (possibly identical), in which case `ScaleType` is ‘false’, or `ScaleType` is ‘max’ or ‘max-uniform’ (the default); in the latter cases, use `MaxWidth` and `MaxHeight`, with and without preserved aspect ratio. The width and height default to $\LaTeX$ graphics package ‘!’, ie their natural size. I *think* this is the right interpretation of the standard.

```

664 \def\Exclams{!!}
665 \def\@IncludeGraphic<#1>#2\\{%
666 \ifx\ScaleType\scale@false
667 \ifx\ScaleX\ScaleY
668 \scalebox{\ScaleX}{\includegraphics{#2}}%
669 \else
670 \scalebox{\ScaleX}[\ScaleY]{\includegraphics{#2}}%
671 \fi
672 \else
673 \ifx\ScaleType\scale@maxuniform
674 \edef\MaxBoth{\MaxHeight\MaxWidth}%
675 \ifx\MaxBoth\Exclams
676 \includegraphics{#2}%
677 \else
678 \includegraphics[width=\MaxWidth,keepaspectratio=true,
679 height=\MaxHeight]{#2}%
680 \fi
681 \else
682 \ifx\ScaleType\scale@max
683 \includegraphics[width=\MaxWidth,height=\MaxHeight,

```

```

684         keepaspectratio=false]{#2}%
685     \else
686         \typeout{ERROR: invalid scale type of \ScaleType}%
687     \fi
688 \fi
689 \fi
690 }
691 \def\insertPageNumber#1{#1%
692   \csname PageNumbering@\PageNumberFormat\endcsname\c@page}
693 \def\insertParagraphBreak#1{\@@par}
694 %
695 \def\horizontal{horizontal}
696 \def\vertical{vertical}
697 \def\escapement{escapement}
698 \def\LineThickness{1pt}
699 \def\A@center{center}
700 \def\A@end{end}
701 \def\A@start{start}
702 \def\insertRule#1{%
703   \bgroup
704   \SetupICs{#1}%
705   \def\IsDisplay{0}
706   \ifx\Orientation\horizontal\def\IsDisplay{1}\fi
707   \ifx\Orientation\vertical\def\IsDisplay{1}\fi
708   \RuleNIC
709   \ifcase\IsDisplay
710 % 0, its inline
711     \ifx\Orientation\escapement
712         \ifx\Length\@empty
713 % Length isn't specified, so it depends of the context.
714 % No rule is a good context ;-)
715         \else
716             \noindent\raisebox{\PositionPointShift}[\z@][\z@]{\vrule width \Length hei
717             \ifnum\Layer>0
718                 \kern-\Length%
719             \fi
720             \fi
721         \else
722 % Line-progression orientation doesn't affect placement of subsequent
723 % flow object. [Note 104]
724         \ifx\Length\@empty
725 % Length isn't specified, so it depends of the context.
726 % No rule is a good context ;-)
727         \else
728             \raisebox{\PositionPointShift}[\z@][\z@]{\vrule width \LineThickness heigh
729             \fi
730             \kern-\LineThickness%
731             \fi
732 % 1 its display
733     \or%
734         \DisplayNIC
735         \@@par%
736         \@tempdima\linewidth
737         \nointerlineskip

```

```

738 \ifdim\EndIndent>\z@
739 \advance\@tempdima by-\EndIndent
740 \fi
741 \ifdim\StartIndent>\z@
742 \advance\@tempdima by-\StartIndent
743 \moveright\StartIndent
744 \fi
745 \hbox to\@tempdima{%
746 \ifx\DisplayAlignment\A@center\hfill\fi
747 \ifx\DisplayAlignment\A@end\hfill\fi
748 \ifx\Orientation\horizontal
749 \ifx\Length\@empty\else \hbox to \Length\fi
750 {\leaders\hrule height \LineThickness \hfill}%
751 \else
752 \hbox to \LineThickness {\leaders\hrule
753 \ifx\Length\@empty\else height \Length \fi \relax
754 \hfill}%
755 \fi
756 \ifx\DisplayAlignment\A@center\hfill\fi
757 \ifx\DisplayAlignment\A@start\hfill\fi
758 }%
759 \nointerlineskip
760 \@@par%
761 \else%
762 % Unknown IsDisplay
763 \typeout{ERROR: invalid IsDisplay value of \IsDisplay}%
764 \fi
765 \endRuleNIC
766 \ifcase\IsDisplay
767 \or
768 \endDisplayNIC
769 \fi
770 \endSetupICs
771 \egroup
772 }

```

4.3 Tables

```

773 \setlength\arraycolsep\z@
774 \setlength\tabcolsep\z@
775 %\extrarowheight3\p@
776 \setlength\arrayrulewidth{.4\p@}
777 \setlength\doublerulesep{2\p@}
778 \def\arraybackslash{\let\=\@arraycr}
779 \renewcommand{\arraystretch}{0}
780 % Those are for backward compatibility
781 \newcolumntype{L}[1]{>\raggedright\arraybackslash}p{#1}}
782 \newcolumntype{C}[1]{>\centering\arraybackslash}p{#1}}
783 \newcolumntype{R}[1]{>\raggedleft\arraybackslash}p{#1}}
784 % Those columns defs follows the direction of the corresponding
785 % keys on a QWERTY keyboard.
786 \newcolumntype{T}[3]{@{\hspace{#1}}>\raggedright\arraybackslash}p{#2}@{\hspace{#3}}
787 \newcolumntype{Y}[3]{@{\hspace{#1}}>\centering\arraybackslash}p{#2}@{\hspace{#3}}
788 \newcolumntype{U}[3]{@{\hspace{#1}}>\raggedleft\arraybackslash}p{#2}@{\hspace{#3}}

```

```

789 \newcolumntype{G}[3]{@{\hspace{#1}}>\raggedright\arraybackslash m{#2}@{\hspace{#3}}
790 \newcolumntype{H}[3]{@{\hspace{#1}}>\centering\arraybackslash m{#2}@{\hspace{#3}}
791 \newcolumntype{J}[3]{@{\hspace{#1}}>\raggedleft\arraybackslash m{#2}@{\hspace{#3}}
792 \newcolumntype{B}[3]{@{\hspace{#1}}>\raggedright\arraybackslash b{#2}@{\hspace{#3}}
793 \newcolumntype{N}[3]{@{\hspace{#1}}>\centering\arraybackslash b{#2}@{\hspace{#3}}
794 \newcolumntype{M}[3]{@{\hspace{#1}}>\raggedleft\arraybackslash b{#2}@{\hspace{#3}}
795 % The numeric column types follows the numeric keypad direction
796 % and support colour
797 \newcolumntype{7}[4]{@{\hspace{#1}}>\columncolor[rgb]{#4}\raggedright\arraybackslash
798 \newcolumntype{8}[4]{@{\hspace{#1}}>\columncolor[rgb]{#4}\centering\arraybackslash
799 \newcolumntype{9}[4]{@{\hspace{#1}}>\columncolor[rgb]{#4}\raggedleft\arraybackslash
800 \newcolumntype{4}[4]{@{\hspace{#1}}>\columncolor[rgb]{#4}\raggedright\arraybackslash
801 \newcolumntype{5}[4]{@{\hspace{#1}}>\columncolor[rgb]{#4}\centering\arraybackslash
802 \newcolumntype{6}[4]{@{\hspace{#1}}>\columncolor[rgb]{#4}\raggedleft\arraybackslash
803 \newcolumntype{1}[4]{@{\hspace{#1}}>\columncolor[rgb]{#4}\raggedright\arraybackslash
804 \newcolumntype{2}[4]{@{\hspace{#1}}>\columncolor[rgb]{#4}\centering\arraybackslash
805 \newcolumntype{3}[4]{@{\hspace{#1}}>\columncolor[rgb]{#4}\raggedleft\arraybackslash
806 \newcount\@tmpcounta
807 \def\JadeRowSpanBox#1{\csname jadeRowSpanBox#1\endcsname}
808 \def\JadeRowSpanSpace#1{\csname jadeRowSpanSpace#1\endcsname}
809 \def\JadeRowSpan{%
810 \expandafter\ifx\csname jadeRowSpanBox\ColumnName\endcsname\relax
811 \expandafter\newbox\csname jadeRowSpanBox\ColumnName\endcsname
812 \expandafter\newdimen\csname jadeRowSpanSpace\ColumnName\endcsname
813 \fi
814 \setbox\JadeRowSpanBox{\ColumnName}\vtop\bgroup\noindent%
815 }
816 \def\endJadeRowSpan{%
817 \egroup%
818 \global\JadeRowSpanSpace{\ColumnName}\ht\JadeRowSpanBox{\ColumnName}%
819 \global\advance\JadeRowSpanSpace{\ColumnName} by \dp\JadeRowSpanBox{\ColumnName}
820 \@tempdima\ht\JadeRowSpanBox{\ColumnName}%
821 \@tempdimb\dp\JadeRowSpanBox{\ColumnName}%
822 \@tmpcounta\NRowsSpanned%
823 \advance\@tmpcounta by -1%
824 \@tempdima\CellBeforeRowMargin%
825 \@tempdimb\CellAfterRowMargin%
826 \multiply\@tempdima by \@tmpcounta%
827 \multiply\@tempdimb by \@tmpcounta%
828 \global\advance\JadeRowSpanSpace{\ColumnName} by -\@tempdima%
829 \global\advance\JadeRowSpanSpace{\ColumnName} by -\@tempdimb%
830 \global\divide\JadeRowSpanSpace{\ColumnName} by \NRowsSpanned%
831 \vtop to \JadeRowSpanSpace{\ColumnName}{\unvbox\JadeRowSpanBox{\ColumnName}}
832 }
833 \def\JadeRowSpanFiller{%
834 \expandafter\ifx\csname jadeRowSpanBox\ColumnName\endcsname\relax
835 \errmessage{Invalid row span identifier}
836 \fi
837 \vtop to \JadeRowSpanSpace{\ColumnName}{}%
838 }
839 \def\insertTableAfterColumnBorder#1{}
840 \def\insertTableAfterRowBorder#1{}
841 \def\insertTableBeforeColumnBorder#1{}
842 \def\insertTableBeforeRowBorder#1{}

```

```

843 %
844 \def\insertTableCellAfterColumnBorder#1{\edef\AfterCol{\BorderPresent}}
845 \def\insertTableCellAfterRowBorder#1{\edef\AfterRow{\BorderPresent}}
846 \def\insertTableCellBeforeColumnBorder#1{\edef\BeforeCol{\BorderPresent}}
847 \def\insertTableCellBeforeRowBorder#1{\edef\BeforeRow{\BorderPresent}}
848 \def\insertTableColumn#1{#1}

```

5 Non-atomic flow objects

5.1 Box flow object class

```

849 \def\BOX#1{%
850   \SetupICs{#1}%
851   \fboxrule\LineThickness
852   \@tempdima\columnwidth
853   \ifdim\EndIndent>\z@
854     \advance\@tempdima by-\EndIndent
855   \fi
856   \ifdim\StartIndent>\z@
857     \advance\@tempdima by-\StartIndent
858     \hspace*\@tempdima
859   \fi
860   \advance\@tempdima by-\StartIndent
861   \setbox0\vbox\bgroup\def\StartIndent{\z@}\hsize\@tempdima\ignorespaces}
862 \def\endBOX{%
863   \ifhmode\unskip\fi
864   \egroup%
865   % FIXME: we aren't handling box-type: 'both
866   \ifx\BackgroundColorRed\empty
867     \ifdim\ht0>\ht\strutbox
868       \noindent\fbox{\box0}%
869     \else
870       \setbox0\vbox{\unvbox0\global\setbox1\lastbox}%
871       \noindent\fbox{\kern-\parindent\unhbox1\unskip\unskip}%
872     \fi
873   \else
874     \c@lor@RGB@rgb{\BackgroundColorRed}\@tempa
875     \c@lor@RGB@rgb{\BackgroundColorGreen}\@tempb
876     \c@lor@RGB@rgb{\BackgroundColorBlue}\@tempc
877     \ifdim\ht0>\ht\strutbox
878       \noindent\colorbox[rgb]{\@tempa, \@tempb, \@tempc}{\box0}%
879     \else
880       \setbox0\vbox{\unvbox0\global\setbox1\lastbox}%
881       \noindent\colorbox[rgb]{\@tempa, \@tempb, \@tempc}{\kern-\parindent\unhbox1\unskip\unskip}%
882     \fi
883 \fi%
884 }

```

5.2 Multicolumn management macros

Contributed by Simon Pepping.

```

885 \def\closeOrOpenMulticols#1{%
886   % juggling with nesting levels
887   {#1\global\edef\SavedSpan{\Span}}%
888   \ifnum\@displaylevel=0\relax\ifnum\PageNColumns>1\relax

```

```

889 % close
890 \ifnum\SavedSpan>1\relax
891   \ifnum\col@number>1\relax % in multicol
892     \ifnum\PageBalanceColumns>0
893       \end{multicol}
894     \else
895       % \endmulticol*
896       \vfill\end{multicol}
897     \fi
898   \fi
899 % or delayed open
900 \else % not \ifnum\SavedSpan>1\relax
901   \ifnum\col@number=1 % not in multicol
902     \columnsep\PageColumnSep
903     \ifnum\PageBalanceColumns>0
904       \begin{multicol}{\PageNColumns}
905     \else
906       % \begin{multicol*}{\PageNColumns}
907       \let\balance@columns@out
908       \multi@column@out
909       \begin{multicol}{\PageNColumns}
910     \fi
911   \fi
912 \fi
913 \fi\fi
914 }
915
916 \def\openMulticol{%
917 \ifnum\@displaylevel=0\relax
918   \def\@displaylevel{1}%
919   % local to this nesting level, for use by endDisplayGroup
920   \edef\@SavedSpan{\SavedSpan}
921   \ifnum\PageNColumns>1\relax
922     \ifnum\@SavedSpan>1\relax
923   \ifnum\@SavedSpan=\PageNColumns\else
924     \columnsep\PageColumnSep
925     \ifnum\PageBalanceColumns>0
926       \begin{multicol}{\PageNColumns}
927     \else
928       % \begin{multicol*}{\PageNColumns}
929       \let\balance@columns@out
930       \multi@column@out
931       \begin{multicol}{\PageNColumns}
932     \fi
933   \fi
934   \fi
935   \fi
936 \else
937   \def\@displaylevel{2}%
938 \fi
939 }
940
941 \def\closeMulticol{%
942 \ifnum\@displaylevel=1\ifnum\PageNColumns>1\relax

```

```

943 \ifnum\@SavedSpan>1\relax
944 \ifnum\@SavedSpan=\PageNColumns\else
945 \ifnum\PageBalanceColumns>0
946 \end{multicols}
947 \else
948 % \endmulticols*
949 \vfill\end{multicols}
950 \fi
951 \fi
952 \fi
953 \fi\fi
954 }

```

5.3 Display group flow object class (clause 12.6.2)

```

955 \def\Keep@Page{page}
956 \def\Keep@Column{column}
957 \newif\ifKeepPage
958 \KeepPagefalse
959 \def\DisplayGroup#1{\ifnum\@TableNest>0\SetupICs{#1}\else\@DisplayGroup{#1}\fi}
960 \def\@DisplayGroup#1{%
961 \closeOrOpenMulticols{#1}
962 \begingroup
963 \SetupICs{#1}%
964 \FlowObjectSetup{1}%
965 \ifx\Keep\Keep@Page\KeepPagetrue
966 \else
967 \ifx\Keep\Keep@Column\KeepPagetrue
968 \else
969 \KeepPagefalse
970 \fi
971 \fi
972 \ifKeepPage
973 \vbox\bgroup
974 \fi
975 \DisplayGroupNIC
976 \ifnum\Mathcount>0\relax
977 \else\everypar{\UseJadevskip{everypar}}\@@par
978 \fi
979 \FlowObjectSetup{1}%
980 \openMulticols
981 }
982 \def\endDisplayGroup#1{\ifnum\@TableNest>0\else\@endDisplayGroup{#1}\fi}
983 \def\@endDisplayGroup#1{%
984 \closeMulticols
985 \ifnum\Mathcount>0\relax\else
986 \@@par
987 \fi
988 \endDisplayGroupNIC
989 \ifKeepPage
990 \egroup
991 \fi
992 \endgroup
993 \gdef\SavedSpan{0}%

```

This eats the parindent, and then restores an empty everypar; it is called by an implicit start of hmode. Contributed by Simon Pepping.

```

994 \everypar{{\leavevmode\setbox\z@\lastbox \UseJadevskip{everypar}}}%
995 \everypar{\UseJadevskip {everypar}}}%
996 }
997 }

```

5.4 Leader flow object class

```

998 \newsavebox{\leaderbox}
999 \def\Leader#1{#1\begin{LRbox}{\leaderbox}}
1000 \def\endLeader{\end{LRbox}\noindent\leaders\box\leaderbox\hfill}

```

5.5 Line Field flow object class

Field align can be *start*, *end*, or *center*.

```

1001 \newsavebox\dssslbox
1002 \def\LRbox#1{%
1003   \edef\reserved@a{%
1004     \endgroup
1005     \setbox#1\hbox{%
1006       \begingroup\aftergroup}%
1007     \def\noexpand\@currenvir{\@currenvir}}%
1008   \reserved@a
1009   \@endpefalse
1010   \color@setgroup\ignorespaces
1011 }
1012 \def\LRboxW#1#2{%
1013   \edef\reserved@a{%
1014     \endgroup
1015     \setbox#1\hbox to #2{%
1016       \begingroup\aftergroup}%
1017     \def\noexpand\@currenvir{\@currenvir}}%
1018   \reserved@a
1019   \@endpefalse
1020   \color@setgroup\ignorespaces
1021 }
1022 \def\endLRbox{\color@endgroup}
1023 \let\endLRboxW\endLRbox
1024 \def\LineField#1{\bgroup
1025   \SetupICs{#1}%
1026   \LineFieldNIC
1027   \FlowObjectSetup{0}%
1028   \begin{LRbox}{\dssslbox}%
1029 }
1030 \def\endLineField{%
1031   \end{LRbox}%
1032   \ifdim\wd\dssslbox>\FieldWidth\def\FieldWidth{\wd\dssslbox}\fi
1033   \makebox[\FieldWidth][\csname Fld@\FieldAlign\endcsname]{%
1034     \ifdim\PositionPointShift=\z@
1035       \usebox{\dssslbox}%
1036     \else
1037       \raisebox{\PositionPointShift}{\usebox{\dssslbox}}%
1038     \fi
1039   \EndSetFont}%

```

```

1040 \endLineFieldNIC
1041 \endSetupICs
1042 \egroup
1043 }
1044 %

```

5.6 Link flow object class (clause 12.6.28.3)

```

1045 \newif\ifLabelElements
1046 \LabelElementstrue
1047 \newif\ifNestedLink
1048 \NestedLinkfalse
1049 \def\LinkType{link}
1050 \def\Link#1{%
1051   \begingroup
1052   \SetupICs{#1}%
1053   \ifx\Label\@empty\let\Label\Element\fi
1054 %   \typeout{Made a Link at \the\inputlineno, to \Label}%
1055   \hyper@linkstart{\LinkType}{\Label}%
1056   \NestedLinktrue
1057 }
1058 \def\endLink{%
1059   \hyper@linkend
1060   \NestedLinkfalse
1061   \endSetupICs
1062   \endgroup
1063 }

```

5.7 Marginalia flow object class (clause 12.6.28.4)

```

1064 \def\Marginalia#1{#1\FlowObjectSetup{0}}
1065 \def\endMarginalia{}

```

5.8 Paragraph flow object class (clause 12.6.6)

<i>Characteristic</i>	<i>Inh.</i>	<i>Values</i>	<i>Default</i>	<i>Dsssl-o</i>
lines	I	wrap, asis, asis-wrap*, asis-truncate*, none	wrap	Partial
asis-truncate- char	I	<i>#f, char object</i>		Ignore
asis-wrap-char	I	<i>#f, char object</i>		Ignore
asis-wrap-indent	I	<i>length-spec</i>		Ignore
first-line-align	I	<i>#f, char object</i>		Ignore
alignment-point- offset	I	<i>#f, number between 0 and 100</i>		Ignore
ignore-record- end?	I	<i>#f, #t</i>	<i>#f</i>	Standard
expand-tabs?	I	<i>#f, integer greater than zero</i>	8	Standard
line-spacing	I	<i>length-spec</i>	12pt	Standard

<i>Characteristic</i>	<i>Inh.</i>	<i>Values</i>	<i>Default</i>	<i>Dsssl-o</i>
line-spacing-priority	I	force, <i>integer</i>	0	Default
min-pre-line-spacing	I	#f, <i>length-spec</i>	#f	Default
min-post-line-spacing	I	#f, <i>length-spec</i>	#f	Default
min-leading	I	#f, <i>length-spec</i>	#f	Standard
first-line-start-indent	I	<i>length-spec</i>	0m	Standard
last-line-end-indent	I	<i>length-spec</i>	0m	Default
hyphenation-char	I	<i>character</i>		Ignore
hyphenation-method	I	#f, <i>public identifier</i>	#f	Default
hyphenation-ladder-count	I	#f, <i>integer greater than zero</i>	#f	Default
hyphenation-remain-char-count	I	<i>positive integer</i>	2	Ignore
hyphenation-push-char-count	I	<i>positive integer</i>	2	Ignore
hyphenation-keep	I	#f, spread, page, column	#f	Default
hyphenation-exceptions	I	<i>list of strings</i>	empty list	Default
line-breaking-method	I	#f, <i>public identifier</i>	#f	Default
line-composition-method	I	#f, <i>public identifier</i>	#f	Default
implicit-bidi-method	I	#f, <i>public identifier</i>		Default
glyph-alignment-mode	I	base, center, top, bottom, font	font	Default
font-family-name	I	#f, <i>string</i>	iso-serif	Standard
font-weight	I	#f, not-applicable*, ultra-light*, extra-light*, light, semi-light*, medium, semi-bold*, bold, extra-bold*, ultra-bold*	medium	Partial
font-posture	I	#f, not-applicable*, upright, oblique, back-slanted-oblique*, italic, back-slanted-italic*	upright	Partial
font-structure	I	#f, not-applicable, solid, outline	solid	Default

<i>Characteristic</i>	<i>Inh.</i>	<i>Values</i>	<i>Default</i>	<i>Dsssl-o</i>
font-proportionate-width	I	#f, not-applicable*, ultra-condensed*, extra-condensed*, condensed, semi-condensed*, medium, semi-expanded*, expanded, extra-expanded*, ultra-expanded*	medium	Partial
font-name	I	#f, <i>public identifier</i>		Standard
font-size	I	<i>length</i>	10pt	Standard
numbered-lines?	I	#f, #t	#t	Ignore
line-number	I	#f, <i>unlabeled sosofo</i>		Ignore
line-number-side	I	start, end, spread-inside, spread-outside, page-inside, page-outside		Ignore
line-number-sep	I	<i>length-spec</i>		Ignore
quadding	I	start, end, spread-inside*, spread-outside*, page-inside*, page-outside*, center, justify*	start	Partial
last-line-quadding	I	relative, start, end, spread-inside, spread-outside, page-inside, page-outside, center, justify	relative	Default
last-line-justify-limit	I	<i>length-spec</i>	0	Ignore
justify-glyph-space-max-add	I	<i>length-spec</i>	0m	Ignore
justify-glyph-space-max-remove	I	<i>length-spec</i>	0m	Ignore
hanging-punct?	I	#f, #t	#f	Default
widow-count	I	<i>positive integer</i>	2	Default
orphan-count	I	<i>positive integer</i>	2	Default
language	I	#f, <i>ISO 639 language code</i>	#f	Standard
country	I	#f, <i>ISO 3166 country code</i>	#f	Standard
position-preference	N	#f, top, bottom	#f	Ignore

<i>Characteristic</i>	<i>Inh.</i>	<i>Values</i>	<i>Default</i>	<i>Dsssl-o</i>
writing-mode	I	left-to-right, right-to-left, top-to-bottom	left-to-right	Default
start-indent	I	<i>length-spec</i>	0m	Standard
end-indent	I	<i>length-spec</i>	0m	Standard
span	I	<i>integer greater than zero</i>	1	Default
span-weak?	I	#f, #t	#f	Default
space-before	N	<i>display space</i>	no space before	Standard
space-after	N	<i>display space</i>	no space after	Standard
keep-with-previous?	N	#f, #t	#f	Standard
keep-with-next?	N	#f, #t	#f	Standard
break-before	N	#f, page, page-region*, column*, column-set*	#f	Partial
break-after	N	#f, page, page-region*, column*, column-set*	#f	Partial
keep	N	#f, page, column-set*, column*, #t*	#f	Partial
may-violate-keep-before?	N	#f, #t	#f	Default
may-violate-keep-after?	N	#f, #t	#f	Default

```

1066 \newcount\@TablePars
1067 \newcount\@ParNest
1068 \newcount\@TableNest
1069 \def\Par#1{%

```

We need to end the current paragraph, with its current line spacing, hyphenation, what have you, before anything is done. This could have horrible repercussions, but something like it is necessary.

```

1070 \everypar{\UseJadevskip{everypar}}\@@par
1071 \closeOrOpenMulticols{#1}
1072 \begingroup
1073 \SetupICs{#1}%
1074 \ParagraphNIC
1075 \FlowObjectSetup{1}%
1076 \openMulticols
1077 \paraSetup%
1078 }
1079 \def\TablePar#1{%
1080 \begingroup
1081 \let\@action\relax
1082 \global\advance\@ParNest by 1

```

```

1083 \ifnum \@ParNest=1
1084     \ifnum \@TablePars>0%
1085         \def \@action{\@@par}%\@arraycr}%
1086     \fi
1087 \else
1088     \ifnum \@ParNest>1
1089         \ifnum \@TablePars>0\def \@action{\par}\fi
1090     \fi
1091 \fi
1092 \@action
1093 \SetupICs{#1}%
1094 \csname startQ@\Quadding\endcsname
1095 \FlowObjectSetup{1}%
1096 \paraSetup%
1097 }
1098 \def \FootnotePar#1{%
1099 \begingroup
1100 \let \@action\relax
1101 \global\advance \@ParNest by 1
1102 \ifnum \@ParNest=1
1103     \ifnum \@FootnotePars>0%
1104         \def \@action{\@@par}%
1105     \fi
1106 \else
1107     \ifnum \@ParNest>1
1108         \ifnum \@FootnotePars>0\def \@action{\par}\fi
1109     \fi
1110 \fi
1111 \@action
1112 \SetupICs{#1}%
1113 \csname startQ@\Quadding\endcsname
1114 \FlowObjectSetup{1}%
1115 \paraSetup%
1116 }
1117 \def \HeadPar#1{\Par{#1}}
1118 \setcounter{tocdepth}{99}
1119 \def \@mysect#1#2#3{%
1120 \edef \@thislabel{\csname theH#1\endcsname}%
1121 \pdfbookmark{#2}{#3}{\@thislabel}%
1122 }

```

From J.-M. Kubek, for PDF bookmarks

```

1123 \newcounter {headingOne}
1124 \newcounter {headingTwo} [headingOne]
1125 \newcounter {headingThree} [headingTwo]
1126 \newcounter {headingFour} [headingThree]
1127 \newcounter {headingFive} [headingFour]
1128 \def \theHheadingOne{\arabic{headingOne}}
1129 \def \theHheadingTwo{\theHheadingOne.\arabic{headingTwo}}
1130 \def \theHheadingThree{\theHheadingTwo.\arabic{headingThree}}
1131 \def \theHheadingFour{\theHheadingThree.\arabic{headingFour}}
1132 \def \theHheadingFive{\theHheadingFour.\arabic{headingFive}}
1133 \def \endHeadPar#1{%
1134 \ifnum \@TableNest>0
1135     \ifnum \@ParNest>1

```

```

1136         \ifnum \@TablePars>0\box\@@par\fi
1137     \fi
1138     \csname endQ@\Quadding\endcsname\null
1139     \global\advance\@TablePars by 1
1140     \global\advance\@ParNest by -1
1141 \else
1142     \ifnum\HeadingLevel>0%
1143         \ifnum\HeadingLevel=1%
1144             \addtocounter{headingOne}{1}%
1145             \@mysect{headingOne}{0}{\HeadingText}%
1146         \else\ifnum\HeadingLevel=2%
1147             \addtocounter{headingTwo}{1}%
1148             \@mysect{headingTwo}{1}{\HeadingText}%
1149         \else\ifnum\HeadingLevel=3%
1150             \addtocounter{headingThree}{1}%
1151             \@mysect{headingThree}{2}{\HeadingText}%
1152         \else\ifnum\HeadingLevel=4%
1153             \addtocounter{headingFour}{1}%
1154             \@mysect{headingFour}{3}{\HeadingText}%
1155         \else\ifnum\HeadingLevel=5%
1156             \addtocounter{headingFive}{1}%
1157             \@mysect{headingFive}{4}{\HeadingText}%
1158         \fi
1159     \fi
1160 \fi
1161 \fi
1162 \fi
1163 \fi
1164 % SP
1165 \closeMulticols
1166 \@@par
1167 \endParagraphNIC
1168 \fi
1169 \endSetupICs
1170 \endgroup

```

This eats the parindent, and then restores an empty everypar; it is called by an implicit start of hmode. Contributed by Simon Pepping.

```

1171 \everypar{{\leavevmode\setbox\z@\lastbox \UseJadevskip{everypar}}}%
1172 \everypar{\UseJadevskip {everypar}}%
1173 }
1174 }
1175 \def\endPar#1{%
1176     \ifnum \@TableNest>0
1177         \let\@action\relax
1178         \ifnum \@ParNest>1
1179             \ifnum \@TablePars>0\def\@action{\@@par}\fi
1180         \fi
1181         \@action
1182         \csname endQ@\Quadding\endcsname\null
1183         \global\advance\@TablePars by 1
1184         \global\advance\@ParNest by -1
1185     \else
1186 % SP

```

```

1187 \closeMulticols
1188 \@@par
1189 \endParagraphNIC
1190 \fi
1191 \endSetupICs
1192 \endgroup

```

This eats the parindent, and then restores an empty everypar; it is called by an implicit start of hmode. Contributed by Simon Pepping.

```

1193 \everypar{{\leavevmode\setbox\z@\lastbox \UseJadevskip{everypar}}}%
1194 \everypar{\UseJadevskip {everypar}}%
1195 }
1196 }
1197 \def\endFootnotePar#1{%
1198 \let\@action\relax
1199 \ifnum\@ParNest>1
1200 \ifnum\@FootnotePars>0\def\@action{\@@par}\fi
1201 \fi
1202 \@action
1203 \csname endQ@Quadding\endcsname\null
1204 \global\advance\@FootnotePars by 1
1205 \global\advance\@ParNest by -1
1206 \endSetupICs
1207 \endgroup
1208 \everypar{{\leavevmode\setbox\z@\lastbox \UseJadevskip{everypar}}}%
1209 \everypar{\UseJadevskip {everypar}}%
1210 }
1211 }

```

5.9 Score flow object class (clause 12.6.17)

No support for: score-spaces, color or line-thickness yet.

```

1212 \def\Scoreafter{\uline}
1213 \def\Scorethrough{\sout}
1214 \def\Scorebefore{}
1215 \def\Score#1#2\endScore{#1%
1216 \csname Score\ScoreType\endcsname{#2}%
1217 }

```

5.10 Scroll flow object class (clause 12.6.28.1)

```

1218 \def\Scroll{\SpS}
1219 \def\endScroll{\endSpS}

```

5.11 Sequence flow object class (clause 12.6.1)

We have to allow for the document starting with a sequence, not a simple page sequence, so we check if the ‘begin document’ work has been done.

```

1220 \newdimen\CurPosShift\CurPosShift\z@
1221 \newif\if@Raised
1222 \def\Seq#1{%
1223 \ifInSpS\beginngroup\fi
1224 \SetupICs{#1}%
1225 \ifx \@nodocument\relax

```

```

1226 \else
1227 \typeout{Jade begin document sequence at \the\inputlineno}%
1228 \JadeSetPage
1229 \JadeBeginDocument
1230 \ifnum\PageNColumns>1
1231 \columnsep\PageColumnSep
1232 \ifnum\PageBalanceColumns>0
1233 \begin{multicols}{\PageNColumns}
1234 \else
1235 % begin{\multicols*}{\PageNColumns}
1236 \let\balance@columns@out
1237 \multi@column@out
1238 \begin{multicols}{\PageNColumns}
1239 \fi
1240 \fi
1241 \fi
1242 \FlowObjectSetup{0}%
1243 \@Raisedfalse
1244 \ifdim\PositionPointShift=\CurPosShift
1245 \else
1246 \@tempdima\PositionPointShift
1247 \ifdim\PositionPointShift>\CurPosShift
1248 \advance\@tempdima by -\CurPosShift
1249 \else
1250 \advance\@tempdima by \CurPosShift
1251 \fi
1252 \CurPosShift\PositionPointShift
1253 \@Raisedtrue
1254 \fi
1255 \ifnum\@TableNest>0\else\if@Raised\leavevmode\raise\@tempdima\hbox\bgroup\fi\fi
1256 }
1257 \def\endSeq{%
1258 \ifnum\@TableNest>0\else\if@Raised\egroup\fi\fi
1259 \EndSetFont
1260 \endSetupICs
1261 \@Raisedfalse
1262 \ifInSpS\endgroup\fi
1263 }

```

5.12 Side Line flow object class

```

1264 \def\SideLine#1{#1}
1265 \def\endSideLine{}

```

5.13 Simple Page Sequence flow object class (clause 12.6.3)

Look out for the canonical 1in margins in TeX systems!

```

1266 \def\JadeSetPage{%
1267 \ifnum\PageNumberRestart=1
1268 \global\c@page \@ne
1269 \fi
1270 \ifnum\PageTwoSide=0
1271 \global\@twosidefalse
1272 \else

```

```

1273 \global\@twoside>true
1274 \fi
1275 \oddsidemargin\LeftMargin
1276 \ifnum\PageTwoSide=0
1277 \evensidemargin\LeftMargin
1278 \else
1279 \evensidemargin\RightMargin
1280 \fi
1281 \topmargin\HeaderMargin
1282 \headheight\LineSpacing
1283 \headsep\TopMargin
1284 \advance\headsep by -\HeaderMargin
1285 \advance\headsep by -\LineSpacing
1286 \footskip\BottomMargin
1287 \advance\footskip by -\FooterMargin
1288 \paperwidth\PageWidth
1289 \paperheight\PageHeight
1290 \textheight\paperheight
1291 \textwidth\paperwidth
1292 \advance\textheight by -\TopMargin
1293 \advance\textheight by -\BottomMargin
1294 \advance\textwidth by -\LeftMargin
1295 \advance\textwidth by -\RightMargin
1296 \ifx\pdfimage\@undefined
1297 \else
1298 \global\pdfpagewidth\paperwidth
1299 \global\pdfpageheight\paperheight
1300 \fi
1301 \@colht\textheight
1302 \@colroom\textheight
1303 \vsize\textheight
1304 \headwidth\textwidth
1305 \linewidth\textwidth
1306 \columnwidth\textwidth
1307 \hsize\columnwidth \linewidth\hsize
1308 \headheight12pt
1309 \let\pageFontSize\fSize
1310 \let\pageLineSpacing\LineSpacing
1311 \let\pageFontPosture\fPosture
1312 \let\pageFontProportionateWidth\fProportionateWidth
1313 \let\pageFontWeight\fWeight
1314 \let\pageFamName\fFamName
1315 \arraycolsep\GridColumnSep
1316 }
1317 % initialize it
1318 \JadeSetPage
1319 \def\JadeBeginDocument{%
We borrow most of the code of \begin{document}; we do not want it all, as it inter-
poses an unwanted group.
1320 \@clubpenalty\clubpenalty
1321 \begingroup\@floatplacement\@dblfloatplacement
1322 \makeatletter\let\@writefile\@gobbletwo
1323 \global\let\@multiplelabels\relax

```

```

1324 \input{\jobname.aux}%
1325 \endgroup
1326 \immediate\openout\@mainaux\jobname.aux
1327 \immediate\write\@mainaux{\relax}%
1328 \process@table
1329 \let\glb@currsz\@empty %% Force math initialisation.
1330 \normalsize
1331 \everypar{\UseJadevskip{everypar}}%
1332 \noskipsecfalse
1333 \let \@refundefined \relax
1334 \let\AtBeginDocument\@firstofone
1335 \ifdim\topskip<1sp\global\topskip 1sp\relax\fi
1336 \global\@maxdepth\maxdepth
1337 \expl@sys@load@backend@@
1338 \@kernel@before@begindocument
1339 \UseOneTimeHook{begindocument}%
1340 \@kernel@after@begindocument
1341 \global\let\@begindocumenthook\@undefined
1342 \global\let\@filelist\relax
1343 \global\let\@addtofilelist\@gobble
1344 \gdef\do##1{\global\let ##1\@notprerr}%
1345 \@preamblecmds
1346 \global\let \@nodocument \relax
1347 \global\let\do\noexpand
1348 \ignorespaces
1349 }
1350 \newif\ifInSpS
1351 \def\SpS#1{%
1352 \InSpStrue
1353 \DoFOBSettrue
1354 \SetupICs{#1}%
1355 \gdef\thepage{\csname PageNumbering@\PageNumberFormat\endcsname\c@page}%

```

The basic page setup needs to be delayed to this point, otherwise the first page will be ‘frozen’ in the format file. So check here whether we are at the start of the document, and if so trigger L^AT_EX’s `\begin{document}`. This is a pain, delaying the start of the document. It means that documents which don’t have a simple-page- sequence at the start will fail.

```

1356 \JadeSetPage
1357 \ifx \@nodocument\relax
1358 \else
1359 \JadeBeginDocument
1360 \fi

```

Grouping is turned on now we are inside a simple page sequence. but is itself inside a group of the page sequence. The problem is that if we start a Sequence, then start a PageSequence, the `\begin{document}` occurs inside a group, and so gets in a mess. If we turn off grouping outside simple page sequences, any changes become global! Does it make sense to have material not in a page sequence, in TeX? Sadly, yes. The document will still *start* in non-group mode.

```

1361 \closeOrOpenMulticols{#1}%
1362 \DisplayNIC
1363 \openMulticols
1364 \FlowObjectSetup{0}%

```

```

1365 }
1366 \def\endSpS{%
1367   \DoFOBSetfalse
1368   \ifnum\PageNColumns>1\relax
1369     \ifnum\col@number>1\relax % in multicols
1370       \ifnum\PageBalanceColumns>0
1371         \end{multicols}
1372       \else
1373         % \endmulticols*
1374         \vfill\end{multicols}
1375       \fi
1376     \fi
1377   \fi
1378   \if@twoside
1379     \ifnum\TwoSideStartOnRight=1
1380       \cleardoublepage
1381     \else
1382       \clearpage
1383     \fi
1384   \else
1385     \clearpage
1386   \fi
1387   \fancyhf{}%
1388   \endDisplayNIC
1389   \let\FancyHook\@empty
1390   \let\FancyFirstHook\@empty
1391   \global\let\@sAfterMin\saMin
1392   \global\let\@sAfterMax\saMax
1393   \global\let\@sAfterNom\saNom
1394   \global\let\@sAfterPriority\saPriority
1395   \InSpSfalse
1396 }

```

5.14 Headers and footers

```

1397 \def\SpSCenterFooter#1{\Setfoot[C]{#1}{CenterFooter}}
1398 \def\SpSCenterHeader#1{\Sethead[C]{#1}{CenterHeader}}
1399 \def\SpSLeftFooter#1{\Setfoot[L]{#1}{LeftFooter}}
1400 \def\SpSLeftHeader#1{\Sethead[L]{#1}{LeftHeader}}
1401 \def\SpSRightFooter#1{\Setfoot[R]{#1}{RightFooter}}
1402 \def\SpSRightHeader#1{\Sethead[R]{#1}{RightHeader}}
1403 %
1404 \def\SpSOtherBackCenterFooter#1{\Setfoot[CE]{#1}{OtherBackCenterFooter}}
1405 \def\SpSOtherBackLeftFooter#1{\Setfoot[LE]{#1}{OtherBackLeftFooter}}
1406 \def\SpSOtherBackRightFooter#1{\Setfoot[RE]{#1}{OtherBackRightFooter}}
1407 \def\SpSOtherBackRightHeader#1{\Sethead[RE]{#1}{OtherBackRightHeader}}
1408 \def\SpSOtherBackCenterHeader#1{\Sethead[CE]{#1}{OtherBackCenterHeader}}
1409 \def\SpSOtherBackLeftHeader#1{\Sethead[LE]{#1}{OtherBackLeftHeader}}
1410 %
1411 \def\SpSOtherFrontCenterFooter#1{\Setfoot[CO]{#1}{OtherFrontCenterFooter}}
1412 \def\SpSOtherFrontLeftFooter#1{\Setfoot[LO]{#1}{OtherFrontLeftFooter}}
1413 \def\SpSOtherFrontRightFooter#1{\Setfoot[RO]{#1}{OtherFrontRightFooter}}
1414 \def\SpSOtherFrontRightHeader#1{\Sethead[RO]{#1}{OtherFrontRightHeader}}
1415 \def\SpSOtherFrontCenterHeader#1{\Sethead[CO]{#1}{OtherFrontCenterHeader}}

```

```

1416 \def\SpSOtherFrontLeftHeader#1{\Sethead[LO]{#1}{OtherFrontLeftHeader}}
1417 %
1418 \def\SpSFirstBackCenterFooter#1{\SetFirstfoot[CE]{#1}{FirstBackCenterFooter}}
1419 \def\SpSFirstBackLeftFooter#1{\SetFirstfoot[LE]{#1}{FirstBackLeftFooter}}
1420 \def\SpSFirstBackRightFooter#1{\SetFirstfoot[RE]{#1}{FirstBackRightFooter}}
1421 \def\SpSFirstBackCenterHeader#1{\SetFirsthead[CE]{#1}{FirstBackCenterHeader}}
1422 \def\SpSFirstBackLeftHeader#1{\SetFirsthead[LE]{#1}{FirstBackLeftHeader}}
1423 \def\SpSFirstBackRightHeader#1{\SetFirsthead[RE]{#1}{FirstBackRightHeader}}
1424
1425 \def\SpSFirstFrontCenterFooter#1{\SetFirstfoot[CO]{#1}{FirstFrontCenterFooter}}
1426 \def\SpSFirstFrontLeftFooter#1{\SetFirstfoot[LO]{#1}{FirstFrontLeftFooter}}
1427 \def\SpSFirstFrontRightFooter#1{\SetFirstfoot[RO]{#1}{FirstFrontRightFooter}}
1428 \def\SpSFirstFrontCenterHeader#1{\SetFirsthead[CO]{#1}{FirstFrontCenterHeader}}
1429 \def\SpSFirstFrontLeftHeader#1{\SetFirsthead[LO]{#1}{FirstFrontLeftHeader}}
1430 \def\SpSFirstFrontRightHeader#1{\SetFirsthead[RO]{#1}{FirstFrontRightHeader}}
1431 \SetFirsthead[RO]{#1}{FirstFrontRightHeader}%

```

This one comes last, so now set up page styles. YUCK!

```

1432 \pagestyle{jadeother}%
1433 \thispagestyle{jadefirst}%
1434 }
1435 \fancypagestyle{jadeother}{\fancyhf{}\FancyHook}%
1436 \fancypagestyle{jadefirst}{\fancyhf{}\FancyFirstHook}%
1437 %
1438 \def\Sethead[#1]#2#3{%
1439 \ifx\#2\\\relax\else
1440 \g@addto@macro\FancyHook{\fancyhead[#1]{\setnormal#2}}%
1441 \fi
1442 }
1443 \def\Setfoot[#1]#2#3{%
1444 \ifx\#2\\\relax\else
1445 \g@addto@macro\FancyHook{\fancyfoot[#1]{\setnormal#2}}%
1446 \fi
1447 }
1448 \def\SetFirsthead[#1]#2#3{%
1449 \ifx\#2\\\relax\else
1450 \g@addto@macro\FancyFirstHook{\fancyhead[#1]{\setnormal#2}}%
1451 \fi
1452 }
1453 \def\SetFirstfoot[#1]#2#3{%
1454 \ifx\#2\\\relax\else
1455 \g@addto@macro\FancyFirstHook{\fancyfoot[#1]{\setnormal#2}}%
1456 \fi
1457 }
1458 \def\FancyHook{}
1459 \def\FancyFirstHook{}
1460 \pagestyle{jadeother}

```

5.15 Table flow object class

```

1461 \def\Table#1{\TableNIC\UseJadevskip{table}\SetupICs{#1}}
1462 \def\endTable{\endSetupICs\endTableNIC}
1463 \def\@full{full}
1464 \LTpre=\z@
1465 \LTpost=\z@
1466 \newenvironment{TeXTable}[3]{% width, ncolumns, template

```

```

1467 \global\advance\@TableNest by 1
1468 \ifx\TableWidth\@full\def\TableWidth{\hsize}\fi
1469 \FlowObjectSetup{0}%
1470 \let\Node\@gobble
1471 \let\endNode\@gobble
1472 \let\Par\TablePar
1473 \setlength\LTleft\StartIndent
1474 \setlength\LTRight\fill
1475 \ifnum\PageNColumns>1
1476   \tabular{#3}%
1477 \else
1478   \ifnum\@TableNest>1
1479     \tabular{#3}%
1480   \else
1481     \longtable{#3}%
1482   \fi
1483 \fi
1484 }{%
1485 \ifnum\PageNColumns>1
1486   \endtabular
1487 \else
1488   \ifnum\@TableNest>1
1489     \endtabular
1490   \else
1491     \endlongtable
1492   \fi
1493 \fi
1494 \ifvoid\@mpfootins\else
1495   \vskip\skip\@mpfootins
1496   \normalcolor
1497   \unvbox\@mpfootins
1498 \fi
1499 \global\advance\@TableNest by -1
1500 }

```

5.16 Table Cell flow object class

```

1501 \def\Hline{\hline}
1502 \def\Cline{\cline}
1503 \let\TeXTableCell=\multicolumn
1504 \def\TableCell#1{%
1505   \TableCellNIC%
1506   \SetupICs{#1}%
1507   \FlowObjectSetup{0}%
1508   \rule[2ex]{0pt}{\CellBeforeRowMargin}%
1509   \global\@TablePars0%
1510   \ifnum\NRowsSpanned>1% Row spanning
1511     \JadeRowSpan%
1512   \else
1513     \ifnum\TeXRowSpanFiller>0%
1514       \JadeRowSpanFiller
1515     \fi
1516   \fi%
1517 }
1518 \def\endTableCell#1{%

```

```

1519 \ifnum\NRowsSpanned>1%
1520 \endJadeRowSpan%
1521 \fi
1522 \rule[-\CellAfterRowMargin]{0pt}{0pt}%
1523 \endSetupICs
1524 \endTableCellNIC
1525 }

```

5.17 Table Part flow object class

```

1526 \def\TablePart#1{#1\FlowObjectSetup{0}}
1527 \def\TablePartHeader#1{}
1528 \def\TablePartFooter#1{}
1529 \def\endTablePartFooter#1{}
1530 \def\endTablePartHeader#1{%
1531 \ifnum\TablePartOmitMiddleHeader=1
1532 \endfirsthead
1533 \else
1534 \endhead
1535 \fi}
1536 \def\endTablePart{}

```

5.18 Table Row flow object class

```

1537 \def\TableRow#1{#1}
1538 \def\endTableRow#1{\}

```

5.19 Character mapping

```

1539 \def\Character#1{%
1540 \SetupICs{}%
1541 \ifnum#1<255\char#1\else
1542 \expandafter\ifx\csname !#1\endcsname\relax
1543 <#1>\typeout{Warning: Unknown character #1, at \the\inputlineno}%
1544 \else\csname !#1\endcsname\fi
1545 \fi
1546 \ifdim\EscapementSpaceAfterNom=\z@
1547 \else
1548 \@tempdima\EscapementSpaceAfterNom
1549 \advance\@tempdima by -\EscapementSpaceAfterMin
1550 \@tempdimb\EscapementSpaceAfterNom
1551 \advance\@tempdimb by -\EscapementSpaceAfterMax
1552 \hskip\EscapementSpaceAfterNom plus \@tempdimb minus \@tempdima%
1553 \fi
1554 \endSetupICs{}%
1555 }

```

5.20 DisplayNIC

```

1556 \newcount\DisplayStack
1557 \newcount\LastDisplayStack
1558 \newif\ifBreakMe
1559 \newif\ifJadeskipready
1560 \Jadeskipreadyfalse
1561 \newskip\Jadeskip
1562 \newskip\Jadelastskip
1563 \newskip\jadetempskip

```

```

1564 \BreakMefalse
1565 \DisplayStack0
1566 \LastDisplayStack-1
1567 \let\@sBeforeMin\sbMin
1568 \let\@sBeforeMax\sbMax
1569 \let\@sBeforeNom\sbNom
1570 \let\@sBeforePriority\sbPriority
1571 \def\@force{force}
1572 \def\Jadevskip#1#2{\global\Jadeskipreadytrue\global\Jadeskip#1\relax}
1573 \def\UseJadevskip#1{%
1574   \global\Jadeskipreadyfalse
1575   \ifdim\Jadeskip=\z@\else
1576     \ifvmode
1577       \vskip\Jadeskip\global\Jadeskip\z@
1578     \else
1579       \setbox\z@\lastbox\par
1580       \vskip\Jadeskip\global\Jadeskip\z@
1581       {\everypar{}\noindent\box\z@}%
1582     \fi
1583   \fi
1584 }
1585 \def\QueryPageBreak{%
1586 \ifBreakMe
1587   \ifvmode
1588     \penalty \@M
1589   \else
1590     \@bsphack
1591     \vadjust{\penalty \@M}%
1592     \@esphack
1593   \fi
1594 \else
1595   \ifnum\KeepWithNext=1
1596     \penalty-600
1597   \else
1598     \penalty \z@
1599   \fi
1600 \fi
1601 }
1602 \def\DisplayNIC{%
1603 \advance\DisplayStack by 1
1604 \QueryPageBreak

```

What we are trying to identify is a display which starts inside another display.

```

1605 % \ifnum\DisplayStack>\LastDisplayStack
1606 %   \def\sbPriority{force}%
1607 %   \def\LastSpaceBeforePriority{0}%
1608 % \fi
1609 \let\@sAfterMin\saMin
1610 \let\@sAfterMax\saMax
1611 \let\@sAfterNom\saNom
1612 \let\@sAfterPriority\saPriority
1613 %
1614 \begingroup
1615 \ifx\BreakBefore\relax\else
1616   \csname Break@\BreakBefore\endcsname

```

```

1617 \fi
1618 \CurrentSpaceMin=\sbMin
1619 \CurrentSpaceNom=\sbNom
1620 \CurrentSpaceMax=\sbMax
1621 %
1622 \edef\CurrentSpacePriority{\sbPriority}%

```

See if either display space priority is set to ‘force’; if so, use that set of values; if both priorities are ‘force’, add values together

```

1623 \ifx\sbPriority\@force
1624   \ifx\LastSpacePriority\@force
1625     \advance\CurrentSpaceMin by \LastSpaceMin
1626     \advance\CurrentSpaceNom by \LastSpaceNom
1627     \advance\CurrentSpaceMax by \LastSpaceMax
1628   \fi
1629 \else
1630   \ifx\LastSpacePriority\@force
1631     \CurrentSpaceMin=\LastSpaceMin
1632     \CurrentSpaceNom=\LastSpaceNom
1633     \CurrentSpaceMax=\LastSpaceMax

```

See if the priority of either set is higher, if so use that

```

1634 \else
1635   \ifnum\CurrentSpacePriority>\LastSpacePriority
1636     \relax
1637   \else
1638     \ifnum\LastSpacePriority>\CurrentSpacePriority
1639       \CurrentSpaceMin=\LastSpaceMin
1640       \CurrentSpaceNom=\LastSpaceNom
1641       \CurrentSpaceMax=\LastSpaceMax
1642     \else

```

So the priorities are equal; take the one with the larger Nom

```

1643       \ifdim\CurrentSpaceNom>\LastSpaceNom
1644         \relax
1645       \else
1646         \ifdim\LastSpaceNom>\CurrentSpaceNom
1647           \CurrentSpaceMin=\LastSpaceMin
1648           \CurrentSpaceNom=\LastSpaceNom
1649           \CurrentSpaceMax=\LastSpaceMax
1650         \else

```

Dang, the Noms are equal. Take the larger minimum, and smaller maximum

```

1651           \ifdim\LastSpaceMax<\CurrentSpaceMax
1652             \CurrentSpaceMax\LastSpaceMax
1653           \fi
1654           \ifdim\LastSpaceMin>\CurrentSpaceMin
1655             \CurrentSpaceMin\LastSpaceMin
1656           \fi
1657         \fi
1658       \fi
1659     \fi
1660   \fi
1661 \fi
1662 \fi
1663 \@tempdima\CurrentSpaceNom
1664 \advance\@tempdima by -\CurrentSpaceMin

```

```

1665 \@tempdimb\CurrentSpaceNom
1666 \advance\@tempdimb by -\CurrentSpaceMax
1667 \QueryPageBreak
1668 \jadetempskip=\CurrentSpaceNom plus \@tempdimb minus \@tempdima
1669 \Jadevskip{\the\jadetempskip}{startDisplayNIC}%
1670 \let\Keep\relax
1671 \let\BreakBefore\relax
1672 \let\BreakAfter\relax
1673 \let\KeepWithPrevious\relax
1674 \let\MayViolateKeepBefore\relax
1675 \let\MayViolateKeepAfter\relax
1676 \def\sbMin{\z@}%
1677 \def\sbMax{\z@}%
1678 \def\sbNom{\z@}%
1679 \def\sbPriority{0}%
1680 \def\saMin{\z@}%
1681 \def\saMax{\z@}%
1682 \def\saNom{\z@}%
1683 \def\saPriority{0}%
1684 \ifdim\Jadeskip=\z@\else\the\everypar\fi
1685 }
1686 \def\endDisplayNIC{%
1687 \ifnum\KeepWithNext=1
1688 \penalty\@M\global\BreakMettrue\else\global\BreakMefalse
1689 \fi
1690 \ifdim\Jadeskip=\z@\else\the\everypar\fi
1691 \endgroup
1692 \global\LastSpaceNom=\@sAfterNom
1693 \global\LastSpaceMax=\@sAfterMax
1694 \global\LastSpaceMin=\@sAfterMin
1695 \global\edef\LastSpacePriority{\@sAfterPriority}%
1696 \@tempdima\@sAfterNom
1697 \advance\@tempdima by -\@sAfterMin
1698 \@tempdimb\@sAfterNom
1699 \advance\@tempdimb by -\@sAfterMax
1700 \jadetempskip=\@sAfterNom plus \@tempdimb minus \@tempdima
1701 \Jadevskip{\the\jadetempskip}{endDisplayNIC}%
1702 \global\LastDisplayStack=\DisplayStack
1703 \advance\DisplayStack by -1
1704 }
1705 \def\paraSetup{%
1706 \rightskip\EndIndent
1707 \leftskip\StartIndent
1708 \csname JQ@\Quadding\endcsname
1709 \csname L@\Language\endcsname
1710 \ifx\FirstLineStartIndent\@empty\relax
1711 \else\parindent\FirstLineStartIndent
1712 \fi
1713 \ifx\InputWhitespaceTreatment\@empty\relax
1714 \else\csname White@\InputWhitespaceTreatment\endcsname
1715 \fi
1716 \ifx\Lines\@empty\relax
1717 \else\csname Lines@\Lines\endcsname
1718 \fi

```

```
1719 }
```

6 Setup of non-inherited characteristics

6.1 Inline

```
1720 \def\InlineNIC{%
1721 \begingroup
1722 }
1723 \def\endInlineNIC{%
1724 \let\BreakBeforePriority\relax
1725 \let\BreakAfterPriority\relax
1726 \endgroup
1727 }
```

6.2 Display

```
1728 \def\DisplayGroupNIC{%
1729 \DisplayNIC
1730 }
1731 \def\endDisplayGroupNIC{%
1732 \endDisplayNIC
1733 }
```

6.3 Graphics, boxes, leaders

```
1734 \def\ExternalGraphicNIC{%
1735 \InlineNIC
1736 }
1737 \def\endExternalGraphicNIC{%
1738 \endInlineNIC
1739 }
1740 \def\BoxNIC{%
1741 \DisplayNIC
1742 \InlineNIC
1743 }
1744 \def\endBoxNIC{%
1745 \endInlineNIC
1746 \endDisplayNIC
1747 }
1748 \def\RuleNIC{%
1749 \DisplayNIC
1750 \InlineNIC
1751 }
1752 \def\endRuleNIC{%
1753 \endInlineNIC
1754 \endDisplayNIC
1755 }
1756 \def\LeaderNIC{%
1757 \InlineNIC
1758 }
1759 \def\LeaderNIC{%
1760 \InlineNIC
1761 }
```

6.4 Tables

```

1762 \let\TableNIC\DisplayNIC
1763 \let\endTableNIC\endDisplayNIC
1764 \def\TableColumnNIC{ }
1765 \def\endTableColumnNIC{ }
1766 \def\TableCellNIC{%
1767   \begingroup%
1768   \def\NColumnsSpanned{1}%
1769   \def\NRowsSpanned{1}%
1770   \def\ColumnIndex{0}%
1771   \def\TeXRowSpanFiller{0}%
1772 }
1773 \def\endTableCellNIC{\endgroup}
1774 \def\GridNIC{ }
1775 \def\endGridNIC{ }
1776 \def\GridCellNIC{ }
1777 \def\endGridCellNIC{ }
1778 \let\ParagraphNIC\DisplayNIC
1779 \let\LineFieldNIC\InlineNIC
1780 \let\endParagraphNIC\endDisplayNIC
1781 \let\endLineFieldNIC\endInlineNIC

```

7 Setup of inherited characteristics

A problem arises here is ‘whitespacetreatment’ is set to ‘preserve’, as this makes spaces active. If then a font name like ‘Times Roman’ is processed, the space in the middle is processed! We replace spaces in font family names with ‘-’ in TeXFOTBuilder.cxx

```

1782 \newif\ifNeedsSelect
1783 \chardef\nonactive=10
1784 \def\SetupICs#1{#1%
1785 \let\current@f@series\f@series
1786 \let\current@f@shape\f@shape
1787 \let\current@f@family\f@family
1788 \let\current@f@size\f@size
1789 \edef\LaTeXshape{\csname Width@\fProportionateWidth\endcsname
1790   \csname Weight@\fWeight\endcsname}%
1791 \ifx\LaTeXshape\@empty\def\LaTeXshape{m}\fi
1792 \edef\f@series{\LaTeXshape}%
1793 \edef\f@shape{\csname Posture@\fPosture\endcsname}%
1794 \IfFileExists{t1\FamName.fd}
1795   {\def\f@family{\fFamName}}
1796   {\edef\f@family{%
1797     \expandafter\ifx\csname Family@\fFamName\endcsname\relax
1798       \csname Family@\DefaultfFamName\endcsname
1799     \else
1800       \csname Family@\fFamName\endcsname
1801     \fi}}%
1802 \set@fontsize\baselinestretch{\fSize}{\LineSpacing}%
1803 %\NeedsSelecttrue
1804 %\ifx\f@size\current@f@size\relax\NeedsSelectfalse\fi
1805 %\ifx\f@family\current@f@family\relax\NeedsSelectfalse\fi
1806 %\ifx\f@shape\current@f@shape\relax\NeedsSelectfalse\fi
1807 %\ifx\f@series\current@f@series\relax\NeedsSelectfalse\fi
1808 %\ifNeedsSelect
1809   \selectfont

```

```

1810 %\fi
1811 \ifx\ColorRed\@empty\relax\else
1812   \RGBColor{\ColorRed}{\ColorGreen}{\ColorBlue}%
1813 \fi
1814 }
1815 \def\endSetupICs{}

```

`\FlowObjectSetup` should be called at the beginning of every object that can be meaningfully labelled. It is this that creates an anchor, not the `\Node`, to avoid duplicates and wastage.

Because labelling writes to an external file, or does a `\special`, it adds a `whatsit` to the main vertical list. This wrecks the `\vskip-\lastskip` which every paragraph or display does. Bad news! Labelling when we are in a Link element is not a good thing. It messes up the references.

```

1816 \def\@madelink{ }
1817 \newif\ifDoFOBSet
1818 \DoFOBSettrue
1819 \def\FlowObjectSetup#1{%
1820 \ifDoFOBSet
1821   \ifLabelElements
1822     \ifx\Label\@empty\let\Label\Element\fi
1823   \fi
1824   \ifx\Label\@empty\else
1825     \expandafter\ifx\csname x@\Label\endcsname\@madelink
1826     \else
1827       \bgroup
1828         \ifNestedLink
1829         \else
1830           \hyper@anchorstart{\Label}\hyper@anchorend
1831           \PageLabel{\Label}%
1832           \expandafter\gdef\csname x@\Label\endcsname{ }%
1833         \fi
1834       \egroup
1835       \let\Label\@empty
1836       \let\Element\@empty
1837     \fi
1838   \fi
1839 \fi
1840 }

```

8 Non-standard flow objects

```

1841 \def\fps@figure{htbp} % prefer figures to be placed here
1842 \def\ftype@figure{1}
1843 \def\PageFloat#1{\SetupICs{#1}%
1844   \ifnum\Span>0
1845     \def\Span{0}%
1846     \typeout{JadeTeX WARNING: specifying column spans for floats not supported}%
1847   \fi
1848   \FlowObjectSetup{0}%
1849   \@dblfloat{figure}[\placement]%
1850 }
1851 \def\endPageFloat{\end@dblfloat}

```

```

1852 \def\Footnotesize{\@setfontsize\small\@ixpt{11}}
1853 \newcount\@FootnotePars
1854 \skip\@mpfootins = \skip\footins
1855 \long\def\PageFootnote#1#2{#1%
1856 \ifnum\@TableNest>0
1857   \global\setbox\@mpfootins\vbox{%
1858     \unvbox\@mpfootins
1859     \reset@font\Footnotesize
1860     \hsize\TableWidth
1861     \leftskip\StartIndent
1862     \@parboxrestore
1863     \color@begingroup
1864     \@makefntext{%
1865       \rule\z@\footnotesep\ignorespaces#2\@finalstrut\strutbox}%
1866     \color@endgroup}%
1867 \else
1868   \insert\footins{%
1869     \let\Par\FootnotePar
1870     \let\endPar\endFootnotePar
1871     \global\@FootnotePars0%
1872     \reset@font\Footnotesize
1873     \interlinepenalty\interfootnotelinepenalty
1874     \splittopskip\footnotesep
1875     \splitmaxdepth \dp\strutbox \floatingpenalty \@MM
1876     \hsize\columnwidth \@parboxrestore
1877     \color@begingroup
1878     \@makefntext{%
1879       \rule\z@\footnotesep\ignorespaces#2\@finalstrut\strutbox}
1880     \color@endgroup}%
1881 \fi
1882 }
1883 \def\@makefntext#1{%
1884   \parindent 1em%
1885   \noindent
1886   #1}

```

9 Color

Only RGB color working at present. Sorry.

```

1887 \def\RGBColor#1#2#3{%
1888   \c@lor@RGB@rgb{#1}\@tempa
1889   \c@lor@RGB@rgb{#2}\@tempb
1890   \c@lor@RGB@rgb{#3}\@tempc
1891 % \typeout{Set Color \@tempa, \@tempb, \@tempc}%
1892 \color[rgb]{\@tempa, \@tempb, \@tempc}%
1893 }
1894 \def\c@lor@RGB@rgb#1#2{%
1895   \dimen@#1\p@
1896   \divide\dimen@\@cclv
1897   \edef#2{\strip@pt\dimen@}%
1898 \def\EndSetFont{%
1899   \ifx\c@lor@fPosture Over\endcsname\relax
1900   \relax\else\c@lor@fPosture Over\endcsname\fi
1901 }

```

10 Startup

```
1902 %\let\DEBUG\@gobble
1903 \def\endFOT{%\let\normalcolor\relax
1904 \def\Hy@colorlink##1{}%
1905 \def\Hy@endcolorlink{}%
1906 \ifnum\col@number>1
1907     \ifnum\PageBalanceColumns>0
1908         \end{multicols}
1909     \else
1910         % \endmulticols*
1911         \vfill\end{multicols}
1912     \fi
1913 \fi
1914 \enddocument}
1915 \def\FOT#1{%
1916 \checkFOTversion{#1}%
1917 \hoffset-1in\voffset-1in
1918 \def\setnormal{%
1919 \let\fSize\pageFontSize
1920 \let\LineSpacing\pageLineSpacing
1921 \let\lPosture\pageFontPosture
1922 \let\lProportionateWidth\pageFontProportionateWidth
1923 \let\lWeight\pageFontWeight
1924 \let\lFamName\pageFamName
1925 }
1926 \def\headrulewidth{0\p@}%
1927 \def\footrulewidth{0\p@}%
1928 \abovedisplayskip=\z@
1929 \abovedisplayshortskip=\z@
1930 \belowdisplayskip=\z@
1931 \belowdisplayshortskip=\z@
1932 \raggedbottom
1933 \clubpenalty=4000
1934 \widowpenalty=2000
1935 \setlength\emergencystretch{2in}
1936 \frenchspacing
1937 \fancyhf{}%
1938 \def\familydefault{ptm}%
1939 \fontfamily{\familydefault}\selectfont
1940 \pagenumbering{arabic}%
1941 \nonstopmode
1942 \Mathcount0
```

We do not put out a `\begin{document}`, as that would fix the page size in advance; we delay that for the first page sequence.

```
1943 \let\default@color\current@color
```

Individual users or projects can override anything in this setup with a configuration file, loaded here, called `jadetex.cfg`.

```
1944 \InputIfFileExists{jadetex.cfg}{}{}%
1945 \ifLabelElements
1946 \typeout{Elements will be labelled}%
1947 \else
1948 \typeout{Elements will NOT be labelled}%
```

```

1949 \fi
1950 % wicked. dont redo \@begindocumenthook! cause color in pdftex to foul up.
1951 % \@begindocumenthook
1952 \makeatletter
1953 }
1954 \everyjob{%
1955     \typeout{JadeTeX \JadeTeXDate: \JadeTeXMajorVersion.\JadeTeXMinorVersion}%
1956 }
1957 \catcode`\^M=10%
1958 \catcode0=9%
1959 \end{package}
1960 \end{dsssldef}
1961 \NeedsTeXFormat{LaTeX2e}[1995/12/01]
1962 \ProvideTextCommandDefault{\textonequarter}{\ensuremath{\frac{1}{4}}}
1963 \ProvideTextCommandDefault{\textonehalf}{\ensuremath{\frac{1}{2}}}
1964 \ProvideTextCommandDefault{\textthreequarters}{\ensuremath{\frac{3}{4}}}
1965 \ProvideTextCommandDefault{\textcent}
1966     {\TextSymbolUnavailable\textcent}
1967 \ProvideTextCommandDefault{\textyen}
1968     {\TextSymbolUnavailable\textyen}
1969 \ProvideTextCommandDefault{\textcurrency}
1970     {\TextSymbolUnavailable\textcurrency}
1971 \ProvideTextCommandDefault{\textbrokenbar}
1972     {\TextSymbolUnavailable\textbrokenbar}
1973 \providecommand{\mathdegree}{\ensuremath{^\circ}}
1974 }
1975 \providecommand{\mathonesuperior}{^{1}}
1976 \providecommand{\mathtwosuperior}{^{2}}
1977 \providecommand{\maththreesuperior}{^{3}}
1978 \providecommand{\mathordmasculine}{\mathrm{^{\underline{o}}}}
1979 \providecommand{\mathordfeminine}{\mathrm{^{\underline{a}}}}
1980 \DeclareInputText{"0A0}{\nobreakspace}
1981 \DeclareInputMath{"0B0}{\mathdegree}
1982 \DeclareInputText{"0A1}{\textexclamdown}
1983 \DeclareInputMath{"0B1}{\ensuremath{\mu}}
1984 \DeclareInputText{"0A2}{\textcent}
1985 \DeclareInputMath{"0B2}{\mathtwosuperior}
1986 \DeclareInputText{"0B2}{\ensuremath{\mathtwosuperior}}
1987 \DeclareInputText{"0A3}{\pounds}
1988 \DeclareInputMath{"0B3}{\maththreesuperior}
1989 \DeclareInputText{"0B3}{\ensuremath{\maththreesuperior}}
1990 \DeclareInputText{"0A4}{\textcurrency}
1991 \DeclareInputText{"0B4}{\@tabacckludge'}
1992 \DeclareInputText{"0A5}{\textyen}
1993 \DeclareInputMath{"0B5}{\mu}
1994 \DeclareInputText{"0B5}{\textmu}
1995 \DeclareInputText{"0A6}{\textbrokenbar}
1996 \DeclareInputText{"0B6}{\P}
1997 \DeclareInputText{"0A7}{\S}
1998 \DeclareInputText{"0B7}{\ifmmode\cdot\else\textperiodcentered\fi}
1999 \DeclareInputText{"0A8}{\c}
2000 \DeclareInputText{"0B8}{\c}
2001 \DeclareInputText{"0A9}{\copyright}
2002 \DeclareInputMath{"0B9}{\mathonesuperior}

```

```

2003 \DeclareInputMath{"0AA"}{\mathordfeminine}
2004 \DeclareInputMath{"0BA"}{\mathordmasculine}
2005 \DeclareInputText{"0B9"}{\ensuremath{\mathonesuperior}}
2006 \DeclareInputText{"0AA"}{\ensuremath{\mathordfeminine}}
2007 \DeclareInputText{"0BA"}{\ensuremath{\mathordmasculine}}
2008 \DeclareInputText{"0AB"}{\guillemotleft}
2009 \DeclareInputText{"0BB"}{\guillemotright}
2010 \DeclareInputMath{"0AC"}{\lnot}
2011 \DeclareInputText{"0AC"}{\ensuremath{\lnot}}
2012 \DeclareInputText{"0BC"}{\textonequarter}
2013 \DeclareInputText{"0AD"}{\textonehalf}
2014 \DeclareInputText{"0BD"}{\textonehalf}
2015 \DeclareInputText{"0AE"}{\textregistered}
2016 \DeclareInputText{"0BE"}{\textthreequarters}
2017 \DeclareInputText{"0AF"}{\ifmmode\else\@tabacckludge={}\fi}
2018 \DeclareInputText{"0BF"}{\textquestiondown}
2019 \DeclareInputText{"0C0"}{\@tabacckludge`A}
2020 \DeclareInputText{"0D0"}{\DH}
2021 \DeclareInputText{"0C1"}{\@tabacckludge'A}
2022 \DeclareInputText{"0D1"}{\~N}
2023 \DeclareInputText{"0C2"}{\^A}
2024 \DeclareInputText{"0D2"}{\@tabacckludge'O}
2025 \DeclareInputText{"0C3"}{\~A}
2026 \DeclareInputText{"0D3"}{\@tabacckludge'O}
2027 \DeclareInputText{"0C4"}{\`A}
2028 \DeclareInputText{"0D4"}{\^O}
2029 \DeclareInputText{"0C5"}{\AA}
2030 \DeclareInputText{"0D5"}{\~O}
2031 \DeclareInputText{"0C6"}{\AE}
2032 \DeclareInputText{"0D6"}{\`O}
2033 \DeclareInputText{"0C7"}{\c C}
2034 \DeclareInputMath{"0D7"}{\ensuremath{\times}}
2035 \DeclareInputText{"0C8"}{\@tabacckludge`E}
2036 \DeclareInputText{"0D8"}{\O}
2037 \DeclareInputText{"0C9"}{\@tabacckludge'E}
2038 \DeclareInputText{"0D9"}{\@tabacckludge`U}
2039 \DeclareInputText{"0CA"}{\^E}
2040 \DeclareInputText{"0DA"}{\@tabacckludge'U}
2041 \DeclareInputText{"0CB"}{\`E}
2042 \DeclareInputText{"0DB"}{\^U}
2043 \DeclareInputText{"0CC"}{\@tabacckludge`I}
2044 \DeclareInputText{"0DC"}{\`U}
2045 \DeclareInputText{"0CD"}{\@tabacckludge'I}
2046 \DeclareInputText{"0DD"}{\@tabacckludge'Y}
2047 \DeclareInputText{"0CE"}{\^I}
2048 \DeclareInputText{"0DE"}{\TH}
2049 \DeclareInputText{"0CF"}{\`I}
2050 \DeclareInputText{"0DF"}{\ss}
2051 \DeclareInputText{"0E0"}{\@tabacckludge`a}
2052 \DeclareInputText{"0F0"}{\dh}
2053 \DeclareInputText{"0E1"}{\@tabacckludge'a}
2054 \DeclareInputText{"0F1"}{\~n}
2055 \DeclareInputText{"0E2"}{\^a}
2056 \DeclareInputText{"0F2"}{\@tabacckludge'o}

```

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2057 \DeclareInputText{"0E3}{\~a}
2058 \DeclareInputText{"0F3}{\@tabacckludge'o}
2059 \DeclareInputText{"0E4}{\"a}
2060 \DeclareInputText{"0F4}{\^o}
2061 \DeclareInputText{"0E5}{aa}
2062 \DeclareInputText{"0F5}{\~o}
2063 \DeclareInputText{"0E6}{ae}
2064 \DeclareInputText{"0F6}{\"o}
2065 \DeclareInputText{"0E7}{\c c}
2066 \DeclareInputMath{"0F7}{\ensuremath{\div}}
2067 \DeclareInputText{"0E8}{\@tabacckludge'e}
2068 \DeclareInputText{"0F8}{o}
2069 \DeclareInputText{"0E9}{\@tabacckludge'e}
2070 \DeclareInputText{"0F9}{\@tabacckludge'u}
2071 \DeclareInputText{"0EA}{\^e}
2072 \DeclareInputText{"0FA}{\@tabacckludge'u}
2073 \DeclareInputText{"0EB}{\"e}
2074 \DeclareInputText{"0FB}{\^u}
2075 \DeclareInputText{"0EC}{\@tabacckludge'i}
2076 \DeclareInputText{"0FC}{\"u}
2077 \DeclareInputText{"0ED}{\@tabacckludge'i}
2078 \DeclareInputText{"0FD}{\@tabacckludge'y}
2079 \DeclareInputText{"0EE}{\^i}
2080 \DeclareInputText{"0FE}{th}
2081 \DeclareInputText{"0EF}{\"i}
2082 \DeclareInputText{"0FF}{\"y}
2083 \<dsssldef>

```