

The
TRANSLITERATOR

for ConTEXt

MANUAL

The *Transliterator* module and mini-manual,
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USAGE AND FUNCTIONALITY

OVERVIEW

The Transliterator provides two commands: `\setuptransliterator` preferably goes into the preamble and allows for global configuration. The Transliterator is invoked locally by `\transliterate` which does the actual transliteration of text passages.

```
\setuptransliterator [.,.*.,.]  
* mode = ru_old ru_ru_transcript_de ru_transcript_de_exp  
        ru_transcript_en all sr_tolt sr_tocy bg_de iso9_ocs ocs  
        ocs_gla ru_cz ocs_cz gr gr_n  
hyphenate = cs sk hr  
deficient_font = yes no  
hinting = yes no  
sr_exceptions = yes no
```

```
\transliterate [.,.*.,.]  
* inherits from \setuptransliterator
```

LOADING AND CONFIGURING THE MODULE

In order to use the Transliterator in a document we put the following somewhere before `\starttext`.

```
\usemodule[transliterator]
```

Although it has some defaults already set at this point they will most likely not correspond to what is needed in the document. To override the presets we use the command `\setuptransliterator[#1]`. It takes a comma separated list of two key-value pairs: `mode` and `hyphenate`. Through `mode` we specify the transliteration method. By the time of this writing this can be one of the following set:

Nota bene: The description at this point only serves as a placeholder as the transliteration modes are discussed in detail later in this document.

mode	description
all	iso 9 complete
bg_de	Bulgarian, German „scientific“ transliteration
gr	transliteration for Greek
gr_n	transliteration for Greek obeying nasalizations
iso9_ocs	== all plus non-ISO additions for Old (Church) Slavonic
ocs	“scientific” transliteration for Old (Church) Slavonic
ocs_cz	Czech transcription for Old (Church) Slavonic
ocs_gla	“scientific” transliteration for Old (Church) Slavonic / Glagolitic alphabet
ru	ISO 9 Russian
ru_cz	Czech transcription for Russian
ru_old	ISO 9 Russian plus pre-1918 chars (the default)
ru_transcript_de	German transcription for Russian
ru_transcript_en	English transcription for Russian
sr_tocy	Serbian, Latin to Cyrillic
sr_tolt	Serbian, Cyrillic to Latin

Table 1 Transliteration modes.

Through the `hyphenate` argument it is possible to adjust the language that is used for hyphenation. Specifying `\setuptransliterator[hyphenate=nl]` will let every transliterated part of the document be processed according to dutch rules, leaving the overall `\language[#1]` configuration unchanged for the rest of the content.

Another argument, `deficient_font` can be used in combination with the modes `all`, `ru_old` and `iso9_ocs`. It lets you circumvent the deficiency that some fonts show concerning the characters that ISO 9 assigns to cyrillic “ь” and “ѣ”. Set it to `true` to enable it.

The actual transliteration is done using the macro `\transliterate[#1]{#2}`. The second argument takes the raw string in the original language that we want to process, while the first, optional argument accepts local adjustments for `mode` and `hyphenate`. Thus, we would typeset one of Epicuros’ sayings like this:

```
\transliterate[mode=gr]{κακὸν ἀνάγκη, ἀλλ' οὐδεμία ἀνάγκη ζῆν  
μετὰ ἀνάγκης}
```

which yields “kakon anagkē, all’ udemia anagkē zēn meta anagkēs” in the PDF output. Alternatively there is an environment, `\starttransliterate[#1]`, as well, that takes the same arguments.

There are two special switches for the *Serbian* patterns, `hinting` and `sr_exceptions`, allowing for a little more fine-tuning. If activated, `hinting`

provides the special character “*” as a means to indicate positions, where the sequences “lj” and “nj” are to be treated as separate consonants. E. g. `\transliterate[mode=sr_tocyl]{in*jekcija}` is correctly transliterated as ињекција, and not ињекција. Likewise, further exceptions that are internally represented as a lookup table can be toggled off or on by the `sr_exceptions` switch. This pertains to words like “nadživeti” (result: надживети) but may lead to accidental false positives in cases that the module author didn’t foresee. By default both hinting and lexical exceptions are set to `yes`.

For orientation purposes the Transliterator comes with two macros that allow for closer inspection of the internal tables. `\showOneTranslitTab{#1}` outputs, obviously, a single table; their identifiers can be found in the `trans_tables_*.lua` files in the transliterator directory. The lazy alternative is `\showTranslitTabs` which prints all registered tables in a row nicely formatted as indexable sections. (Be warned, this may take some time.)

INTRODUCTION

What's all this, then?

GRAHAM CHAPMAN

At the first glance, *transliteration* – the accurate representation of letters from one alphabet in another – seems obsolete after the advent of Unicode which made its way even into TeX lately. Why not just go on and write down everything in the original script? But still there are lots of situations where transliteration is desirable, e. g. some scholarly habits might prescribe it in the main text with citations in footnotes left in the original alphabet; or transliteration might alleviate comparison within one language that happens to be written in different scripts; finally, including text in a foreign script might be impossible if there is no appropriate font which fits the main text. However, it is still most convenient for the writer to keep the untransliterated original in the document source as this allows for reusing it in another context where different transliterations rules might apply. The Transliterator module is meant to provide both: have the original in the source and a transliteration only in the final document.

Another way of handling foreign languages is *transcription*. It aims at producing some representation that does not rely on symbolisms alien to the language and thus to be at least “pronouncable” without further knowledge. As transcription methods are language specific and highly idiosyncratic they complicate the restoration of the original phrase because information may be lost. The Transliterator provides means of transcription as well but in most cases you should refrain from using them ([`mode=ru_transcript_en`], [`mode=ru_transcript_de`]).

For Cyrillic scripts the best quality is achieved using the standardized transliteration according to ISO 9.¹ This method not only covers all contemporary languages that are written in a variety of Cyrillic but provides a bijective mapping on latin characters as well. Consequently, you can unambiguously revert the transliteration into its original form which was impossible with previous versions of ISO 9 because they contained several exceptions depending on the original language. Although fifteen years old it has not yet made its way

¹ ISO (1995).

into scholarly publications at large so it might not immediately look familiar.² The diacritics are not identical to the “scientific” transliteration used in Slavic studies but as long as your editor does not enforce its traditional method you should always prefer ISO 9 ([mode=ru], [mode=ru_old], [mode=all]).

But ISO 9, too, has its shortcomings. It has no definitions for historical forms of the cyrillic script like pre-XVIII-century Russian and Old (Church) Slavonic while those are covered by the scholarly transliterations. To amend the situation the Transliterator provides an extension to ISO 9 for Old Slavonic containing the glyphs Іѧ, ѧ, ѿ, ѿ, ѻ, Ѽ, Ѹ, ѽ, Ѿ, Ѵ and Ѻ taken from the scientific transliteration ([mode=iso9_ocs]). If you prefer more coherency you might want to use pure “scientific” transliteration ([mode=ocs]). This method is complemented by [mode=ocs_gla], the only option the Transliterator offers for the Glagolitic alphabet; they can be used consistently along each other as they were taken from the same book.³

As far as I know there is no standardized transliteration for Greek so I had to resort to the one that is used in scholarly literature. Its main drawback is that it has no representation for diacritics apart from (rough) breathing, but it respects specific rules for diphthongs and vowels in initial positions ([mode=gr]). There is one alternative mode for those who prefer their γ phonetically resolved to /n/ before velars (γ, η, χ and ξ; [mode=gr_n]).

Concerning the hyphenation within transliterated passages the default is set to [hyphenate=cs] (Czech) which produces reasonable results when using all, iso9_ocs or ru_cz. For stuff like the English and German transcription use their respective native hyphenation.⁴ However, as there is no hyphenation pattern I know of that closely resembles the transliteration of Greek you might have to resort to putting \discretionary hyphens when line breaking does not satisfy.

The Transliterator as a whole is nothing more than a bunch of dictionaries containing substitution rules for tokens that may occur in the text. These tokens may be single characters or strings of more than one character. As

² A hasty glance at the latest issues of around 20 journals in a local library revealed that 2 of them actually are using ISO 9, these are *Przegląd wschodni* as of Nr. X, 3 (2008) and *Kwartalnik historyczny* as of CXVI, 3 (2009); the latter even contains a table on p. 218 showing a subset of the ISO 9 transliteration rules.

³ Birnbaum/Schaeken (1999) p. 77 [<http://www.schaeken.nl/lu/research/online/publications/akslstud/index.htm>].

⁴ You’ll have to specify this through \setuptransliterator or locally because the default hyphenation is *not* the same as your documents’.

there is no simple way to impose order onto those dictionaries the rules for one transliteration method are, if needed, distributed over more than one table which will be applied successively to ensure that multi-character rules are processed first.

mode	time(1) in s	ConTeXt
<none>	8.98	8.82
all	8.37	8.25
ru_cz	8.61	8.48
ru_transcript_en	9.26	9.10
ru_transcript_de	14.83	14.71

Table 1 Processing time for corpus Evgenij Onegin according to GNU time(1) and the ConTeXt stats.

Following suggestions from the mailing list, the Transliterato uses *LPEG* when substituting. This means a huge speed improvement for most substitution modes when compared to the older mechanism that used `string.gsub` iteratively. In ordinary use when transliterating single words or short phrases the Transliterato

tor should have little impact on document processing time at large, with the exception of the German transcription mode, perhaps.⁵ Transliterating (and typesetting in MKIV) Aleksandr Puškin’s verse novel Evgenij Onegin, a corpus of about 27000 words, in [mode=all] shows little to no delay at all. In fact, typesetting cyrillic letters with russian hyphenation seems slow things down so much that transliteration may be faster and uses slightly less memory.⁶

⁵ The problem lies within the rule set for the German transcription which dictates different instructions depending on the environment of a character; these may conflict, i. e. it is impossible to substitute a character stream in a single run as some rules may apply only to the result of previous rule. Let me know if there’s a way to tell LPEG to backtrack to the last character of a match and not to continue on the next.

⁶ On an IBM T43: 2.6.32-ARCH #1 SMP PREEMPT Tue Feb 9 14:46:08 UTC 2010 i686 Intel(R) Pentium(R) M processor 1.60GHz GenuineIntel GNU/Linux.

EXAMPLES

CYRILLIC SCRIPTS

ISO 9 AND DERIVATIVES

Several transliteration rules are either strictly ISO 9 compliant (`ru`, `ru_old`, `all`) or contain ISO 9 as a subset (`iso9_ocs`).⁷

В ворота гостиницы губернского города NN въехала довольно красивая рессорная небольшая бричка, в какой ездят холостяки: отставные подполковники, штабс-капитаны, помешники, имеющие около сотни душ крестьян, — словом, все те, которых называют господами средней руки. В бричке сидел господин, не красавец, но и не дурной наружности, ни слишком толст, ни слишком тонок; нельзя сказать, чтобы стар, однако ж и не так чтобы слишком молод.

V vorota gostinicy gubernskogo goroda NN v'ehala dovol'no krasivaya ressornaâ nebo-l'saa brička, v kakoj ezdât holostaki: otstavnye podpolkovniki, štabs-kapitanы, pomeshniki, imet'sie okolo sotni duš krest'yan, — slovom, vse te, kotoryh nazyvaût gospodami srednej ruky. V bričke sidel gospodin, ne krasavec, no i ne durnoj naružnosti, ni slikom tolst, ni slikom tonok; nel'zâ skazat', čtoby star, odnako ž i ne tak čtoby slikom molod.

Figure 1 [mode=ru,hyphenate=cs] *Transliteration rules for the contemporary russian alphabet.*

А сведется віра, убъютъ сотцкого в сель, ино тебъ взяти полтіна, а не сотцкого, ино четьръ гривны, а намъ віръ не тати в Новъгородѣ; а о убиствѣ віръ нѣть. А что волости, честны король, новгородцкіе, ино тебъ не держати своими мужи, а держати мужми новгородцкими. А что пошлина в Торжку и на Волоцѣ, тівунъ свои держати на своем чистї, а Новугороду на своем чистї посадника держати. А се волости новгородцкіе: Волокъ со всѣми волостми, Торжокъ, Бѣжіці, Городецъ Палецъ, Шпинъ, Мелецъ, Егна, Заволочье, Тиръ, Пермъ, Печера, Югра, Вологда с волостмі.

A svedetsâ vîra, ub'ut' сотckogo v sel'c, ino tebe vzati poltina, a ne sotckogo, ino četyr' grivny, a nam" vîr" ne tati v Nov'gorodë; a o ubistvë vîr" nêt". A čto volosti, čestny korol', novgorodckie, ino tebe ne deržati svoimi muži, a deržati mužmi novgorodckimi. A čto pošlina v Toržku i na Voločë, tivun' svoi deržati na svoei časti, a Novugorodu na svoei časti posadnika deržati. A se volosti novgorodckie: Volok" so vsëmi volostmi, Toržok", Bežici, Gorodec' Palec', Šipin", Melecá, Egna, Zavoloče, Tir", Perm', Pečera, Ugra, Vologda s volostmi.

Figure 2 [mode=ru_old,hyphenate=cs] *With aditional characters for pre-1981 Russian orthography (100 per cent iso 9).*

⁷ Unfortunately ConTeXt still lacks language files for some of them so please excuse the inadequate hyphenation in these cases.

Беларуская мова, мова беларусаў, увах-
одзінь у сям'о індаеўрапейскіх моў, яе
славянскай групы і ўсходнеславянскіх мо-
ваў падгрупы, на якой размаўляюць у Бе-
ларусі і па ўсім свеце, галоўным чынам у
Расіі, Украіне, Польшчы. Б. м. падзя-
ляе шмат граматычных і лексічных улас-
цівасцяў з іншымі ўсходнеславянскімі мо-
вамі (gl. таксама: Іншыя назвы беларус-
кай мовы і Узаемныя ўпływy усходнесла-
вянскіх моваў).

Figure 3 [mode=all,hyphenate=cs] *The complete cyrillic mapping from iso 9; transliterating Belarusian.*

Українська мова (застарілі назви – руська
мова, проста мова [...]]) – слов'янська
мова, державна в Україні та одна з трох
«офіційних мов на рівнях зasad» у не-
визнанні Придністровській Молдавській
Республіці. За різними оцінками загалом
у світі українською мовою говорить від
41 млн. до 45 млн. осіб, вона входить
до третього десятка найпоширеніших мов
світу.

Figure 4 [mode=all,hyphenate=cs] *The complete cyrillic mapping from iso 9; transliterating Ukrainian.*

Српски језик је један од словенских је-
зика из породице индоевропских језика.
Први писани споменици у српској редакцији
старословенског језика потичу из XI
и XII века. Српски језик је стандардни је-
зик у службеној употреби у Србији, Босни
и Херцеговини и Црној Гори, а у употре-
би је и у другим земљама где живе Срби,
међу осталима и у Хрватској.

Figure 5 [mode=all,hyphenate=cs] *The complete cyrillic mapping from iso 9; transliterating Serbian.*

Belaruskaá mova, mova belarusaú, uvahod-
zic' u sámú índaeúrapejskíh moў, áe slaván-
skaj grupy i úshodneslavánskikh movaú pad-
grupy, na ákoj razmaúláúc' u Belarusi i pa
úsim svece, galotým cynam u Rasii, Ukra-
íne, Poľščy. B. m. padzálæe šmat gramatyč-
nyh i leksičnyh ulascivascáu z inšymí úshod-
neslavánskimi movami (gl. takсама: Inšyá
nazvy belaruskaj movy i Uzaemnyá úplyvy
ushodneslavánskikh movaў).

Ukraíns'ka mova (zastarili nazvi – rus'ka
mova, prosta mova [...]) – slov'áns'ka mova,
deržavnva v Ukraini ta odna z tr'oh «oficij-
nih mov na rívnih zasadah» u neviznaniј
Pridnistrov'skij Moldav'skij Respublikci. Za
riznimocinkami zagalom u sviti ukraíns'-
koú movoú govorit' víd 41 mln. do 45 mln.
osib, vona vhodit' do tret'ogo desátka naj-
pošireniših mov svitu.

Srpski jezik je jedan od slovenskih jezika iz
porodice indeoevropskih jezika. Prvi pisani
spomenici u srpskoj redakciji starosloven-
skog jezika poticju iz XI i XII veka. Srpski
jezik je standardni jezik u službenoj upo-
trebi u Srbiji, Bosni i Hercegovini i Crnoj
Gori, a u upotrebi je i u drugim zemljama
gdje žive Srbici, među ostalima i u Hrvatskoj.

Что са дѣятъ по вѣрьи немъ : то ѿидето по вѣрьи
минемъ : приказано будѣтъ добрымъ людѣмъ :
а любо грамотою оутвѣрдатъ : како то будѣтъ
всемъ вѣдомъ : или кто посы живыи штампѣть
са : того лѣтъ коли дѣлѣрахъ : вѣдъка ризкин
ѹмыѣралъ : ѹздумалъ кнѧзъ смолынскыи : мѣстри-
шаетъ : дѣдѣвъ сиѣ : прикасалъ вѣригу своему лоучу-
шего попа : іеръмия : и съ нимъ ѹмына моужа пан-
телья : иесовеного горда смолынска : та два была по-
сланы отъ ризѣ : изъ ригы юхали на гоукын вѣрю :
тамо твердити міръ :

Čto se dějetě po věrem' nem' : to otideto po
věr'm'nem' : prikazano budětē dobrým," lü-
děm'" : a lubo gramotoū utvěrdet' : kako to
budětē vsem," vědom" : ili kto posl' živyi
ostanět' se : togo lef' kol al "braht" : vldka
rizkii um'rli" : uzdlumal" knezē smol'neskyi :
m'stislav" : dvd'v" sn" : prisal" v" rigu svo-
jego luč'sego popa : jer'meā : i s" nim' um'na
muža pantel'ā : isovjego gorda smol'neska :
ta dva byla posl'm' u rizě : iz rigy jehali na
gočkyi bero : tamо tverditi mīr" :

Figure 6 [mode=iso9_ocs,hyphenate=cs] *Transliteration rules according to iso 9 with additions for Old (Church) Slavonic.*

“SCIENTIFIC” TRANSLITERATION

These transliterations are widely used among scholars, mainly linguists and, to a lesser extent, historians. They comprise large character sets in order to represent the original text adequately and facilitate comparison of texts of the same language written in different scripts; they are not, however, as easily reversible as ISO 9.

Се наученье повѣсть сио. По потопѣ . первиє свѣ
Ноеви . раздѣлница землю . Симъ . Хамъ . Афетъ .
и наса вѣстокъ . Симюви Перенда . Ватръ . тоже и до
Индикын в долготу и в ширину [и до Нирокурна]
такоже реци ѿ вѣстока и до полудѣнья . и Сурина
. и Инди по Ефратъ рѣку . Кавилонъ . Корадунъ .
Асуране . Мисопотамира . Аравиа . старишина .
Елманъ . Инди . Равиа . на всѧ Д.

Se načenje pověst siju. Po potopě . pervie
smve Noevi . razděliša zemljú . Simъ . Hamъ .
. Afeť . i jaſeč věstokъ . Simouvi Persida .
Vatrъ . tože i do Indikia v dolgotu i v širinu
[i do Nirokuria] jakože rešti ot věstoka i do
poluděnja . i Stirija . i India po Efratъ rěku .
Vavilonъ . Korduna . Asurene . Misopotamira .
Aravija . staréšaja . Elmaisъ . Indi .
Ravija . na vsę D.

Figure 7 [mode=oocs,hyphenate=cs] *Transliteration for Old Slavonic used in Slavic studies, taken from the excellent book of Birnbaum/Schaeken (1999).⁸*

⁸ This one and both of the following Czech transliterations, although elegantly dealing with hard and weak signs by taking characters from the Cyrillic alphabet, are not unquestioned from a typographical point of view: “If contrasting faces are used for phonetic transcriptions and main text, each entire phonetic word or passage, not just the individual phonetic characters, should be set in the chosen phonetic face. Patchwork typography, in which the letters of a single word come from different faces and fonts, is a sign of typographic failure. [...] Such mixtures are almost sure to fail unless all the fonts involved have been designed as a single family.” (Bringhurst (2008)) From this follows that it is advisable to reconsider your font whether it indeed provides the needed glyphs from Russian as well.

Прошло семь лет после 12-го года. Взволнованное историческое море Европы улеглось в свои берега. Оно казалось застывшим; но таинственные силы, движущие человечество (таинственные потому, что законы, определяющие их движение, неизвестны нам), продолжали свое действие. Несмотря на то, что поверхность исторического моря казалась неподвижной, так же непрерывно, как движение времени, двигалось человечество. Слагались, разлагались различные группы людских сцеплений; подготавливались причины образования и разложения государств, перемещений народов.

Figure 8 [mode=ru_cz,hyphenate=cs] Czech phonetic transcription for contemporary Russian.

Убъеть мужъ мужа, то мъстить брату брата, или сынови отца, либо отцю сына, или брату брата; либо сестрину сынови; аще не будеть кто мъстия, то 40 гривенъ за голову; аще будеть русинъ, либо гридинъ, либо купчина, либо іаветникъ, либо меунинъ, лице изъгнан будеть, либо словенинъ, то 40 гривенъ положити за нь.

Prošlo sedm let posle 12.-go goda. Vzvolnovennoe istoričeskoe more Evropy uleglošč v svoi berega. Ono kazalosť zatichšim; no ta-instvennye sily, dvigajušče čelovečestvo (ta-instvennye potomu, čto zakony, opredelja-juščie ich dviženie, neizvestny nam), pro-dolžali svoje dejstvie. Nesmotrja na to, čto poverchnost istoričeskogo morja kazalasť nepodvižnoju, tak že nepreryvno, kak dviženie vremeni, dvigalošč čelovečestvo. Sla-galisp, razlagalisp različne gruppy ljudskich scepljenij; podgotovljalisť pričiny obrazova-nija i razloženija gosudarstv, peremeščenij narodov.

Figure 9 [mode=ooc_cz,hyphenate=cs] Czech phonetic transcription for Old Slavonic (superset of the corresponding Russian transcription).

SERBIAN

The tables for converting Serbian text between Cyrillic and Latin alphabets are `sr_tolt` and `sr_tocy`.

Српски језик је један од словенских језика из породице индоевропских језика. Први писани споменици у српској редакцији ни споменици у српској редакцији старословенског језика потичу из XI и XII века. Српски језик је стандардни језик у службеној употреби у Србији, Босни и Херцеговини и Црној Гори, а у употреби је и у другим земљама где живе Срби, међу осталима и у Хрватској.

Srpski jezik je jedan od slovenskih jezika iz porodice indeoevropskih jezika. Prvi pisani spomenici u srpskoj redakciji staroslovenskog jezika poticuju iz XI i XII veka. Srpski jezik je standardni jezik u službenoj upotrebji u Srbiji, Bosni i Hercegovini i Crnoj Gori, a u upotrebji je i u drugim zemljama gde žive Srbi, među ostalima i u Hrvatskoj.

Figure 10 [mode=sr_tolt,hyphenate=hr] Transliteration ћирилица → латиница.

Srpski jezik je jedan od slovenskih jezika iz porodice indoevropskih jezika. Prvi pisani spomenici u srpskoj redakciji staroslovenskog jezika potiču iz XI i XII veka.

Srpski jezik je standardni jezik u službenoj upotrebi u Srbiji, Bosni i Hercegovini i Crnoj Gori, a u upotrebi je i u drugim zemljama gde žive Srbi, među ostalima i u Hrvatskoj.

Српски језик је један од словенских језика из породице индоевропских језика. Први писани споменици у српској редакцији старословенског језика потичу из XI и XII века.

Српски језик је стандардни језик у службеној употреби у Србији, Босни и Херцеговини и Црној Гори, а у употреби је и у другим земљама где живе Срби, међу осталима и у Хрватској.

Figure 11 [mode=sr_toc,hyphenate=sr] *Transliteration latinica → cirilica.*

BULGARIAN

Българският език е индоевропейски език от групата на южнославянските езици. Той е официалният език на Република България и един от 23-те официални езици на Европейския съюз.

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Figure 12 [mode=bg_de,hyphenate=cs] *German scientific transliteration for Bulgarian (based on old iso 9 standard).*

LEGACY NATIONAL TRANSCRIPTIONS

At the moment there are tables for “old school” transcription into three languages: English (via ru_transcript_en), German (ru_transcript_de) and Czech (ocs_cz). At least the German one is almost unreadable if used with strings longer than two words. As we have the bijective ISO 9 mapping at hand there should be no reason at all to use any of them.

Прошло семь лет после 12-го года. Взволнованное историческое море Европы улеглось в свои берега. Оно казалось застывшим; но таинственные силы, движущие человечество (таинственные потому, что законы, определяющие их движение, неизвестны нам), продолжали свое действие. Несмотря на то, что поверхность исторического моря казалась неподвижною, так же непрерывно, как движение времени, двигалось человечество. Слагались, разлагались различные группы людских сцеплений; подготавливались причины образования и разложения государств, перемещений народов.

Proshlo sem let posle 12-go goda. Vzvolno-vannoye istoricheskoye more Yevropy uleglos v svoi berega. Ono kazalos zatikhshim; no tainstvennyye sily, dvigayushhiye chelovechestvo (tainstvennyye potomu, chto zakony, opredelyayushhiye ikh dvizheniye, neizvestny nam), prodolzhali svoye deystviye. Nesmotrya na to, chto poverkhnost istoricheskogo morya kazalas nepodvihchnou, tak zhe nepreryvno, kak dvizheniye vremeni, dvigalo chelovechestvo. Slagalis, razlagalis razlichnyye gruppy lyudskikh stsepleniy; podgotovlyalis prichiny obrazovaniya i razlozheniya gosudarstv, peremeshcheniy narodov.

Figure 13 [mode=ru_transcript_en,hyphenate=en] English transcription for contemporary Russian.

Прошло семь лет после 12-го года. Взволнованное историческое море Европы улеглось в свои берега. Оно казалось застывшим; но таинственные силы, движущие человечество (таинственные потому, что законы, определяющие их движение, неизвестны нам), продолжали свое действие. Несмотря на то, что поверхность исторического моря казалась неподвижною, так же непрерывно, как движение времени, двигалось человечество. Слагались, разлагались различные группы людских сцеплений; подготавливались причины образования и разложения государств, перемещений народов.

Proschlo sem let posle 12-go goda. Wswol-nowanjoje istoritscheskoje more Jewropy uleglos w swoi berega. Ono kasalos satischim; no tainstwennyje sily, dwigajuscht-schije tschelowetschestwo (tainstwennyje potomu, tscho sakony, opredeljajuscht-schije ich dwischenje, neiswestny nam), prodolschali swoje deistviye. Nesmotrya na to, tsche powerch-nost istoritscheskogo morja kasalas nepod-wihchnuju, tak sche nepreryvno, kak dwischenje wremeni, dwigalos tschelowetschestwo. Slagalis, raslagalis raslitschnyje gruppy ljudskich szepleni; podgotowljalis pritschiny obrazowaniija i rasloschenija gossudarstw, pere-meschtscheni narodow.

Figure 14 [mode=ru_transcript_de,hyphenate=deo] German transcription for contemporary Russian.⁹

GLAGOLITIC

[ѹ] ѭԵՐԵՎԱՆ Ե՞՞յ ԶՅ ԽԵՂԵԾՄԱՅ ԿԻՒՅ [ՁԵՑՄԱ] Ը ՅՈՒԹՔՅ
ՁԿԱՐԱՀՅԱՅՏԵՎԵՄՅ: [ՅԵՅ] ԾԱՅ ՁԵՄՏԱԿԲՅ: ԽԵՎ ՃԵ
ՑԵՎՑՅ[Յ] [ՐՅ] ԱԿԵՊ ԽԵՂԵԾՄԱՅ ԽԵՄՅԵՑՄԱՅ ԾՒՀ[ՁԵՐՅ]
[.] [Ւ] ԵԾՄԱՅ ԱԿԵՎՄՅ: Ը [Ց] [.....] [.] [Ր] ՐՅ
ՐՅ ՋԵԶԵՑՅ[Յ] ՑՅՆՅ ԾԿԵՐԾՄ[Յ] [ԸՆ] ԱԿԵՎՄՅ ՑՅՆՅ
ՑԵՎԱՅ ՀԵՆԱԲ: Կ ՋԵՅ Յ [ՄՐ] ԽԵՎՑՅ: ԱԿԵՎՄՅ ՑՅՆՅ
ՐՅՄՅՄՅ: ՀԵ ԳՐ [ԸՆ] ԵՐԵՎԱՆ ԵՐԵՎԱՆ ՌԵՑՄԱՅԵՅՅ: Յ[Յ]

[vl] adъiko čkъ si xoštetъ raz[orit] i za-
konъ manastъrъski: [iž] tbi ustavi Rečъ že
igum[ь] [nъ] kako xoštetъ razoriti zak[onъ]
[.] [a] estъ čkъ i [m] [.....] [.] my ne
možemъ sego trъpč[i] [da] lubo sego imei
sude a my o [ti]demъ lubo sego pusti: da
ot [id]jetъ iž estъ prišybъ: s[e]

Figure 15 [mode=ocs_gla,hyphenate=cs] “Scientific” transliteration for Old Slavonic written in the Glagolitic alphabet as used in *Birnbaum/Schaaken (1999)*.

GREEK

The Transliterator offers two modes for handling Greek: `gr` and `gr_n`. They differ only on one aspect. `gr` transliterates the canonical Greek alphabet as well as the special glyphs Digamma, Quoppa and Sampi. `gr_n` behaves exactly the same way except that nasalization is observed such that $\gamma + [\gamma | \kappa]$ yields `n+ [g | k]`.

οἰνῷ δὲ κάρτα προσκέπται, καὶ σφι οὐκ ἐμέ-
σαι ἔξεστι, οὐκέτι οὐδέρησαι ἀντίον ὄλλου. ταῦτα
μέν νυν οὕτω φυλάσσεται, μεθύσκομενοι δὲ
ἐνώλασι βουλεύεσθαι τὰ σπουδαιέστατα τῶν
πρηγμάτων: τὸ δὲ ἀνδρᾶ σφι βουλευομένοισι,
τοῦτο τῇ ὑστεραὶ γήρωις προτιμεῖ ὁ στέ-
γαρχος, ἐν τοῦ ἀν ἔρτες βουλεύοντα, καὶ
ἡν μέν σδη καὶ νήρωις, χρέωνται αὐτῷ, ἡν
δὲμη ἄδη, μετεῖσι. τὰ δὲ νήρωντες προβου-
λεύσωνται, μεθύσκομενοι ἐπιδιαγινόσκουσι.

oīnō de karta proskeatai, kai sphi uk emesai
exesti, uki urēsai antion allu, tauta men nyn
hutō phylassetai, methyskomenoi de eōthasi
buleuesthai ta spudaiestata tōn prēgmatoñ:
to d' an hadē sphi buleomenoisi, tudo tē
hysteraie nēphusi protitheoi ho stegarchos, en
tu an contes buleontai, kai ēn men hadē
kai nēphusi, chreōntai autō, ēn demē hadē,
metieisi. ta d' an nēphontes probuleusontai,
methyskomenoi epidiajinoškusi.

Figure 16 [mode=gr,hyphenate=de] Transliteration for Greek – standard.

⁹ Following Drosdowski/Müller/Scholze-Stubenrecht/Wermke (1952) p. 82; all the canonical rules are implemented save one: `-ego` and `-ovo` should resolve to `-ewo` and `-wo` respectively iff genitive endings. As this is a grammatical rather than graphical criterion writing a substitution algorithm would amount to do natural language parsing. To make things worse this rule is phonetically confused as it would not take care of other contexts where `z` in those patterns is articulated as `/v/` like for instance in *cezodnya* (which is a historical genitive, though ...). So even if this could be implemented it would not be advisable to use such a rule.

ταῦτα καὶ νεωτέρῳ καὶ πρεσβυτέρῳ ὅτῳ ἀν
ἐντυγχάνω ποιήσω, καὶ ξένῳ καὶ ἀστῷ, μᾶλ-
λον δὲ τοῖς ἀστοῖς, ὅσῳ μου ἐγγυτέρῳ ἔστε
γένει.

tauta kai neōterō kai presbyterō hotō an ent-
yngchanō poiēsō, kai xenō kai astō, mallon de
tois astoīs, hosō mu engyterō este genei.

Figure 17 [mode=gr_n,hyphenate=de] *Transliteration for Greek – alter-native respecting nasalization.*

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