

The package `parese`*

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Abstract

This package implements an example from T. LACHAND-ROBERT in [1]. It provides a means of typing isolated greek letters with the character `§` activated and redefined. Instead of `\(\alpha\)` one types `§a` to obtain α .

Important: You have to load it **after** the `inputenc` package if the latter is used. Moreover the sign `§` must be a letter for T_EX.

New: with this version 4, one can use this package even with utf8-encoded source for L^AT_EX, LuaL^AT_EX, or X_YL^AT_EX.

The English documentation for the final user of the package `parese` is available in the file `parese-en.pdf`.

Résumé

Ce module, reprenant un exemple de T. LACHAND-ROBERT dans [1], fournit un moyen de taper des lettres grecques isolées à l'aide du caractère `§` actif et redéfini. Au lieu de `\(\alpha\)` ou tape `§a` pour obtenir α .

Important : Il doit être chargé **après** `inputenc` si ce dernier est utilisé. De plus, il faut que le signe `§` soit une lettre pour T_EX.

Nouveau : avec cette version 4, on peut utiliser cette extension même dans un source codé en utf-8 avec L^AT_EX, LuaL^AT_EX ou X_YL^AT_EX.

La documentation française pour l'utilisateur de l'extension `parese` est disponible sous le nom de `parese-fr.pdf`.

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*This document corresponds to file `parese.sty` v4, dated 2011/04/19.

1 The code

1.1 The sty file

From this 4th version, I use `skeyval` for it provides toggle-keys. `skeyval` loads `xkeyval` the macros of which I use to manage options.

`ifluatex` and `ifxetex` are required to take care of `LuaLTeX` and `XqLTeX` respectively.

```
1 \RequirePackage{skeyval}
2 \RequirePackage{ifluatex}
3 \RequirePackage{ifxetex}
```

With `\define@bitogkeys`, from `skeyval`, I define nine pairs of complementary toggle keys. If one of the pair is set to `true`, the other will be automatically set to `false` and vice-versa.

```
4 \define@bitogkeys[G@]{paresse.sty}[G@]{legacy}[true]{levi}{}{}
5 \define@bitogkeys[G@]{paresse.sty}[G@]{wild}[true]{tame}{}{}
6 \define@bitogkeys[G@]{paresse.sty}[G@]{ttau}[true]{ttheta}{}{}
7 \define@bitogkeys[G@]{paresse.sty}[G@]{varepsilon}[true]{epsilon}{}{}
8 \define@bitogkeys[G@]{paresse.sty}[G@]{varphi}[true]{phi}{}{}
9 \define@bitogkeys[G@]{paresse.sty}[G@]{pi}[true]{varpi}{}{}
10 \define@bitogkeys[G@]{paresse.sty}[G@]{sigma}[true]{varsigma}{}{}
11 \define@bitogkeys[G@]{paresse.sty}[G@]{rho}[true]{varrho}{}{}
12 \define@bitogkeys[G@]{paresse.sty}[G@]{theta}[true]{vartheta}{}{}

```

I set the behaviour of the package in case of an unknown option with `\DeclareOptionX*`, from `xkeyval`.

```
13 \DeclareOptionX*{\PackageError{paresse} {The option "\CurrentOption"
14   is not known!\MessageBreak The default options are:\MessageBreak
15   legacy, varepsilon, theta, pi, rho, sigma, and varphi.}%
16 {Choose between ‘wild’ (for an active Paresse in all the document)
17   \MessageBreak and ‘tame’, so that the character obtained by
18   \string\S\MessageBreak prints the section symbol \string\S).
19   \MessageBreak See the documentation for other options.}}
```

The default options are: `legacy`, `wild`, `varepsilon`, `theta`, `pi`, `rho`, `sigma`, and `varphi`.

```
20 \ExecuteOptionsX[G@]{legacy,wild,varepsilon,theta,pi,rho,sigma,varphi}
21 \ProcessOptionsX[G@]\relax
```

The prefix of the *secret* macros of this package is `G@`. Here I define the macros which will print the correct character according to the chosen options. `\iftogon` is provided by `skeyval`.

```
22 \iftogon{G@varepsilon}{%
23   \def\G@epsilon{\varepsilon}}{\def\G@epsilon{\epsilon}}
24 \iftogon{G@vartheta}{\def\G@theta{\vartheta}}{\def\G@theta{\theta}}
25 \iftogon{G@varpi}{\def\G@pi{\varpi}}{\def\G@pi{\pi}}
26 \iftogon{G@varrho}{\def\G@rho{\varrho}}{\def\G@rho{\rho}}
27 \iftogon{G@varsigma}{\def\G@sigma{\varsigma}}{\def\G@sigma{\sigma}}
28 \iftogon{G@varphi}{\def\G@phi{\varphi}}{\def\G@phi{\phi}}
```

I test the engine, if it is `XqLTeX` or `LuaLTeX`, the file `paresseold.sto` is loaded.

```
29 \ifluatex
30   \PackageInfo{paresse}{compiling with luatex}
31   \InputIfFileExists{paresseold.sto}{%
```

```

32   \PackageInfo{paresse}{paresseold loaded}}{%
33   \PackageInfo{paresse}{paresseold not loaded}}
34 \else
35   \ifxetex
36   \PackageInfo{paresse}{compiling with xetex}
37   \InputIfFileExists{paresseold.sto}{%
38     \PackageInfo{paresse}{paresseold loaded}}{%
39     \PackageInfo{paresse}{paresseold not loaded}}
40   \else

```

We arrive here if the working engine is good old T_EX (in fact, good not so old ε -T_EX I hope for some things could depend on ε -T_EX-nical internals).

First some useful macros to take care of the encoding. The macros have been given to me by Christian TELLECHEA I do heartily thank for his kindness.

The first one takes care of problems of encoding.

```

41 \newcommand\encoding@error{%
42   \@latex@error{%
43     paresse needs inputenc loaded with option "utf8"
44     or option such as "latin1" (8 bits encodign).}{} \stop}

```

The second checks that inputenc has been loaded before paresse.

```

45 \@ifpackageloaded{inputenc}\relax
46 {\PackageError{paresse}{%
47   Please, load inputenc package before paresse}{%
48   With LaTeX, "paresse" needs to know the encoding to work well and so
49   the package "inputenc" must be loaded, with \string\usepackage, before
50   loading "paresse" itself}}

```

The test for inputenc and encoding is delayed at the beginning of the document where all things about encoding should be settled.

```

51 \AtBeginDocument{%
52   \@ifpackageloaded{inputenc}\find@encoding\encoding@error}

```

I create a new toggle GA@utf8 and set it to false. It will be used later to chose the correct action.

```

53 \newtog[GA@]{utf8}[false]

```

A bit of code to find the declared encoding and set up the toggle GA@utf8 accordingly. There again work by Christian TELLECHEA.

```

54 \newcommand\find@encoding{%
55   \begingroup
56   \def\utf@encoding{utf8}%
57   \def\temp@a{\togoff{GA@utf8}}%
58   \PackageInfo{paresse}{8-bit encoding expected\@gobble}}
59 \ifx\utf@encoding\inputencodingname
60 \def\temp@a{\toton{GA@utf8}}%
61 \PackageInfo{paresse}{utf8 encoding detected\@gobble}}
62 \fi
63 \expandafter\endgroup\temp@a}

```

The main action is then delayed at the beginning of the document for reasons already given above. In case the utf8 encoding has been detected, the file paresseutf8.sto is loaded, otherwise it is paresseold.sto once again.

\makeatletter is needed to mimic the loading of a sty file for, at the beginning of the document, @ is no more a letter. Naturally, we must revert @ to its non-letter status at the end of the loading.

```

64 \AtBeginDocument{%
65   \makeatletter
66   \iftogoff{GA@utf8}{%
67     \InputIfFileExists{paresseold.sto}{%
68       \PackageInfo{paresse}{old loaded\@gobble}}{%
69       \PackageError{paresse}{paresseold.sto not found}{%
70         The package "paresse" needs to load the file "paresseold.sto"
71         but can't find it. Something seems to be broken in your TeX
72         system}}}%
73     \InputIfFileExists{paresseutf8.sto}{%
74       \PackageInfo{paresse}{utf8 loaded\@gobble}}{%
75       \PackageError{paresse}{paresseutf8 not found}{%
76         The package "paresse" needs to load the file "paresseutf8.sto"
77         but can't find it. Something seems to be broken in your TeX
78         system}}
79   \makeatother}
80 \fi
81 \fi

```

And that's all for the main file.

1.2 The file `paresseold.sto`

This file will be loaded in all cases except when the working engine is L^AT_EX with `[utf8]{inputenc}` loaded. `^^a7` is T_EXnical code for the character I type, on my French keypad, with key §.

This is almost the content of the version 3 of `paresse.sty`. The changes are the use of toggles provided by `skeyval` and the appearance of `§Z` to obtain `§`— which is always available through `\S`¹.

```
82 \ProvidesFile{paresseold.sto}
```

Presentations made, I save the current category code (catcode) of the character § and its definition in `\GA@LaVieilleParesse`.

```
83 \count@=\catcode'^^a7
84 \let\GA@LaVieilleParesse= ^^a7
```

For sake of convenience, § is def'ed as `\S`.

```
85 \def^^a7{\S}
```

```
\makeparesseletter
\makeparesseother
```

Come some end-user macros. `\makeparesseletter` changes the catcode of § to 11 which is the code of letter and `\makeparesseother` changes that code to 12 the code of other characters.

```
86 \newcommand{\makeparesseletter}{\catcode '^^a7=11\relax}
87 \newcommand{\makeparesseother}{\catcode '^^a7=12\relax}
```

```
\GA@MakeParesseActive
```

`\GA@MakeParesseActive` is an internal macro to activate §. Then come two macros to activate § for the remaining part of the file. One of them is applied according to the catcode of § at the beginning — catcode saved in `\count@`.

```
88 \newcommand{\GA@MakeParesseActive}{\catcode '^^a7=\active}
89 \def\GA@ActiveLaParessexii{\catcode '^^a7=\active}
90 \def\GA@ActiveLaParessexiii{\catcode '^^a7=\active
91   \def^^a7##1{\ensuremath{\csname \string^^a7##1\endcsname}}}
92 \ifnum\count@=12
```

¹So could I speak of `§Z` in terms of “shortcut”?

```

93 \let\GA@ActiveLaParesse \GA@ActiveLaParessexii
94 \else
95 \let\GA@ActiveLaParesse \GA@ActiveLaParessexiii
96 \fi

```

`\ActiveLaParesse` It's time to provide one end-user macro and one environment useful when the
`ParesseActive` package has been loaded with option TAME to locally activate \S .

```

97 \newcommand{\ActiveLaParesse}{\GA@ActiveLaParesse}
98 \newenvironment{ParesseActive}{\GA@ActiveLaParesse}{}

```

Now come the definitions of the meanings of the \S -macros. For these definitions to work, \S is made a letter.

```

99 \makeparesseletter
100 \def\^^a7a {\alpha}
101 \def\^^a7b {\beta}
102 \def\^^a7g {\gamma}
103 \def\^^a7d {\delta}
104 \def\^^a7e {\GA@epsilon}
105 \def\^^a7z {\zeta}
106 \def\^^a7h {\eta}
107 \def\^^a7i {\iota}
108 \def\^^a7k {\kappa}
109 \def\^^a7l {\lambda}
110 \def\^^a7m {\mu}
111 \def\^^a7n {\nu}
112 \def\^^a7x {\xi}
113 \def\^^a7p {\GA@pi}
114 \def\^^a7r {\GA@rho}
115 \def\^^a7s {\GA@sigma}
116 \def\^^a7u {\upsilon}
117 \def\^^a7f {\GA@phi}
118 \def\^^a7w {\omega}

```

In case of option LEGACY, definitions of \Sv , \Sy , \Sc , and \Sq as in the first two versions of this package.

```

119 \iftogon{\GA@legacy}{%
120 \def\^^a7v {\GA@theta}
121 \def\^^a7y {\tau}
122 \def\^^a7c {\chi}
123 \def\^^a7q {\psi}

```

Care is taken of options TTAU and TTHETA.

```

124 \iftogon{\GA@ttau}{\def\^^a7t {\tau}}{\def\^^a7t {\GA@theta}}{%

```

Definitions of the same \Sv , \Sy , \Sc , and \Sq with option LEVI. In that case, options TTAU and TTHETA are no-op.

```

125 \def\^^a7j {\GA@theta}
126 \def\^^a7t {\tau}
127 \def\^^a7q {\chi}
128 \def\^^a7y {\psi}
129 \def\^^a7c {\varsigma}

```

Upper case letters are treated thence:

```

130 \def\^^a7G {\Gamma}
131 \def\^^a7D {\Delta}
132 \def\^^a7L {\Lambda}

```

```

133 \def^^a7P {\Pi}
134 \def^^a7S {\Sigma}
135 \def^^a7U {\Upsilon}
136 \def^^a7F {\Phi}
137 \def^^a7X {\Xi}
138 \def^^a7W {\Omega}

```

Once again LEGACY vs. LEVI:

```

139 \iftogon{GA@legacy}{%
140   \def^^a7V {\Theta}
141   \def^^a7T {\Theta}
142   \def^^a7Q {\Psi}
143 }{%
144   \def^^a7J {\Theta}
145   \def^^a7Y {\Psi}
146 }%
147 % \changes{va4}{2011/04/17}{\PSVerb{Z} added to produce \PS}
148 \def^^a7Z {\S}

```

The end is near! § is made active and the §-macros defined. This is old code — directly from [1].

```

149 \catcode '\^^a7=\active
150 \def^^a7#1{\ensuremath{\csname \string^^a7#1\endcsname}}

```

In case option TAME is chosen, § is given its first catcode and meaning back.

```

151 \iftogon{GA@tame}{%
152   \catcode'\^^a7=\count@
153   \ifnum\count@=13 \let ^^a7=\GA@LaVieilleParesse \fi
154 }%

```

And that's all for paresseold.sto.

1.3 The file paresseutf8.sto

This part is brand new. It deals with the document encoded in utf8 via `\usepackage[utf8]{fontenc}` and compiled with \LaTeX .

It is at the request of Christian TELLECHEA that this package now deals with such source. Most of the macros of this part were created by the same Christian.

First a bit of identification

```

155 \ProvidesFile{paresseutf8.sto}

```

followed by code partially taken from `utf8.def` for I wanted to implement the option TAME and, to do so, needed to redeclare the character §. Four macros are used in such a redeclaration and they are made unavailable outside preamble in `utf8.def`.

The original `\DeclareUnicodeCharacter` depends on `\parse@XML@charref` which itself depends on `\parse@UTFviii@a` and `\parse@UTFviii@b`. Those two last macros are defined in terms of accessible macros. Therefore, I first create an alias of the last two and then define `\declareunicodecharacter` and `\GA@parse@XML@charref` in terms of the *localised* version of `\parse@UTFviii@a` and `\parse@UTFviii@b`.

To be on the safe side, I repeat the invocations of `catcode` of `utf8.def`.

```

156 \begingroup
157 \catcode'\="=12

```

```

158 \catcode'\<=12
159 \catcode'\.=12
160 \catcode'\,=12
161 \catcode'\;=12
162 \catcode'\!=12
163 \catcode'\-=13
164 \global\let\GA@parse@UTFviii@a=\parse@UTFviii@a
165 \global\let\GA@parse@UTFviii@b=\parse@UTFviii@b
166 \gdef\declareunicodecharacter#1#2{%
167   \count#"#1\relax
168   \wlog{\space\space Redefining Unicode char U+#1 (decimal \the\count)}%
169   \begingroup
170   \GA@parse@XML@charref
171   \def\UTFviii@two@octets##1##2{\csname u8:##1\string##2\endcsname}%
172   \def\UTFviii@three@octets##1##2##3{\csname u8:##1%
173     \string##2\string##3\endcsname}%
174   \def\UTFviii@four@octets##1##2##3##4{\csname u8:##1%
175     \string##2\string##3\string##4\endcsname}%
176   \expandafter\expandafter\expandafter
177   \expandafter\expandafter\expandafter
178   \expandafter
179   \gdef\UTFviii@tmp{\IeC{#2}}%
180   \endgroup}
181 \gdef\GA@parse@XML@charref{%
182   \ifnum\count@<"A0\relax
183     \PackageError{inputenc}{Cannot\space define\space Unicode\space
184       char\space value\space <\space 00A0}\@eha
185   \else\ifnum\count@<"800\relax
186     \GA@parse@UTFviii@a,%
187     \GA@parse@UTFviii@b C\UTFviii@two@octets.,%
188   \else\ifnum\count@<"10000\relax
189     \GA@parse@UTFviii@a;%
190     \GA@parse@UTFviii@a,%
191     \GA@parse@UTFviii@b E\UTFviii@three@octets.{,;}%
192   \else
193     \GA@parse@UTFviii@a;%
194     \GA@parse@UTFviii@a,%
195     \GA@parse@UTFviii@a!%
196     \GA@parse@UTFviii@b F\UTFviii@four@octets.{!,;}%
197   \fi
198   \fi
199 \fi}
200 \endgroup

```

Here ends the *localisation*.

I provide the same macros as in the preceding case but in such a context `\makeparesseother` doesn't make sense. It just produces a warning.

```

201 \newcommand{\makeparesseletter}{\DeclareUnicodeCharacter{00A7}\S}
202 \newcommand{\makeparesseother}{%
203   \PackageWarning{paresse}{%
204     Command \string\makeparesseother disabled}{%
205     The command \string\makeparesseother would have been meaningless
206     in the current context}}

```

The end-user macro `\ActiveLaParsse` and the corresponding environment

ParesseActive.

The Unicode character of code 00A7 is made equal to the macro \@paresse.

```
207 \newcommand{\ActiveLaParesse}{\declareunicodecharacter{00A7}\@paresse}
208 \newenvironment{ParesseActive}{\ActiveLaParesse}{}
```

It's time to prepare the definition of the §-macros. To begin with we activate the character §.

```
209 \ActiveLaParesse
```

And now for the *working* code: when the paresse is active, the byte 00A7 is an alias for \@paresse and, because of the following, the code \@paresse<token> is changed into \@ii@paresse<token> with the side effect that \@toks is let to <token>.

```
210 \def\@paresse{\futurelet\@toks\@ii@paresse}
```

Then if <token>, now “in” \@toks, has the same category than a — hopefully a letter — then we obtain \@ii@paresse else \S.

```
211 \def\@ii@paresse{%
212   \csname@ifcat a\@toks @ii@paresse\else S\fi\endcsname}
```

At that point, the code which was \@paresse<token> is either \S<token> or \@ii@paresse which awaits for an argument. That argument will be the still present <token>.

If the command \@paresse@<token> is defined then it does its job, else we obtain \S<token>.

```
213 \def\@ii@paresse#1{%
214   \ifcsname @paresse@#1\endcsname
215     \csname @paresse@#1\endcsname\expandafter\@gobble
216   \else
217     \expandafter\@firstofone
218   \fi{\S#1}}
```

The next macro is used to define the §-macros.

I have not used it in paresseold.sto for that definition prevent a feature I'm attached to, to wit, obtaining α^β with $\$(\S a^\S b)$. I would have been loath to force some of the users to change their until now working sources.

```
219 \def\define@paresse@car#1#2{%
220   \expandafter\def\csname @paresse@#1\endcsname{\ensuremath{#2}}}
```

From now on, there are just definitions of §-macros.

The first one, §Z is new.

```
221 \define@paresse@car Z\S
222 \define@paresse@car a\alpha
223 \define@paresse@car b\beta
224 \define@paresse@car g\gamma
225 \define@paresse@car d\delta
226 \define@paresse@car e\GA@epsilon
227 \define@paresse@car z\zeta
228 \define@paresse@car h\eta
229 \define@paresse@car i\iota
230 \define@paresse@car k\kappa
231 \define@paresse@car l\lambda
232 \define@paresse@car m\mu
233 \define@paresse@car n\nu
234 \define@paresse@car x\xi
235 \define@paresse@car p\GA@pi
```



```

236 \define@paresse@car r\GA@rho
237 \define@paresse@car s\GA@sigma
238 \define@paresse@car u\upsilon
239 \define@paresse@car f\GA@phi
240 \define@paresse@car w\omega
241 \iftogon{GA@legacy}{%
242   \define@paresse@car v\GA@theta
243   \define@paresse@car y\tau
244   \define@paresse@car c\chi
245   \define@paresse@car q\psi
246   \iftogon{GA@ttau}{%
247     \define@paresse@car t\tau}{%
248     \define@paresse@car t\GA@theta}}{%
249   \define@paresse@car j\GA@theta
250   \define@paresse@car t\tau
251   \define@paresse@car q\chi
252   \define@paresse@car y\psi
253   \define@paresse@car c\varsigma}
254 \define@paresse@car G\Gamma
255 \define@paresse@car D\Delta
256 \define@paresse@car L\Lambda
257 \define@paresse@car P\Pi
258 \define@paresse@car S\Sigma
259 \define@paresse@car U\Upsilon
260 \define@paresse@car F\Phi
261 \define@paresse@car X\Xi
262 \define@paresse@car W\Omega
263 \iftogon{GA@legacy}{%
264   \define@paresse@car V\Theta
265   \define@paresse@car T\Theta
266   \define@paresse@car Q\Psi}{%
267   \define@paresse@car J\Theta
268   \define@paresse@car Y\Psi}%

```

At the end of the package, if the option TAME is chosen, § is made a letter again.

```
269 \iftogon{GA@tame}{\makeparesseletter}
```

And that's all for the file paresseutf8.sto.

References

- [1] T. LACHAND-ROBERT. *La maîtrise de T_EX et L^AT_EX*. Masson, Paris, Milan, Barcelone, 1995.
ISBN : 2-225-84832-7.

Change History

v0.0

General: New name, some redefini-
tions, first public version 1

v1

General: Documentation updated 1

v1a	General: Correction of a bug in Infofile which prevented the loading of the package	1	v2.1	General: Correction of a bug in Infofile, once again	1
v2	General: A useless macro is deleted	1	v3	General: Option for Sylvio LEVI's encoding	1
	Documentation reorganised	1	v4	General: Documentation of the code in English	1
	New wrapping to provide a tds.zip.	1		parese goes utf8	1

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