

# On the localization of T<sub>E</sub>X in Hungary

*TUG 2002, Trivandrum*

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# Introduction

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- the heritage of Hungarian typography;
- the specialties of Hungarian grammar (hyphenation, handling definite articles and suffixes etc.).

# Introduction (cont.)

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The Hungarian Users Group (called  $\text{M}^{\text{A}}\text{T}_{\text{E}}\text{X}$ ) exists formally since the end of 2001. As the very first activity, we have resumed the localization of  $(\text{L}^{\text{A}})\text{T}_{\text{E}}\text{X}$  for the Hungarian language. We are looking for the problems which have not been solved, and try to organize teams for finding out the answers.

# Typography

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- The changes should be included in the Hungarian (L)T<sub>E</sub>X style files.

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- Paragraph titles – separated by typographical symbols

CÍMEK ° Magyar nyelvű szövegekben a címek után sohasem teszünk pontot.

*Jelek* \* A cím betűképehez illeszkedő bármilyen jel alkalmazható elválasztóként.

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- Fonts
  - Bold extended: on title pages only
  - Bold: titles
  - Caps and small caps: titles, names
  - Italic: titles, emphasized texts
  - Slanted: contraindicated

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‘ld. 12–24. oldal’
  - and the modified:

‘Kossuth–Széchenyi’

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# Footnotes

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A lábjegyzet\* jeleként a legtöbb esetben\*\* csillagot alkalmazunk.

\* Megjegyzés a szóhoz.

\*\* Számokat alkalmazzunk, ha a szöveg valamely más részén hivatkozunk bizonyos lábjegyzetekre.

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# Typography of Math

---

We need some modification in the layout of mathematical formulae, too.

Spacing has been modified in some cases.

# Binary Operations and Relations

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The new values to the parameters

```
\thickmuskip=4mu plus 2mu minus 4mu  
\medmuskip=2mu plus 1.5mu minus 2mu  
\thinmuskip=3mu
```

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# Space after Commas

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Comma is the decimal character

The layout should be  $2,5y$

So we changed the default class of comma in math mode:

```
\mathcode '\,' = "013B
```

# Grammar

---

There are some specialties in the Hungarian language which might be interesting in connection with TeXing or generally with document preparation. First we start with the problems of *generated texts*.

# Definite articles

---

In Hungarian there are two definite articles, ‘a’ and ‘az’. ‘a’ is used before words beginning with a consonant, and ‘az’ is used before words beginning with a vowel, just like ‘a/an’ in English. This cause problems in L<sup>A</sup>T<sub>E</sub>X with the commands `\ref`, `\pageref`, and `\cite` (‘a/az ?? oldalon’).

# Definite articles (cont.)

---

The babel package nicely solves this problem with the command `\az`. The command `\az{⟨arg⟩}` is equivalent either to ‘`az ⟨arg⟩`’ or to ‘`a ⟨arg⟩`’ depending on the first letter of `⟨arg⟩`. Beside `\ref`, `\pageref`, and `\cite` one may use `\aref`, `\apageref`, and `\acite` with babel/magyar which also generate the appropriate definite articles.

# Rules for definite articles

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- a letter only or a letter followed by a nonletter character: the pronunciation of the letter is considered (‘az F. fejezet’ (chapter F), ‘az x1 változó’ (variable x1))

# Alphabetical order (rule 1)

---

A one character consonant is handled separately from a two character consonant beginning with the same sign. For example ‘c’, ‘cs’ are two different consonants, so ‘cukor’, ‘cuppant’, ‘csalit’, ‘csata’ are in good alphabetical order. This rule is not applied for the ancient type of two character letters, and for the two or more character letters of other languages, like ‘sch’, which are frequently used in family names.

# Alphabetical order (rule 2)

---

The short and long vowels are equivalent (a=á, e=é, i=í, o=ó, ö=ő, u=ú, ü=ű), although the long ones are behind the short ones in the Hungarian alphabet (a, á, b, c, ...). For example 'alma', 'álm', 'alorvos' is the correct order. The only exception is the case when e.g. two words differ only in the length of the same vowels. In this case the short vowel comes first (e.g. 'kerek', 'kerék', 'kérek').

# Alphabetical order (rule 3)

---

The doubled two character consonants is considered as two two character consonants, so the next substitutions must be applied before the ordering: ‘ccs’  $\rightarrow$  ‘cs + cs’, ‘ggy’  $\rightarrow$  ‘gy + gy’, ‘ssz’  $\rightarrow$  ‘sz + sz’, ‘zzs’  $\rightarrow$  ‘zs + zs’, etc. This is true for the only three character consonant ‘dzs’, so the substitution is ‘ddzs’  $\rightarrow$  ‘dzs + dzs’.

# Handling these rules

---

These rules can be handled by the xindy package. A solution with makeindex package needs the application of an extra script/preprocessor. This script might apply the ‘@’ metacharacter in the index entry for sorting by makeindex.

# Phonetic rules of hyphenation

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- Although only the first letter is doubled in a long digraph (or trigraph), when hyphenated both syllables contain the full digraph (or trigraph) (mennyi – meny-nyi, hosszú – hosz-szú, gallyak – galy-lyak, briddzsel – bridzs-dzsel)

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For handling this rule either a (never complete) exception list or a morphological analysis is needed. T<sub>E</sub>X uses the first method. The wordlist is implicitly given in the ‘handmade’ `huhyph.tex`, but recently an experimental pattern list was generated with `patgen` also.

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- Morpheme boundary seems to be long digraph (villamos-szék – electric chair).
- Both hyphenation is acceptable if there is a Latin or Greek morpheme boundary, but it is not clear for average people (depresszió dep-resz-szió or de-presz-szió – depression).

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More difficulties implied when this rule applied for compound words, as `\lefthyphenmin` and `\righthyphenmin` can not be used for them.

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# Forms of suffixes

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# Suffixes for numbers

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Back harmonic numbers: 0, 3, 6, 8, 100, labial front harmonic numbers: 2, 5, illabial front harmonic numbers: 1, 4, 7, 9, 10, 1000.

# Spell-checking

---

The grammatical problems mentioned above are in connection with spell-checking. So far only commercial programs were available, the first Hungarian GNU ispell program has been released a few weeks ago.

# What next?

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For L<sup>A</sup>T<sub>E</sub>X styles

- Some minor changes in babel/magyar (e.g. white spaces in section titles)
- Designing new layouts according to the Hungarian typography (for letter, dissertation...)

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## For (L<sup>A</sup>)T<sub>E</sub>X

- Modification in math typing
- New kernings (punctuation marks) and ligatures (gy, gj, gz)