

The Serbian Cyrillic Language in the babel system

Uroš Stefanović*

February 16, 2022

Serbian Cyrillic Language

The file `serbianc.dtx` defines all the language definition macros for Serbian language, typeset in a Cyrillic script.

For this language the character " is made active. In table 1 an overview is given of its purpose. One of the reasons for this is that, in the Serbian language, some special characters are used.

"-	An explicit hyphen sign, allowing hyphenation in the rest of the word; inserts a hyphen which is repeated at the beginning of the next line (recommended to use for compound words with hyphen).
"	Disables ligature at this position.
""	Similar to "-" but prints no hyphen sign.
"~	Compound word mark without a breakpoint, prints hyphen prohibiting hyphenation at the point.
"=	A compound word mark with a breakpoint, prints hyphen allowing hyphenation in the composing words.
"‘	German opening double quote (looks like „).
"’	German closing double quote (looks like “).
"”	(if the <code>quotes</code> attribute is used) Closing double quote (looks like ”).
"<	French opening double quote (looks like <<).
">	French closing double quote (looks like >>).

Table 1: The extra definitions made by `serbianc.ldf`

Macro `\today` prints the date in Serbian. Alternatively, if attribute `datei` is used, `\today` prints the current date, but prints ‘јунѝ’ and ‘јуѝ’ for ‘June’ and ‘July’. If you prefer to use ‘јунѝ’ and ‘јуѝ’ instead of default ‘јун’ and ‘јуѝ’, use the `datei` attribute. Also, the `\today*` macro prints the date without dot after the year (used when after the date is the punctuation mark, such as comma). Alternatively, the commands `\todayRoman` and `\todayRoman*` prints the current date using Roman numerals for months; `\todayGen` and `\todayGen*` prints the current month name in the genitive case, and `\todayArabic` and `\todayArabic*` prints the current month as a number.

The alphabetical enumerations in texts use the Cyrillic alphabet and alphabetic order (all 30 letters of the Serbian language are used). Also, the Serbian language allows enumeration with the Latin alphabet. If the Latin alphabet is used in the enumeration the letters q, w, x and y are omitted by the rules of the Serbian language (22 letters are used in that case). However, if the user wants to use the English alphabet for the enumeration (26 letters), this option is also available. One can manually switch the enumeration alphabet with the commands `\enumCyr`, `\enumLat` and `\enumEng`. This commands can be used after the `\begin{document}` when the `serbianc` language is active. In

*urostajms@gmail.com

principle, enumerations are a matter for class and style designers but the same can be said also about things, other than enumerations, such as names of sections and bibliography lists.

Apart from defining shorthands, we need to make sure that the first paragraph of each section is indented. Furthermore, the following new math operators are defined: `\sh`, `\ch`, `\tg`, `\ctg`, `\arctg`, `\arcctg`, `\th`, `\cth`, `\arsh`, `\arch`, `\arth`, `\arcth`, `\cosec`, `\Prob`, `\Expect`, `\Variance`, `\arcsec`, `\arccosec`, `\sech`, `\cosech`, `\arsech`, `\arcosech`, `\NZD`, `\nzd`, `\NZS`, `\nzs`. Cyrillic letters in math mode can be typed with the aid of text commands such as `\textbf`, `\textsf`, `\textit`, `\texttt`, e.t.c.

By default, ekavian spelling is enabled. Ijekavian spelling can be enabled by setting the attribute to `ijekav`. To set an attribute, put the `\languageattribute` macro within a document preamble after `babel`, for example,

```
\usepackage[english,serbianc]{babel}
\languageattribute{serbianc}{ijekav}
```

Setting the `ijekav` attribute changes the built-in strings (caption names). For example, the part will be entitled as ‘Део’ by default and as ‘Дію’ if the Serbian language attribute is set to `ijekav`. Same result can be achieved using a modifier as follows:

```
\usepackage[english,serbianc.ijekav]{babel}
```

Using a modifier in a package option is often better. A modifier is set after the language name, and is prefixed with a dot (only when the language is set as package option — neither global options nor the main key accept them). Also, it’s possible to use more than one attribute:

```
\usepackage[english,serbianc.ijekav.datei.quotes]{babel}
```

The file `serbianc.ldf` is designed to work both with legacy non-unicode (8-bit) and new Unicode encodings of the source document files (input encodings) and of the font files (font encodings). This is achieved by excluding (bypassing) the `\cyr...` macros, which map every letter in a source file with given input encoding to a corresponding code point in a font file with a given font encoding when running modern engines, such as `LuaLATEX` or `XeLATEX`, in native Unicode mode instead of legacy engines, such as `LATEX` or `PDFLATEX`, or Unicode engines in a compatibility (8-bit) mode.

For `LuaLATEX` or `XeLATEX` one needs to load the `fontspec` package. The following example shows how to load Computer Modern Unicode (CMU) fonts (which is a part of all modern `LATEX` distributions), and also to get correct italic shape of the letters `б`, `г`, `д`, `п` and `т` for Serbian language:

```
\usepackage{fontspec}
\defaultfontfeatures{Ligatures={TeX},Language=Serbian,Script=Cyrillic}
\setmainfont{CMU Serif}
\setsansfont{CMU Sans Serif}
\setmonofont{CMU Typewriter Text}
\usepackage[english,serbianc]{babel}
```

The code

The macro `\LdfInit` takes care of preventing this file from loading more than once, checking the category code of the `@` sign, etc.

```
1 (*code)
2 \LdfInit{serbianc}{captionsserbianc}
```

First, we check if `LuaLATEX` or `XeLATEX` is running. If it is, we set the boolean key `\if@srbc@uni@ode` to true. It will be used to eliminate `\cyr...` commands, which were introduced in `LATEX2e` to handle various Cyrillic input encodings. With the introduction of Unicode, `LATEX` is moving to universal input encoding, so we consider these `\cyr...` commands obsolete. However, they are still preserved for backward compatibility in case `LATEX` or `PDFLATEX` are running.

```
3 \ifdefined\if@srbc@uni@ode
4 \PackageError{babel}{if@srbc@uni@ode already defined.}
```

```

5 \relax
6 \fi
7 \newif\if@srbc@uni@ode
8 \ifdefined\latexversion \@srbc@uni@odetrue \else
9 \ifdefined\XeTeXrevision \@srbc@uni@odetrue \fi\fi

```

Check if hyphenation patterns for the Serbian language have been loaded in `language.dat`. Namely, we check for the existence of `\l@serbianc`. If it is not defined, we declare Serbianc as dialect for the default language number 0, which is almost certainly English.

```

10 \ifx\l@serbianc\undefined
11 \nopatterns{Serbianc}
12 \adddialect\l@serbianc0
13 \fi

```

There is a limited list of encodings appropriate for Serbian Cyrillic text. We will look at which one of them is declared and keep its name in the macro `\cyrillicencoding`. The correct 7-bit Cyrillic encoding is `OT2`. The correct 8-bit Cyrillic encodings are `T2A` (default for 8-bit compilers) and `X2`. The correct utf8 encodings are `TU` (default for `XeLATEX` and `LuaLATEX`), `EU1` (obsolete, formerly used for `XeLATEX`), `EU2` (obsolete, formerly used for `LuaLATEX`).

In 8-bit (`LATEX`) mode, the user may choose a different non-unicode Cyrillic encoding—`X2` or `OT2`. If one wants to use another font encoding rather than default (`T2A`), he or she has to load the corresponding file *before* `babel.sty`.

Remember that, for the Serbian language, the `T2A` encoding is better than `X2`, because `X2` does not contain Latin letters, and users should pay attention and switch the language every time they want to type a Latin word inside a Serbian phrase or vice versa.

We parse the `\cddp@list` containing encodings known to `LATEX` in the order in which they have been loaded by the time `babel` is called. We set the `\cyrillicencoding` to the *last* loaded encoding in the list of supported Cyrillic encodings: `OT2`, `X2`, `T2A`. In Unicode mode, `\cyrillicencoding` is set to `TU` by `fontspec`. Nevertheless, here we provide similar definitions; 8-bit encodings are kept for Unicode compilers (`LuaLATEX` and `XeLATEX`) since they can run in compatibility (8-bit) mode.

```

14 \def\@setcyrillicencoding{%
15 \def\sce@a##1##2{%
16 \edef\sce@b{##1}%
17 \edef\sce@c{##2}%
18 \ifx\sce@b\sce@c
19 \let\cyrillicencoding\sce@c
20 \fi}%
21 \def\cddp@elt##1##2##3##4{%
22 \sce@a{##1}{OT2}%
23 \sce@a{##1}{X2}%
24 \sce@a{##1}{T2A}%
25 \if@srbc@uni@ode
26 \sce@a{##1}{TU}%
27 \fi}%
28 \cddp@list
29 }
30 \ifx\cyrillicencoding\undefined
31 \@setcyrillicencoding
32 \fi
33 \@onlypreamble\@setcyrillicencoding
34 \@onlypreamble\sce@a
35 \@onlypreamble\sce@b
36 \@onlypreamble\sce@c
37 \ifx\cyrillicencoding\undefined
38 \if@srbc@uni@ode
39 \edef\cyrillicencoding{TU}
40 \else
41 \edef\cyrillicencoding{T2A}
42 \fi

```

```

43 \PackageWarning{babel}%
44   {No Cyrillic font encoding has been loaded so far.\MessageBreak
45   A font encoding should be declared before babel.\MessageBreak
46   Default ‘\cyrillicencoding’ encoding will be loaded
47   }%
48 \lowercase\expandafter{\expandafter\input\cyrillicencoding enc.def\relax}%
49 \AtBeginDocument{\@setcyrillicencoding}
50 \fi

```

We define the macro `\Serbianc` simply as an alias for `\selectlanguage{serbianc}`.

```

51 \DeclareRobustCommand{\Serbianc}{\selectlanguage{\serbianc}}

```

We define `\cyrillictext` and its alias `\cyr`; these macros are intended for use within the `babel` macros and do not perform the complete change of the language.

In particular, they do not change the captions and the name of current language stored in the macro `\language`. This inconsistency might break some assumptions embedded into `babel`. For example, the `\iflanguage` macro will fail.

Furthermore, `\cyrillictext` does not activate shorthands, so "`<`", "`>`", "`“`", "`”`", e.t.c. will not work.

Lastly, `\cyrillictext` does not write its trace to `.aux` file, which might result in wrong typesetting of table of contents, list of tables and list of figures in multilingual documents.

For these reasons, the use of the declaration `\cyrillictext` and its aliases in ordinary text is strongly discouraged. Instead of the declaration `\cyrillictext`, it is recommended to use `\Serbianc` or the command `\foreignlanguage` defined in the `babel` core; their functionality is similar to `\selectlanguage{serbianc}`, but they do not change caption names, dates and shorthands.

```

52 \DeclareRobustCommand{\cyrillictext}{%
53   \fontencoding\cyrillicencoding\selectfont
54   \let\encodingdefault\cyrillicencoding
55   \expandafter\set@hyphenmins\serbianchyphenmins
56   \language\l@serbianc}%
57 \let\cyr\cyrillictext

```

The macro `\textcyrillic` takes an argument which is then typeset using the `\cyrillictext` declaration.

```

58 \DeclareTextFontCommand{\textcyrillic}{\cyrillictext}

```

For Serbian, the " character is made active. This is done once; later on, its definition may vary. Other languages in the same document may also use the " character for shorthands; we specify that the Serbian group of shorthands should be used. We save the original double quote character in the `\dq` macro to keep it available. The shorthand " - should be used in places where a word contains an explicit hyphenation character. According to the rules of the Serbian language, when a word break occurs at an explicit hyphen, it must appear both at the end of the first line and at the beginning of the second line.

```

59 \initiate@active@char{"}
60 \begingroup \catcode'\ "12
61 \def\reserved@a{\endgroup
62   \def\@SS{\mathchar"7019 }
63   \def\dq{"}}
64 \reserved@a
65 \declare@shorthand{serbianc}{"‘}{\quotedblbase}
66 \declare@shorthand{serbianc}{"’}{\textquotedblleft}
67 \declare@shorthand{serbianc}{"<}{\guillemotleft}
68 \declare@shorthand{serbianc}{">}{\guillemotright}
69 \declare@shorthand{serbianc}{""}{\hskip\z@skip}
70 \declare@shorthand{serbianc}{"~}{\textormath{\leavevmode\hbox{-}}{-}}
71 \declare@shorthand{serbianc}{"=}{\nobreak-\hskip\z@skip}
72 \declare@shorthand{serbianc}{"|}{\textormath{\nobreak\discretionary{-}{-}{\kern.03em}\allowhyphens}{}}
73 \declare@shorthand{serbianc}{"-}{\nobreak\discretionary{-}{-}{-}\bbl@allowhyphens}

```

The `\cyrdash` macro will be defined if it hadn't already been defined in a fontenc file. For T2A and X2 fonts, `cyrdash` will be placed in the code of the English emdash.

```
74 \ProvideTextCommandDefault{\cyrdash}{\hbox to.8em{--\hss--}}
```

The macro `\captionsserbianc` defines all strings used in the four standard documentclasses provided by L^AT_EX.

```
75 \if@srbc@uni@ode
76 \addto\captionsserbianc{%
77 \def\prefacename{Предговор}%
78 \def\refname{Литература}%
79 \def\abstractname{Сажетак}%
80 \def\bibname{Библиографија}%
81 \def\chaptername{Глава}%
82 \def\appendixname{Додатак}%
83 \def\contentsname{Садржај}%
84 \def\listfigurename{Списак слика}%
85 \def\listtablename{Списак табела}%
86 \def\indexname{Индекс}%
87 \def\figurename{Слика}%
88 \def\tablename{Табела}%
89 \def\partname{Део}%
90 \def\enclname{Прилози}%
91 \def\ccname{Копије}%
92 \def\headtoname{Прима}%
93 \def\pagename{страна}%
94 \def\seename{види}%
95 \def\alsoname{види такође}%
96 \def\proofname{Доказ}%
97 \def\glossaryname{Речник}%
98 }%
99 \let\captionsserbianc@ijekav=\captionsserbianc
100 \addto\captionsserbianc@ijekav{%
101 \def\partname{Дио}%
102 \def\glossaryname{Рјечник}%
103 }
104 \else
105 \addto\captionsserbianc{%
106 \def\prefacename{{\cyr\CYRP\cyrr\cyre\cyrd\cyrg\cyro\cyrv\cyro\cyrr}}%
107 \def\refname{{\cyr\CYRL\cyri\cyrt\cyre\cyrr\cyra\cyrt\cyru\cyrr\cyra}}%
108 \def\abstractname{{\cyr\CYRS\cyra\cyrz\cyre\cyrt\cyra\cyrk}}%
109 \def\bibname{{\cyr\CYRB\cyri\cyrb\cyrl\cyri\cyro\cyrg\cyrr\cyra\cyrf\cyri\cyrje\cyra}}%
110 \def\chaptername{{\cyr\CYRG\cyrl\cyra\cyrv\cyra}}%
111 \def\appendixname{{\cyr\CYRD\cyro\cyrd\cyra\cyrt\cyra\cyrk}}%
112 \def\contentsname{{\cyr\CYRS\cyra\cyrd\cyrr\cyrz\cyra\cyrje}}%
113 \def\listfigurename{{\cyr\CYRS\cyrp\cyri\cyrs\cyra\cyrk\ \cyrs\cyrl\cyri\cyrk\cyra}}%
114 \def\listtablename{{\cyr\CYRS\cyrp\cyri\cyrs\cyra\cyrk\ \cyrt\cyra\cyrb\cyre\cyrl\cyra}}%
115 \def\indexname{{\cyr\CYRI\cyrn\cyrd\cyre\cyrk\cyrs}}%
116 \def\figurename{{\cyr\CYRS\cyrl\cyri\cyrk\cyra}}%
117 \def\tablename{{\cyr\CYRT\cyra\cyrb\cyre\cyrl\cyra}}%
118 \def\partname{{\cyr\CYRD\cyre\cyro}}%
119 \def\enclname{{\cyr\CYRP\cyrr\cyri\cyrl\cyro\cyrz\cyri}}%
120 \def\ccname{{\cyr\CYRK\cyro\cyrp\cyri\cyrje\cyre}}%
121 \def\headtoname{{\cyr\CYRP\cyrr\cyri\cyrm\cyra}}%
122 \def\pagename{{\cyr\cyrs\cyrt\cyrr\cyra\cyrn\cyra}}%
123 \def\seename{{\cyr\cyrv\cyri\cyrd\cyri}}%
124 \def\alsoname{{\cyr\cyrv\cyri\cyrd\cyri\ \cyrt\cyra\cyrk\cyro\cyrdje\cyre}}%
125 \def\proofname{{\cyr\CYRD\cyro\cyrk\cyra\cyrz}}%
126 \def\glossaryname{{\cyr\CYRR\cyre\cyrch\cyrn\cyri\cyrk}}%
127 }%
128 \let\captionsserbianc@ijekav=\captionsserbianc
```

```

129 \addto\captionsserbianc@ijekav{%
130 \def\partname{\cyr\CYRD\cyri\cyro}}%
131 \def\glossaryname{\cyr\CYRR\cyrje\cyre\cyrch\cyrn\cyri\cyrk}}%
132 }
133 \fi

```

The macro `\dateserbianc` redefines the commands `\today`, `\today*`, `\todayRoman` and `\todayRoman*` to produce Serbian dates. Also, the commands `\todayGen`, `\todayGen*`, `\todayArabic` and `\todayArabic*` are provided.

```

134 \if@srbc@uni@ode
135 \addto\dateserbianc{%
136 \def\month@serbianc{\ifcase\month\or
137 јануар\or
138 фебруар\or
139 март\or
140 април\or
141 мај\or
142 јун\or
143 јул\or
144 август\or
145 септембар\or
146 октобар\or
147 новембар\or
148 децембар\fi}%
149 \def\month@serbianc@gen{\ifcase\month\or
150 јануара\or
151 фебруара\or
152 марта\or
153 априла\or
154 маја\or
155 јуна\or
156 јула\or
157 августа\or
158 септембра\or
159 октобра\or
160 новембра\or
161 децембра\fi}%
162 \def\today{\number\day.\~\month@serbianc\ \number\year\@ifstar{}{.}}%
163 \def\todayRoman{\number\day.\~\@Roman\month\~\number\year\@ifstar{}{.}}%
164 \def\todayGen{\number\day.\~\month@serbianc@gen\ \number\year\@ifstar{}{.}}%
165 \def\todayArabic{\number\day.\~\number\month.\~\number\year\@ifstar{}{.}}%
166 \let\dateserbianc@datei=\dateserbianc
167 \addto\dateserbianc@datei{%
168 \def\month@serbianc@datei{\ifnum\month=6 јуни%
169 \else\ifnum\month=7 јули\else\month@serbianc\fi\fi}%
170 \def\today{\number\day.\~\month@serbianc@datei\ \number\year\@ifstar{}{.}}%
171 \else
172 \def\dateserbianc{%
173 \def\month@serbianc{\ifcase\month\or
174 \cyrje\cyra\cyrn\cyru\cyra\cyrr\or
175 \cyrf\cyre\cyrb\cyrr\cyru\cyra\cyrr\or
176 \cyrm\cyra\cyrr\cyrt\or
177 \cyra\cyrp\cyrr\cyri\cyrl\or
178 \cyrm\cyra\cyrje\or
179 \cyrje\cyru\cyrn\or
180 \cyrje\cyru\cyrl\or
181 \cyra\cyrv\cyrg\cyru\cyrs\cyrt\or
182 \cyrs\cyre\cyrp\cyrt\cyre\cyrm\cyrb\cyra\cyrr\or
183 \cyro\cyrk\cyrt\cyro\cyrb\cyra\cyrr\or
184 \cyzn\cyro\cyrv\cyre\cyrm\cyrb\cyra\cyrr\or

```

```

185 \cyrd\cyre\cyrc\cyre\cyrm\cyrb\cyra\cyrr\fi}%
186 \def\month@serbianc@gen{\ifcase\month\or
187 \cyrje\cyra\cyrn\cyru\cyra\cyrr\cyra\or
188 \cyrf\cyre\cyrb\cyrr\cyru\cyra\cyrr\cyra\or
189 \cyrm\cyra\cyrr\cyrt\cyra\or
190 \cyra\cyrp\cyrr\cyri\cyrl\cyra\or
191 \cyrm\cyra\cyrje\cyra\or
192 \cyrje\cyru\cyrn\cyra\or
193 \cyrje\cyru\cyrl\cyra\or
194 \cyra\cyrv\cyrg\cyru\cyrs\cyrt\cyra\or
195 \cyrs\cyre\cyrp\cyrt\cyre\cyrm\cyrb\cyrr\cyra\or
196 \cyro\cyrk\cyrt\cyro\cyrb\cyrr\cyra\or
197 \cyrn\cyro\cyrv\cyre\cyrm\cyrb\cyrr\cyra\or
198 \cyrd\cyre\cyrc\cyre\cyrm\cyrb\cyrr\cyra\fi}%
199 \def\today{\number\day.\~\month@serbianc\ \number\year\@ifstar{}{.}}%
200 \def\todayRoman{\number\day.\~\@Roman\month\~\number\year\@ifstar{}{.}}%
201 \def\todayGen{\number\day.\~\month@serbianc@gen\ \number\year\@ifstar{}{.}}%
202 \def\todayArabic{\number\day.\~\number\month.\~\number\year\@ifstar{}{.}}
203 \let\dateserbianc@datei=\dateserbianc
204 \addto\dateserbianc@datei{%
205 \def\month@serbianc@datei{\ifnum\month=6\cyrje\cyru\cyrn\cyri%
206 \else\ifnum\month=7\cyrje\cyru\cyrl\cyri\else\month@serbianc\fi\fi}%
207 \def\today{\number\day.\~\month@serbianc@datei\ \number\year\@ifstar{}{.}}
208 }
209 \fi

```

The Serbian hyphenation patterns can be used with `\lefthyphenmin` and `\righthyphenmin` set to 2. (Actually, the “official” definition allows even one character for `lefthyphen`, but it is recommended to use the value two for the better results.)

```

210 \providehyphenmins{\CurrentOption}{\tw@\tw@}
211 \providehyphenmins{serbianc}{\tw@\tw@}

```

We instruct babel to switch font encoding using earlier defined macros `\cyrillictext` and `\latintext`.

```

212 \addto\extrasserbianc{\cyrillictext}
213 \addto\noextrasserbianc{\latintext}

```

Also, we specify that the Serbian group of shorthands should be used.

```

214 \addto\extrasserbianc{\languageshorthands{serbianc}}
215 \addto\extrasserbianc{\bbl@activate{}}
216 \addto\noextrasserbianc{\bbl@deactivate{}}

```

Serbian typesetting requires `frenchspacing`. So, we add commands to `\extrasserbianc` and `\noextrasserbianc` to turn it on and off, respectively.

```

217 \addto\extrasserbianc{\bbl@frenchspacing}
218 \addto\noextrasserbianc{\bbl@nonfrenchspacing}

```

In Serbian, the first paragraph of each section should be indented.

```

219 \let@aifORI\@afterindentfalse
220 \def\bbl@serbiancindent{\let\@afterindentfalse\@afterindenttrue\@afterindenttrue}
221 \def\bbl@nonserbiancindent{\let\@afterindentfalse@aifORI\@afterindentfalse}
222 \addto\extrasserbianc{\bbl@serbiancindent}
223 \addto\noextrasserbianc{\bbl@nonserbiancindent}

```

We redefine the macro `\Alpha`, which now produces (uppercase) Cyrillic letters instead of Latin ones when Serbian is switched on. Also we will define Serbian Latin and English alphabets so the user can choose which alphabet to use through the commands `\enumCyr`, `\enumLat` and `\enumEng` (or even to switch from one enumeration to another).

```

224 \newcount\srbc@lettering \srbc@lettering=\z@
225 \addto\extrasserbianc{\babel@save\@Alpha \let\@Alpha\srbc@Alpha}

```

```

226 \def\srbc@Alph#1{%
227 \ifcase\srbc@lettering
228   \if@srbc@uni@ode
229     \ifcase#1\or A\or Б\or В\or Г\or Д\or Ё\or Е\or Ж\or З\or
230     И\or Ј\or К\or Л\or Љ\or М\or Н\or Њ\or О\or П\or Р\or С\or
231     Т\or Ћ\or V\or Ф\or X\or Ц\or Ч\or Џ\else@ctrerr\fi
232   \else
233     \ifcase#1\or\CYRA\or\CYRB\or\CYRV\or\CYRG\or\CYRD\or\CYRDJE\or
234     \CYRE\or\CYRZH\or\CYRZ\or\CYRI\or\CYRJE\or\CYRK\or\CYRL\or
235     \CYRLJE\or\CYRM\or\CYRN\or\CYRNJE\or\CYRO\or\CYRP\or\CYRR\or
236     \CYRS\or\CYRT\or\CYRTSHE\or\CYRU\or\CYRF\or\CYRH\or\CYRC\or
237     \CYRCH\or\CYRDZHE\or\CYRSH\else@ctrerr\fi
238   \fi
239 \or
240   \ifcase#1\or A\or B\or C\or D\or E\or F\or G\or H\or I\or
241   J\or K\or L\or M\or N\or O\or P\or R\or S\or T\or U\or V\or
242   Z\else@ctrerr\fi
243 \or
244   \ifcase#1\or A\or B\or C\or D\or E\or F\or G\or H\or I\or
245   J\or K\or L\or M\or N\or O\or P\or Q\or R\or S\or T\or U\or V\or
246   W\or X\or Y\or Z\else@ctrerr\fi
247 \fi}%

```

The same thing will be done with the macro `\alph`.

```

248 \addto\extrasserbianc{\babel@save@\alph \let@\alph\srbc@alph}
249 \def\srbc@alph#1{%
250 \ifcase\srbc@lettering
251   \if@srbc@uni@ode
252     \ifcase#1\or а\or б\or в\or г\or д\or ђ\or е\or ж\or з\or
253     и\or ј\or к\or л\or њ\or м\or н\or њ\or о\or п\or р\or с\or
254     т\or ћ\or y\or ф\or x\or ц\or ч\or џ\else@ctrerr\fi
255   \else
256     \ifcase#1\or\cyra\or\cyrb\or\cyrv\or\cyrg\or\cyrd\or\cyrdje\or
257     \cyre\or\cyrzh\or\cyrz\or\cyri\or\cyrje\or\cyrk\or\cyrl\or
258     \cyrlje\or\cyrm\or\cyrn\or\cyrnje\or\cyro\or\cyrp\or\cyrr\or
259     \cyrs\or\cyrt\or\cyrtshe\or\cyru\or\cyrf\or\cyrh\or\cyrc\or
260     \cyrch\or\cyrdzhe\or\cyrsh\else@ctrerr\fi
261   \fi
262 \or
263   \ifcase#1\or a\or b\or c\or d\or e\or f\or g\or h\or i\or
264   j\or k\or l\or m\or n\or o\or p\or r\or s\or t\or u\or v\or
265   z\else@ctrerr\fi
266 \or
267   \ifcase#1\or a\or b\or c\or d\or e\or f\or g\or h\or i\or
268   j\or k\or l\or m\or n\or o\or p\or q\or r\or s\or t\or u\or v\or
269   w\or x\or y\or z\else@ctrerr\fi
270 \fi}%
271 \addto\extrasserbianc{%
272   \babel@save\enumEng \def\enumEng{\srbc@lettering=\tw@}
273   \babel@save\enumLat \def\enumLat{\srbc@lettering=@ne}
274   \babel@save\enumCyr \def\enumCyr{\srbc@lettering=\z@}
275 }%

```

An `ijekav` attribute changes the default behavior and activates an alternative set of captions suitable for typesetting in ijekavian dialect. The `quotes` attribute changes the `"` shorthand to produce `”` as closing quotation mark, instead of the traditional `“` quotation mark of Serbian language. Also, the `datei` attribute will produce `‘јунн’` and `‘јули’` instead `‘јун’` and `‘јул’` for date.

```

276 \bbl@declare@ttribute{serbianc}{ijekav}{%
277 \PackageInfo{babel}{Serbianc attribute set to ijekav}%
278 \let\captionsserbianc=\captionsserbianc@ijekav }

```



```

279 \onlypreamble\captionsserbianc@ijekav
280 \bbl@declare@ttribute{serbianc}{quotes}{%
281 \PackageInfo{babel}{Serbianc attribute set to quotes}%
282 \declare@shorthand{serbianc}{"'}{\textquotedblright} }
283 \bbl@declare@ttribute{serbianc}{datei}{%
284 \PackageInfo{babel}{Serbianc attribute set to datei}%
285 \let\dateserbianc=\dateserbianc@datei }
286 \onlypreamble\dateserbianc@datei

```

Some math functions in Serbian math books have other names: e.g. `sinh` in Serbian is written as `sh` etc. So we define a number of new math operators.

```

287 \def\sh{\mathop{\operator@font sh}\nolimits}
288 \def\ch{\mathop{\operator@font ch}\nolimits}
289 \def\tg{\mathop{\operator@font tg}\nolimits}
290 \def\ctg{\mathop{\operator@font ctg}\nolimits}
291 \def\arctg{\mathop{\operator@font arctg}\nolimits}
292 \def\arcctg{\mathop{\operator@font arcctg}\nolimits}
293 \addto\extrasserbianc{%
294 \babel@save{th}%
295 \let\ltx@th\th
296 \def\th{\textormath{\ltx@th}%
297 \mathop{\operator@font th}\nolimits}}%
298 }
299 \def\cth{\mathop{\operator@font cth}\nolimits}
300 \def\arsh{\mathop{\operator@font arsh}\nolimits}
301 \def\arch{\mathop{\operator@font arch}\nolimits}
302 \def\arth{\mathop{\operator@font arth}\nolimits}
303 \def\arcth{\mathop{\operator@font arcth}\nolimits}
304 \def\cosec{\mathop{\operator@font cosec}\nolimits}
305 \def\arcsec{\mathop{\operator@font arcsec}\nolimits}
306 \def\arccosec{\mathop{\operator@font arccosec}\nolimits}
307 \def\sech{\mathop{\operator@font sech}\nolimits}
308 \def\cosech{\mathop{\operator@font cosech}\nolimits}
309 \def\arsech{\mathop{\operator@font arsech}\nolimits}
310 \def\arcosech{\mathop{\operator@font arcosech}\nolimits}
311 \def\Prob{\mathop{\kern\z@\mathsf{P}}\nolimits}
312 \def\Expect{\mathop{\kern\z@\mathsf{E}}\nolimits}
313 \def\Variance{\mathop{\kern\z@\mathsf{D}}\nolimits}
314 \addto\extrasserbianc{%
315 \babel@save{nzs} \babel@save{nzd}
316 \babel@save{Nzs} \babel@save{Nzd}
317 \if@srbc@uni@ode
318 \def\nzs{\mathop{\mathrm{нзс}}\nolimits}
319 \def\nzd{\mathop{\mathrm{нэд}}\nolimits}
320 \def\Nzs{\mathop{\mathrm{H3C}}\nolimits}
321 \def\Nzd{\mathop{\mathrm{H3Д}}\nolimits}
322 \else
323 \def\nzs{\mathop{\textnormal{\cyrn\cyrz\cyrs}}\nolimits}
324 \def\nzd{\mathop{\textnormal{\cyrn\cyrz\cyrd}}\nolimits}
325 \def\Nzs{\mathop{\textnormal{\CYRN\CYRZ\CYRS}}\nolimits}
326 \def\Nzd{\mathop{\textnormal{\CYRN\CYRZ\CYRD}}\nolimits}
327 \fi}

```

The macro `\ldf@finish` takes care of looking for a configuration file, setting the main language to be switched on at `\begin{document}` and resetting the category code of `@` to its original value.

```

328 \ldf@finish{serbianc}
329 \code

```