Specifications and Notation for Lexicon Encoding

COP Project 106 MULTEXT-East

Work Package WP1 – Task 1.1
Deliverable D1.1 F

Final Report

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Chapter 1

Introduction

The purpose of this document is to (i) provide harmonized lexical specifications for the six languages involved in the MULTEXT-East project — Bulgarian, Czech, Estonian, Hungarian, Romanian, Slovene — and (ii) formulate the relevant notation to be used in the lexicons contributed by each language group.

The two proposals of lexicon specifications presented in the MULTEXT D1-6-1B Deliverable of the MULTEXT Project (Bel, Calzolari and Monachini eds. 1995) and in the EAGLES document of the Lexicon sub-group on Morphosyntactic annotation (Monachini and Calzolari 1995) — which is the basis of the previous one — constitute together the starting point and the model of the work and results presented here.

The MULTEXT-East partners have evaluated the two proposals from the point of view of the coverage with respect to their languages, have added the specifications needed to encode the peculiarities of their languages and have produced concrete applications of the proposed specifications. The work has been done through a cyclical process of adjustments and re-application, giving rise to three versions of this document: the initial IM1 version under the coordination from PISA, a subsequent, significantly revised and validated version at project milestone M, and this final version, incorporating the last changes to the language specific tables, the latter two coordinated by LJUBLJANA.

The result is the common proposal for lexicon specifications of the Central & Eastern European languages contained in Chapter 2. On the basis of the EAGLES and MULTEXT models, they are presented as sets of attribute-values — displayed in tabular format — and the notation proposed follows the "string of characters in fixed positions" strategy.

The applications of the proposal to the six languages are given in Chapter 3.They have been contributed respectively by:

Bulgarian: R.Pavlov, L.Dimitrova, L.Sinapova and K.Simov;

Czech: V.Petkevič;

Estonian: H.J.Kaalep;

Hungarian: L.Tihanyi;

Romanian: D.Tufiş and A.M.Barbu;

Slovene: T.Erjavec and P.Holozan.

The language application parts present the lexicon specifications category by category and are structured as follows:

(a) section which describes the features and values pertinent to a given category in the form of tables with examples from the language in question;

(b) a second section which provides the combinations of values: the way in which different values combine together, giving rise to all the possible lexicon specifications for the items belonging to that category, is displayed.

Pisa, October 1995
Ljubljana, August 1997

1.1 Background work

The MULTEXT D1-6-1B Deliverable (Bel, Calzolari and Monachini eds. 1995) and the EAGLES proposal of specifications to be encoded in lexica (Monachini and Calzolari 1995) have constituted the basis of the results presented in what follows.

The two documents together collect the outcomes of the main efforts in Europe towards standardization in large linguistic resources and, among other fields, in linguistic annotation. The relationships and the interdependencies between the two actions are reported in the introduction of the EAGLES document, where the MULTEXT contribution to the EAGLES effort is described in detail and commented also in the introduction of the MULTEXT Deliverable. Summing up, the two actions have proceeded with the same bottom-up approach — that is also followed here —, producing similar sets of specifications: the EAGLES one, aiming at a general description of the languages, is intended to offer a more general proposal and cover a vast range of purposes, while the MULTEXT set has to be considered in the context of the project itself, whose aim was to produce resources to be used within the specific application of automatic corpus tagging. The MULTEXT set of lexicon specifications is, hence, task-oriented, being designed with a special look to the final purpose.

1.2 MULTEXT-East work and approach

The MULTEXT-East partners have analysed and evaluated the set of MULTEXT specifications with respect to their languages; when the scheme has not been sufficient, then, the EAGLES inventory has been consulted. If necessary, new distinctions for language-specific information have been proposed.

The work proceeded in a cyclical process: firstly, the partners have circulated the results of their evaluation work in applications that have been, in turn, evaluated by Pisa, and later by Ljubljana. These applications have constituted the basis for the proposal of a set of Central & Eastern specifications.

The nucleus of common features, already isolated within MULTEXT, proved to be applicable to the Central & Eastern languages but the selection of distinctions needed for encoding the information peculiar to the MULTEXT-East languages and the harmonisation of proposals has required much further work. Some of the features proposed by the partners in their first applications have been dropped, as they pertained to a not-purely morphosyntactic level (i.e. Transitivity); other distinctions have been kept out from the set since considered too fine.

The emerged set has been again circulated among the partners for new cycles of revisions and re-applications, until the specifications have been considered acceptable for all the language groups and stable enough for the first version (IM1) of this deliverable.

However, there were still significant problems with the IM1 this version of the deliverable, in particular:

- different attributes or values were used to describe the same phenomena with different categories / languages (e.g. `1st` and `1` for first person);
- especially the three Slavic languages at times described the same phenomena in different

ways;

- language independent aspects of the specifications (e.g. the 'form' of numerals: digit, roman, etc.) were treated differently for different languages;
- the ordering of attributes in some categories was sub-optimal, often necessitating long morphosyntactic descriptions.
- the attributes and values used different 'punctuation' (e.g. `full art`, `Modific.Type`, `Pron-Form`, `SubType`;
- the common tables were formated differently for different categories.

Therefore it was decided to produce, for milestone M, version 2 of the deliverable; this effort was led by the Ljubljana site. This harmonisation led to a more motivated and — on the average — more compact morpho-syntactic descriptions for the MULTEXT-East languages. The formalisation of the tables and descriptions had an added benefit: a simple Perl program (`mtems-expand`) was written, which could, working directly with common tables of the morpho-syntactic descriptions of this report, either expand or validate lexical morphosyntactic descriptions. This program was used to validate the word-form lexica of the project, thus ensuring that all the morphosyntactic descriptions in the lexica of the particular languages are well-formed. Another Perl program, `mtems-split` was also written, which, again working on the common tables, produces language specific tables. These tables were circulated to the partners, thus ensuring that the language specific section do in fact reflect the common tables.

In the tagging of the MULTEXT-East corpus, it was found that the initial lexica still contained errors or non-optimal choices; this lead to a revised set of lexica, and this to new language applications of the morpho-syntactic tables. These were incorporated in this Final report.

1.3 Description of the proposal

The proposal has been prepared in the usual MULTEXT table format, which displays the specifications (as sets of attribute-values, see below for further details about the notation), with their respective codes used to mark them in the lexicons. Two types of features are distingished:

(i) the minimal *core features*

These are shared by most of the languages and are highlighted in the tables with asterisks (*). We tried to keep this set in common to all the MULTEXT and MULTEXT-East languages. In such a way, the comparability across the information encoded in the lexical lists of Central & Eastern and of the six original MULTEXT languages is ensured to a certain extent.

- (ii) the MULTEXT-East *language-specific features*

These are shared by the MULTEXT-East languages, but differ from the MULTEXT ones. The formulation of this set has been, as already mentioned, highly delicate, due also to the fact that many language-specific values were presented in the applications and sometimes the same (or 'similar enough') morphosyntactic phenomenon was referred to with two different attribute or value names. The phase of recognition and harmonization of semantics of some attributes, values and naming conventions has, hence, required much effort.

If a feature-value is used by only one MULTEXT-East language (i.e. if a value is *language-specific*) it has been marked with `l.s.`. This marking is used only when a subset of the feature's values is language specific — in case a whole attribute (i.e. all its features) is language specific, then the mark `l.s.` is not used.

This representation, with the concrete applications which display and exemplify the attributes and values and provide their internal constraints and relationships, makes the proposal self-explanatory. Other groups can easily test the specifications on their language, simply by following the method of the applications. The possibility of incorporating idiosyncratic classes and distinctions after the common core features makes the proposal relativelly adaptable and flexible, without ruining compatibility.

1.4 Lexical lists

The specifications presented here have been used in the encoding the word-form lexica of the project. These lexcion contain one entry per line, where an entry has the following form:

Word-form, lemma, morphosyntactic description, (TAG)

This reports describes the morphosyntactic descriptions used in the lexica and the tags developed by the partners. It should be noted that the TAG field is optional in the lexica, partly because it easier and more compact to provide the mapping between the morphosyntactic information and the tags in separate tables and due to the preliminary nature of the tagsets developed. In other words, the lexica with the morphosyntactic descriptions provide a much more mature resource than do the tags.

1.5 Notation

In MULTEXT, the notation has been chosen following current practices for NLP, where information is represented in attribute-value formalisms and following the idea that it should also be self-informative for human understanding. At the same time, a relativelly compact encoding was maintained. The notation format suggested has the following main characteristics:

- attributes are marked by positions;
- values are represented by a single character;
- a special marker reflects the non applicability of a given attribute.

These characteristics make the proposed lexical notation similar to attribute-value pairs used in unification based formalisms (see the MULTEXT D1-6-1B Deliverable for further details).

The linear strings of characters representing the morphosyntactic descriptions are constructed following the philosophy of the Intermediate Format proposed in the EAGLES Corpus proposal

(Leech and Wilson, 1994), i.e. of having agreed symbols in predefined and fixed positions: the positions of a string of characters are numbered 0, 1, 2, etc. in the following way:

a. the agreed character at position 0 encodes part-of-speech;

b. each character at position 1, 2, n, encodes the value of one attribute (person, gender, number, etc.);

c. if an attribute does not apply, the corresponding position in the string contains a special marker, in our case '`-`' (hyphen).

Example: `Ncms- (Noun, common, masculine, singular, nocase)`

This notation adopts the EAGLES Intermediate Format with a small revision: the Intermediate Format encodes information by means of digits, while in MULTEXT characters of a mnemonic nature are preferred.

The marker '`-`' has a special semantics and it means 'not-applicable'. As stated above, its function is just to keep the relationship established between attributes and values. It might be used for the following cases:

(a) not relevant *to a particular language*, e.g. Gender to Estonian.

(b) not applicable *to a particular combination of attribute-values*, i.e. although the attribute is used by a category in a given language it does not apply to a particular subclass of the category; e.g., Person applies to Pronouns, but not to the Type demonstrative.

(c) not applicable *to a particular lexical item*, i.e. although the attribute applies to the rest of its paradigm, e.g., Gender in the paradigm of English Personal Pronouns applies only to the 3rd person, *I*, *you* vs. *she*, *he*).

1.6 Organization of the language-specific sections

Following the procedure of the MULTEXT Deliverable, the language-specific sections consist of two distinct parts:

- a descriptive section, where the features and values relevant to the lexicon of the language are displayed in tabular form, with examples taken from the language;
- the combination section, where the way in which the different values combine together is shown.

Two different strategies of displaying combinations have been followed:

(i) all the *admitted* combinations are provided together with an example. This has the disadvantage of producing big lists, given the high number of features and values to combine together, but the advantage of providing the only legal combinations with the relevant constraints in the application of some features/values in presence of other features or values or combination of them (see e.g Gender in Personal Pronouns).

(ii) a mathematical expression describing the combinations is provided, which can subsequently used to generate *all* combinations, including those which are not valid.

Chapter 2

Morphosyntactic Specifications for Central & Eastern Lexicons

The categories listed below with the relevant attributes and values are based on the MULTEXT and EAGLES documents. The specifications constitute a "harmonized" set of features which properly describe lexical items of the different languages.

In keeping with the general aim of the project, these harmonized specifications — and the related resources — will contribute to the standardization of the corpus annotation work. This common set of features, besides the advantages described in the Introduction, will also be a common ground to perform comparisons of different annotation tool results, because the existence of many lexical description systems is causing nowadays a problem for comparing results.

Therefore the categories and features listed below are the common reference for the work done by the different groups.

2.1 Table of categories

```
=============== ====
Part-of-Speech  Code
=============== ====
Noun             N
Verb             V
Adjective        A
Pronoun          P
Determiner       D
Article          T
Adverb           R
Adposition       S
Conjunction      C
Numeral          M
Interjection     I
Residual         X
Abbreviation     Y
Particle         Q
=============== ====
```

Each category acts a type, i.e. it introduces attributes and their values. The equivalence of a particular attribute-value at a particular position in a morpho-syntactic description is thus defined only with respect to a given category. The attributes and the values pertinent to the above categories are presented in the next section.

After the section devoted to the tables, another section presents all the values listed in alphabetical order and provides the respective codes. A further section contains the list of the attributes, providing the information of the category/categories in which they are used, and for some of them, a very synthetic definition of their semantics.

2.2 Tables of attribute-values

The common MULTEXT-East tables of attribute values are given for all categories above, and have a rigid structure, which makes them suitable for automatically verifying the conformance of a particular morphosyntactic description with the tables, or for expanding a morphosyntactic description into its more verbose form.

At the beginning of each category the number of attributes introduced by the category is given. This is followed by a string summarizing the valid attributes of the category. The features constituting the minimal core, in common with MULTEXT (and EAGLES) are graphically contained between strings of stars (*).

This information is followed by the table proper. The table has the following columns:

1. **Position** gives the position of the attribute in the string of the morphosyntactic description;
2. **Attribute** gives the name of the attribute;
3. **Value** gives the name and one-letter code of the attribute-value;
4. **Ro, Sl, Cs, Bg, Et, Hu** i.e. a column for each of the MULTEXT-East languages. For easier comparison between them they have been grouped by language family: first Romance (Romanian), then Slavic (Bulgarian, Czech, Slovene), and finaly Finno-Ungric (Estonian, Hungarian).

The language columns define (by marking with 'x'), in the first line, whether the category is used by the language, and in subsequent lines, which attribute-values a particular language uses.

2.2.1 Noun (N)

```
11 Positions

**** **** **** **** **** ---- ---- ---- ---- ---- ----
PoS  Type Gend Numb Case Def  Cltc Anim OwnN OwnP OwdN
**** **** **** **** **** ---- ---- ---- ---- ---- ----

= ============== ============== =  RO  SL  CS  BG  ET  HU
P ATT            VAL            C  x   x   x   x   x   x
= ============== ============== =
1 Type           common         c  x   x   x   x   x   x
                 proper         p  x   x   x   x   x   x
- -------------- -------------- -
2 Gender         masculine      m  x   x   x   x
                 feminine       f  x   x   x   x
                 neuter         n  x   x   x   x
- -------------- -------------- -
3 Number         singular       s  x   x   x   x   x   x
                 plural         p  x   x   x   x   x   x
                 dual           d      x   x
          l.s.   count          t              x
```

```
- -------------- -------------- -
4 Case           nominative     n      x   x   x   x   x
                 genitive       g      x   x       x   x
                 dative         d      x   x           x
                 accusative     a      x   x           x
                 vocative       v  x       x   x
                 locative       l      x   x
                 instrumental   i      x   x           x
           l.s.  direct         r  x
           l.s.  oblique        o  x
           l.s.  partitive      1                  x
                 illative       x                  x   x
                 inessive       2                  x   x
                 elative        e                  x   x
                 allative       t                  x   x
                 adessive       3                  x   x
                 ablative       b                  x   x
           l.s.  translative    4                  x
                 terminative    9                  x   x
                 essive         w                  x   x
           l.s.  abessive       5                  x
           l.s.  komitative     k                  x
           l.s.  aditive        7                  x
           l.s.  temporalis     m                      x
           l.s.  causalis       c                      x
           l.s.  sublative      s                      x
           l.s.  delative       h                      x
           l.s.  sociative      q                      x
           l.s.  factive        y                      x
           l.s.  superessive    p                      x
           l.s.  distributive   u                      x
* **************************** *
5 Definiteness   no             n  x           x
                 yes            y  x           x
           l.s.  short_art      s              x
           l.s.  full_art       f              x
- -------------- -------------- -
6 Clitic         no             n  x
                 yes            y  x
- -------------- -------------- -
7 Animate        no             n          x           x
                 yes            y          x           x
- -------------- -------------- -
8 Owner_Number   singular       s                      x
                 plural         p                      x
- -------------- -------------- -
9 Owner_Person   first          1                      x
                 second         2                      x
                 third          3                      x
---------------- -------------- -
10Owned_Number   singular       s                      x
                 plural         p                      x
=================================
```

2.2.2 Verb (V)

```
14 Positions

**** **** **** **** **** **** **** ---- ---- ---- ---- ---- ---- ----
PoS  Type VFrm Tens Pers Numb Gend Voic Neg  Def  Cltc Case Anim Clt2
**** **** **** **** **** **** **** ---- ---- ---- ---- ---- ---- ----

= ============== ============== =  RO  SL  CS  BG  ET  HU
P ATT            VAL            C  x   x   x   x   x   x
= ============== ============== =
1 Type           main           m  x   x   x   x   x   x
                 auxiliary      a  x   x   x   x   x   x
                 modal          o  x   x   x       x
                 copula         c  x   x   x
- -------------- -------------- -
2 VForm          indicative     i  x   x   x   x   x   x
                 subjunctive    s  x
                 imperative     m  x   x   x   x   x   x
                 conditional    c      x   x       x   x
                 infinitive     n  x   x   x       x   x
                 participle     p  x   x   x   x   x
                 gerund         g  x           x   x
                 supine         u      x           x
           l.s.  transgressive  t          x
           l.s.  quotative      q                  x
- -------------- -------------- -
3 Tense          present        p  x   x   x   x   x   x
                 imperfect      i  x           x   x
                 future         f      x   x
                 past           s  x   x   x   x   x   x
           l.s.  pluperfect     l  x
           l.s.  aorist         a              x
- -------------- -------------- -
4 Person         first          1  x   x   x   x   x   x
                 second         2  x   x   x   x   x   x
                 third          3  x   x   x   x   x   x
- -------------- -------------- -
5 Number         singular       s  x   x   x   x   x   x
                 plural         p  x   x   x   x   x   x
           l.s.  dual           d      x
- -------------- -------------- -
6 Gender         masculine      m  x   x   x   x
                 feminine       f  x   x   x   x
                 neuter         n  x   x   x   x
*********************************
7 Voice          active         a      x   x   x   x
                 passive        p      x   x   x   x
- -------------- -------------- -
8 Negative       no             n      x   x       x
                 yes            y      x   x       x
- -------------- -------------- -
9 Definiteness   no             n              x       x
```

```
                 yes            y              x       x
                 short_art      s              x
                 full_art       f              x
           l.s.  1s2s           2                      x
- -------------- -------------- -
10Clitic         no             n  x
                 yes            y  x
- -------------- -------------- -
11Case           nominative     n
                 genitive       g
                 dative         d
                 accusative     a
                 locative       l
                 instrumental   i
                 illative       x                  x
                 inessive       2                  x
                 elative        e                  x
                 translative    4                  x
                 abessive       5                  x
- -------------- -------------- -
12Animate        no             n          x
                 yes            y          x
- -------------- -------------- -
13Clitic_s       no             n          x
                 yes            y          x
=================================
```

2.2.3 Adjective (A)

13 Positions

PoS	Type	Degr	Gend	Numb	Case	Def	Cltc	Anim	Form	OwnN	OwnP	OwdN

P	ATT		VAL	C	RO	SL	CS	BG	ET	HU
P	ATT		VAL	C	x	x	x	x	x	x
1	Type		qualificative	f	x	x	x			x
			indefinite	i						
			possessive	s		x	x			
		l.s.	ordinal	o		x				
2	Degree		positive	p	x	x	x		x	x
			comparative	c	x	x	x		x	x
			superlative	s	x	x	x		x	x
3	Gender		masculine	m	x	x	x	x		
			feminine	f	x	x	x	x		
			neuter	n	x	x	x	x		
4	Number		singular	s	x	x	x	x	x	x
			plural	p	x	x	x	x	x	x
			dual	d		x	x			
5	Case		nominative	n		x	x		x	x
			genitive	g		x	x		x	x
			dative	d		x	x			x
			accusative	a		x	x			x
			vocative	v	x		x			
			locative	l		x	x			
			instrumental	i		x	x			x
		l.s.	direct	r	x					
		l.s.	oblique	o	x					
		l.s.	partitive	1					x	
			illative	x					x	x
			inessive	2					x	x
			elative	e					x	x
			allative	t					x	x
			adessive	3					x	x
			ablative	b					x	x
		l.s.	translative	4					x	
			terminative	9					x	x
			essive	w					x	x
		l.s.	abessive	5					x	
		l.s.	komitative	k					x	
		l.s.	aditive	7					x	
		l.s.	temporalis	m						x
		l.s.	causalis	c						x
		l.s.	sublative	s						x

```
           l.s.  delative       h                      x
           l.s.  sociative      q                      x
           l.s.  factive        y                      x
           l.s.  superessive    p                      x
           l.s.  distributive   u                      x
           l.s.  essive_formal  f                      x
* ***************************** *
6 Definiteness   no             n  x           x
                 yes            y  x           x
           l.s.  short_art      s              x
           l.s.  full_art       f              x
- -------------- -------------- -
7 Clitic         no             n  x
                 yes            y  x
- -------------- -------------- -
8 Animate        no             n          x           x
                 yes            y          x           x
- -------------- -------------- -
9 Formation      nominal        n          x
                 compound       c          x
- -------------- -------------- -
10Owner_Number   singular       s                      x
                 plural         p                      x
- -------------- -------------- -
11Owner_Person   first          1                      x
                 second         2                      x
                 third          3                      x
---------------- -------------- -
12Owned_Number   singular       s                      x
                 plural         p                      x
=================================
```

2.2.4 Pronoun (P)

17 Positions

```
**** **** **** **** **** **** **** **** ---- ---- ---- ---- ---- ---- ...
PoS  Type Pers Gend Numb Case OwnN OwnG Cltc RefT SynT Def  Anim Clt2
**** **** **** **** **** **** **** **** ---- ---- ---- ---- ---- ---- ...
 ... ---- ---- ----
     PrFr OwnP OwdN
 ... ---- ---- ----
```

P	ATT		VAL		C	RO	SL	CS	BG	ET	HU
1	Type		personal		p	x	x	x	x	x	x
			demonstrative		d	x	x	x	x	x	x
			indefinite		i	x	x	x	x	x	x
			possessive		s	x	x	x	x	x	x
			interrogative		q		x	x	x	x	x
			relative		r		x	x	x	x	x
		l.s.	exclamative		e						
			reflexive		x	x	x	x	x	x	x
			reciprocal		y					x	x
		l.s.	int_rel		w	x					
			negative		z	x	x	x	x		
		l.s	emphatic		h	x					
		l.s.	determinal		m					x	
			general		g		x	x	x		
2	Person		first		1	x	x	x	x	x	x
			second		2	x	x	x	x	x	x
			third		3	x	x	x	x	x	x
3	Gender		masculine		m	x	x	x	x		
			feminine		f	x	x	x	x		
			neuter		n	x	x	x	x		
4	Number		singular		s	x	x	x	x	x	x
			plural		p	x	x	x	x	x	x
			dual		d		x	x			
5	Case		nominative	*	n	x1	x	x	x	x	x
			genitive	*	g	x2	x	x		x	x
			dative	*	d	x2	x	x	x		x
			accusative	*	a	x1	x	x	x		x
			vocative		v	x					
			locative		l		x	x			
			instrumental		i		x	x			x
		l.s.	direct	*	r	xR1					
		l.s.	oblique	*	o	xR2					
		l.s.	partitive		1					x	
			illative		x					x	x
			inessive		2					x	x

```
                 elative        e                  x   x
                 allative       t                  x   x
                 adessive       3                  x   x
                 ablative       b                  x   x
           l.s.  translative    4                  x
                 terminative    9                  x   x
                 essive         w                  x   x
           l.s.  abessive       5                  x
           l.s.  komitative     k                  x
           l.s.  aditive        7                  x
           l.s.  temporalis     m                      x
           l.s.  causalis       c                      x
           l.s.  sublative      s                      x
           l.s.  delative       h                      x
           l.s.  sociative      q                      x
           l.s.  factive        y                      x
           l.s.  superessive    p                      x
           l.s.  distributive   u                      x
           l.s.  essive_formal  f                      x
- -------------- -------------- -
6 Owner_Number   singular       s  x   x   x           x
                 plural         p  x   x   x           x
           l.s.  dual           d      x
- -------------- -------------- -
7 Owner_Gender   masculine      m      x   x
                 feminine       f      x   x
                 neuter         n      x   x
*********************************
8 Clitic         no             n  x   x   x   x
                 yes            y  x   x   x   x
- -------------- -------------- -
9 Referent_Type  personal       p      x   x   x
                 possessive     s      x   x   x
                 attributive    a              x
                 quantitative   q              x
- -------------- -------------- -
10Syntactic_Type nominal        n      x   x
                 adjectival     a      x   x
- -------------- -------------- -
11Definiteness   no             n              x
                 yes            y              x
                 short_art      s              x
                 full_art       f              x
- -------------- -------------- -
12Animate        no             n          x
                 yes            y          x
- -------------- -------------- -
13Clitic_s       yes            y          x
                 no             n          x
- -------------- -------------- -
14Pronoun_Form   strong         s  x
                 weak           w  x
- -------------- -------------- -
```

```
15Owner_Person   first          1                      x
                 second         2                      x
                 third          3                      x
- -------------- -------------- -
16Owned_Number   singular       s                      x
                 plural         p                      x
=================================
```

Notes

* In the Romanian case system the value 'direct' conflates 'nominative' and 'accusative', while the value 'oblique' conflates 'genitive' and 'dative'.

If we want to list these values as belonging to the same Case universe, i.e. if we want either 'direct', 'nominative' and 'accusative' or 'oblique', 'genitive' and 'dative' appear all together in the same system, their semantics should be explained and their internal relationships represented. We suggest here to follow the same strategy adopted within the EAGLES validation exercise, where different kinds of relationships between values have been formally represented by adding indexes to the values of interest:

- in this example, the kind of relation 'direct' and 'oblique' have with other values of the system is of 'replacement'. We mark this labelling 'direct' and 'oblique' with the index 'R' and adding the numerical indexes 1 to 'direct' and 2 to 'oblique', which point to the values which are respectively replaced.

2.2.5 Determiner (D)

```
10 Positions

**** **** **** **** **** **** **** **** ---- ----
PoS  Type Pers Gend Numb Case OwnN OwnG Cltc Mod
**** **** **** **** **** **** **** **** ---- ----

= ============== ============== =  RO  SL  CS  BG  ET  HU
P ATT            VAL            C  x   -   -   -   -   -
= ============== ============== =
1 Type           demonstrative  d  x
                 indefinite     i  x
                 possessive     s  x
                 interrogative  q
                 relative       r
                 exclamative    e
                 article        a
            l.s. int_rel        w  x
            l.s. negative       z  x
            l.s. emphatic       h  x
- -------------- -------------- -
2 Person         first          1  x
                 second         2  x
                 third          3  x
- -------------- -------------- -
3 Gender         masculine      m  x
                 feminine       f  x
                 neuter         n  x
- -------------- -------------- -
4 Number         singular       s  x
                 plural         p  x
- -------------- -------------- -
5 Case           direct         r  x
                 oblique        o  x
- -------------- -------------- -
6 Owner_Number   singular       s  x
                 plural         p  x
- -------------- -------------- -
7 Owner_Gender   masculine      m
                 feminine       f
                 neuter         n
*********************************
8 Clitic         no             n  x
                 yes            y  x
- -------------- -------------- -
9 Modific_Type   prenomin       e  x
                 postnomin      o  x
=================================
```

2.2.6 Article (T)

```
6 Positions

**** **** **** **** **** ----
PoS  Type Gend Numb Case Cltc
**** **** **** **** **** ----

= ============== ============== =  RO  SL  CS  BG  ET  HU
P ATT            VAL            C  x   -   -   -   -   x
= ============== ============== =
1 Type           definite       f  x                   x
                 indefinite     i  x                   x
           l.s.  possessive     s  x
           l.s.  demonstrative  d  x
- -------------- -------------- -
2 Gender         masculine      m  x
                 feminine       f  x
                 neuter         n  x
- -------------- -------------- -
3 Number         singular       s  x
                 plural         p  x
- -------------- -------------- -
4 Case     l.s.  direct         r  x
           l.s.  oblique        o  x
*********************************
5 Clitic         no             n  x
                 yes            y  x
=================================
```

2.2.7 Adverb (R)

```
6 Positions

**** **** **** ---- ---- ----
PoS  Type Degr Cltc Numb Pers
**** **** **** ---- ---- ----

= ============== ============== =  RO  SL  CS  BG  ET  HU
P ATT            VAL            C  x   x   x   x   x   x
= ============== ============== =
1 Type           general        g  x   x   x   x       x
                 particle       p  x                   x
           l.s.  causal         o                      x
           l.s.  negative       z  x
           l.s.  adjectival     a              x
           l.s.  verbal         v                      x
                 modifier       m  x                   x
           l.s.  int_rel        w  x
           l.s.  interrogative  q                      x
- -------------- -------------- -
2 Degree         positive       p  x   x   x
                 comparative    c  x   x   x
                 superlative    s  x   x   x
*********************************
3 Clitic         no             n  x                   x
                 yes            y  x                   x
- -------------- -------------- -
4 Number         singular       s                      x
                 plural         p                      x
- -------------- -------------- -
5 Person         first          1                      x
                 second         2                      x
                 third          3                      x
=================================
```

2.2.8 Adposition (S)

5 Positions

```
**** **** **** ---- ----
PoS  Type Form Case Cltc
**** **** **** ---- ----
```

P	ATT	VAL	C	RO	SL	CS	BG	ET	HU
				x	x	x	x	x	x
1	Type	preposition	p	x	x	x	x	x	
		postposition	t					x	x
2	Formation	simple	s	x	x	x			
		compound	c	x	x	x			
3	Case (req.by prep.)	nominative	n						
		genitive	g	x	x	x			
		dative	d	x	x	x			
		accusative	a	x	x	x			
		locative	l		x	x			
		instrumental	i		x	x			
4	Clitic	no	n	x					
		yes	y	x					

2.2.9 Conjunction (C)

```
8 Positions

**** **** ---- ---- ---- ---- ---- ----
PoS  Type Form CTyp SubT Cltc Numb Pers
**** **** ---- ---- ---- ---- ---- ----

= ============== ============== =  RO  SL  CS  BG  ET  HU
P ATT            VAL            C  x   x   x   x   x   x
= ============== ============== =
1 Type           coordinating   c  x   x   x   x   x   x
                 subordinating  s  x   x   x   x   x   x
*********************************
2 Formation      simple         s  x   x       x       x
                 compound       c  x   x       x       x
- -------------- -------------- -
3 Coord_Type     simple         s  x
                 repetit        r  x
                 correlat       c  x
                 sentence       p                      x
                 words          w                      x
- -------------- -------------- -
4 Sub_Type       negative       z  x
                 positive       p  x
- -------------- -------------- -
5 Clitic         no             n  x
                 yes            y  x
- -------------- -------------- -
6 Number         singular       s          x
                 plural         p          x
- -------------- -------------- -
7 Person         first          1          x
                 second         2          x
                 third          3          x
=================================
```

2.2.10 Numeral (M)

```
13 Positions

**** **** **** **** **** ---- ---- ---- ---- ---- ---- ---- ----
PoS  Type Gend Numb Case Frm  Def  Cltc Clas Anim OwnN OwnP OwdN
**** **** **** **** **** ---- ---- ---- ---- ---- ---- ---- ----

= ============== ============== =  RO  SL  CS  BG  ET  HU
P ATT            VAL            C  x   x   x   x   x   x
= ============== ============== =
1 Type           cardinal       c  x   x   x   x   x   x
                 ordinal        o  x   x   x   x   x   x
                 fractal        f  x                   x
                 multiple       m  x   x   x
                 collect        l  x                   x
                 special        s      x   x
- -------------- -------------- -
2 Gender         masculine      m  x   x   x   x
                 feminine       f  x   x   x   x
                 neuter         n  x   x   x   x
- -------------- -------------- -
3 Number         singular       s  x   x   x   x   x   x
                 plural         p  x   x   x   x   x   x
                 dual           d      x   x
- -------------- -------------- -
4 Case           nominative     n      x   x       x   x
                 genitive       g      x   x       x   x
                 dative         d      x   x           x
                 accusative     a      x   x           x
                 locative       l      x   x
                 instrumental   i      x   x           x
           l.s.  direct         r  x
           l.s.  oblique        o  x
           l.s.  partitive      1                  x
                 illative       x                  x   x
                 inessive       2                  x   x
                 elative        e                  x   x
                 allative       t                  x   x
                 adessive       3                  x   x
                 ablative       b                  x   x
           l.s.  translative    4                  x
                 terminative    9                  x   x
                 essive         w                  x   x
           l.s.  abessive       5                  x
           l.s.  komitative     k                  x
           l.s.  aditive        7                  x
           l.s.  temporalis     m                      x
           l.s.  causalis       c                      x
           l.s.  sublative      s                      x
           l.s.  delative       h                      x
           l.s.  sociative      q                      x
           l.s.  factive        y                      x
```

```
           l.s.  superessive    p                      x
           l.s.  distributive   u                      x
           l.s.  essive_formal  f                      x
           l.s.  multiplicative 6                      x
*********************************
5 Form           digit          d  x   x   x   x   x   x
                 roman          r  x   x   x   x   x   x
                 letter         l  x   x   x   x   x   x
           l.s.  both           b  x
           l.s.  m-form         m              x
           l.s.  approx         a              x
- -------------- -------------- -
6 Definiteness   no             n  x           x
                 yes            y  x           x
                 short_art      s              x
                 full_art       f              x
- -------------- -------------- -
7 Clitic         no             n  x
                 yes            y  x
- -------------- -------------- -
8 Class          definite1      1          x
                 definite2      2          x
                 definite34     3          x
                 definite       f          x
                 demonstrative  d          x
                 indefinite     i          x
                 interrogative  q          x
                 relative       r          x
- -------------- -------------- -
9 Animate        no             n          x
                 yes            y          x
- -------------- -------------- -
10Owner_Number   singular       s                      x
                 plural         p                      x
- -------------- -------------- -
11Owner_Person   first          1                      x
                 second         2                      x
                 third          3                      x
- -------------- -------------- -
12Owned_Number   singular       s                      x
                 plural         p                      x
=================================
```

2.2.11 Interjection (I)

```
3 Positions

**** ---- ----
PoS  Type Form
**** ---- ----

= ============== ============== =  RO  SL  CS  BG  ET  HU
P ATT            VAL            C  x   x   x   x   x   x
= ============== ============== =
1 Type           mood           m                      x
                 other          o                      x
- -------------- -------------- -
2 Formation      simple         s              x
                 compound       c              x
=================================
```

2.2.12 Residual (X)

```
1 Position

****
PoS
****

= ============== ============== =  RO  SL  CS  BG  ET  HU
P ATT            VAL            C  x   x   x   x   x   x
= ============== ============== =

=================================
```

2.2.13 Abbreviation (Y)

6 Positions

PoS	SynT	Gend	Numb	Case	Def

P	ATT		VAL	C	RO	SL	CS	BG	ET	HU
					x	x	x	x	x	x
1	Syntactic_Type		nominal	n	x				x	
			verbal	v	x				x	
			adjectival	a	x				x	
			adverbial	r	x				x	
2	Gender		masculine	m	x					
			feminine	f	x					
			neuter	n	x					
3	Number		singular	s	x				x	
			plural	p	x				x	
4	Case	l.s.	nominative	n					x	
		l.s.	genitive	g					x	
		l.s.	direct	r	x					
		l.s.	oblique	o	x					
		l.s.	partitive	1					x	
		l.s.	illative	x					x	
		l.s.	inessive	2					x	
		l.s.	elative	e					x	
		l.s.	allative	t					x	
		l.s.	adessive	3					x	
		l.s.	ablative	b					x	
		l.s.	translative	4					x	
		l.s.	terminative	9					x	
		l.s.	essive	w					x	
		l.s.	abessive	5					x	
		l.s.	komitative	k					x	
		l.s.	aditive	7					x	
5	Definiteness		yes	y	x					
			no	n	x					

2.2.14 Particle (Q)

```
5 Positions

**** ---- ---- ----
PoS  Type Form Cltc
**** ---- ---- ----

= ============== ============== =  RO  SL  CS  BG  ET  HU
P ATT            VAL            C  x   x   x   x   -   -
= ============== ============== =
1 Type           negative       z  x           x
                 infinitive     n  x
                 subjunctive    s  x
                 aspect         a  x
                 future         f  x
                 general        g              x
                 comparative    c              x
                 verbal         v              x
                 interrogative  q              x
                 modal          o              x
- -------------- -------------- -
2 Formation      simple         s              x
                 compound       c              x
- -------------- -------------- -
3 Clitic         no             n  x
                 yes            y  x
=================================
```

2.3 List of values with respective codes

The values presented within the tables are, in the following, listed in alphabetical order; the first column gives the name of the value, the second column its code and the third lists attributes for which the value is appropriate.

1s2s	2	Definiteness
abessive	5	Case
ablative	b	Case
accusative	a	Case
active	a	Voice
adessive	3	Case
aditive	7	Case
adjectival	a	Syntactic_Type, Type
allative	t	Case
aorist	a	Tense
approx	a	Form
article	a	Type
aspect	a	Type
attributive	a	Referent_Type
auxiliary	a	Type
both	b	Form
cardinal	c	Type
causal	o	Type
causalis	c	Case
collect	l	Type
common	c	Type
comparative	c	Degree, Type
compound	c	Formation
conditional	c	VForm
coordinating	c	Type
copula	c	Type
correlat	c	Coord_Type
count	t	Number
dative	d	Case
definite	f	Class, Type
definite1	1	Class
definite2	2	Class
definite34	3	Class
delative	h	Case
demonstrative	d	Class, Type
determinal	m	Type
digit	d	Form
direct	r	Case
distributive	u	Case
dual	d	Number, Owner_Number
elative	e	Case
emphatic	h	Type
essive	w	Case
essive_formal	f	Case
exclamative	e	Type
factive	y	Case
feminine	f	Gender, Owner_Gender
first	1	Owner_Person, Person
fractal	f	Type
full_art	f	Definiteness
future	f	Tense, Type
general	g	Type
genitive	g	Case
gerund	g	VForm
illative	x	Case
imperative	m	VForm
imperfect	i	Tense
indefinite	i	Class, Type

indicative	i	VForm
inessive	2	Case
infinitive	n	Type, VForm
instrumental	i	Case
int_rel	w	Type
interrogative	q	Class, Type
komitative	k	Case
letter	l	Form
locative	l	Case
main	m	Type
masculine	m	Gender, Owner_Gender
modal	o	Type
modifier	m	Type
mood	m	Type
multiple	m	Type
multiplicative	6	Case
negative	z	Sub_Type, Type
neuter	n	Gender, Owner_Gender
no	n	Animate, Clitic, Clitic_s, Definiteness, Negative
nominal	n	Formation, Syntactic_Type
nominative	n	Case
oblique	o	Case
ordinal	o	Type
other	o	Type
participle	p	VForm
particle	p	Type
partitive	1	Case
passive	p	Voice
past	s	Tense
personal	p	Referent_Type, Type
pluperfect	l	Tense
plural	p	Number, Owned_Number, Owner_Number
positive	p	Degree, Sub_Type
possessive	s	Referent_Type, Type
postnomin	o	Modific_Type
postposition	t	Type
prenomin	e	Modific_Type
preposition	p	Type
present	p	Tense
proper	p	Type
qualificative	f	Type
quantitative	q	Referent_Type
quotative	q	VForm
reciprocal	y	Type
reflexive	x	Type
relative	r	Class, Type
repetit	r	Coord_Type
roman	r	Form
second	2	Owner_Person, Person
sentence	p	Coord_Type
short_art	s	Definiteness
simple	s	Coord_Type, Formation
singular	s	Number, Owned_Number, Owner_Number
sociative	q	Case
special	s	Type
strong	s	Pronoun_Form
subjunctive	s	Type, VForm
sublative	s	Case
subordinating	s	Type
superessive	p	Case
superlative	s	Degree
supine	u	VForm
temporalis	m	Case
terminative	9	Case
third	3	Owner_Person, Person
transgressive	t	VForm

translative	4	Case
verbal	v	Type
vocative	v	Case
weak	w	Pronoun_Form
words	w	Coord_Type
yes	y	Animate, Clitic, Clitic_s, Definiteness, Negative

2.4 List of attributes

In this section, all the attributes presented in the tables are listed in alphabetical order. For some attributes which are not self-explanatory, a brief description of their semantics is provided.

Attribute	Relevant to Category
Animate	Adj Noun Num Pron Verb
Case	Abbr Adj Adpos Art Det Noun Num Pron Verb
Class	Num
Clitic	Adj Adpos Adv Art Conj Det Noun Num Part Pron Verb
Clitic_s	Pron
Coord_Type	Conj
Definiteness	Abbr Adj Noun Num Pron Verb
Degree	Adj Adv
Form	Num
Formation	Adj Adpos Conj Interj Part
Gender	Abbr Adj Art Det Noun Num Pron Verb
Modific_Type	Det
Negative	Verb
Number	Abbr Adj Adv Art Conj Det Noun Num Pron Verb
Owned_Number	Adj Noun Num Pron
Owner_Gender	Det Pron
Owner_Number	Adj Det Noun Num Pron
Owner_Person	Adj Noun Num Pron
Person	Adv Conj Det Pron Verb
Pronoun_Form	Pron
Referent_Type	Pron
Sub_Type	Conj
Syntactic_Type	Abbr Pron
Tense	Verb
Type	Adj Adpos Adv Art Conj Det Interj Noun Num Part Pron Verb
VForm	Verb
Voice	Verb

Class: distinguishes subtypes of Numerals in Czech which have a distinct syntactic distributions: e.g. subclasses for 1, 2, 3&4, etc. are distinguished.

Clitic_s: the 'yes' value of the Clitic_s attribute denotes Czech pronouns having the clitic morpheme 's' appended as a suffix.

Definiteness: corresponds to the definite and indefinite article in English, which is expressed in Bulgarian by suffixes; these differ according to the gender and number of a word. For singular masculine there are two forms: full article and short article (full is used when a sing.masc. form is the syntactic subject of the clause, otherwise short article is used). The distinction full vs. short is not made for feminine, neuter and plural forms. Definiteness is also used in Romanian.

Form: used to distinguish different forms of numerals (Roman, digit, 'letter') and in Bulgarian also for the semantic distinction between numerals that refer to male persons (but not children) or groups of male+female.

Formation: refers to the graphical components: simple, i.e. consisting of one word; compound, i.e. consisting of more than one word.

Modific_Type: refers to the prenominal or postnominal positions of Determiners which distinguish different forms in Romanian.

Negative: the value 'yes' encodes negative verbal word-forms in Czech, Slovene and in Estonian.

Owned_Number: in the Hungarian system, different word-forms are distinguished for nominals on the basis of so called 'anaphoric possessive' number, i.e. the number of the thing(s) possessed by the nominal in question.

Owner_Gender: used to encode the Gender of the possessor in Pronouns and (in Romanian) Determiners.

Owner_Number: used to specify the possessor number in Pronouns, as well as (in Romanian) in Determiners, and (in Hungarian) in Adjectives and Nouns.

Owner_Person: used to specify the possessor person in in Hungarian in Adjectives and Nouns.

Pronoun_Form: used to encode weak and strong pronouns in Romanian.

Referent_Type: used to distinguish reflexive personal from reflexive possessive pronouns in the Slavic languages. In Bulgarian, it also describes a subdivision on the basis of semantic features which have effect on the morpho-syntactic paradigm, e.g. quantitative: the pronoun refers to quantity, etc.

Sub_Type: used in Romanian to distinguish negative from positive Conjunctions.

Syntactic_Type: used to distinguish the nominal and adjectival function of Pronouns in Slovene and Czech. Also used in Abbreviations to signal the Part of Speech of the abbreviation; currently used only by Romanian and Estonian.

Chapter 3

Language Specific Applications

3.1 Application to Bulgarian

The application to Bulgarian has been carried out by Radoslav Pavlov and Ludmila Dimitrova (IM-BAS), Lydia Sinapova (IIT-BAS), and Kiril Iv. Simov (LML-BAS).

1. Noun (N)

P	ATT	VAL	Example	C
1	Type	common	kniga	c
		proper	Ivan	p
2	Gender	masculine	stol	m
		feminine	masa	f
		neuter	vreteno	n
3	Number	singular	momtche	s
		plural	stolove	p
	l.s.	count	(dva) stola	t
4	Case	nominative	narod	n
		vocative	narode	v
*	**************	**************	*************	*
5	Definiteness	no	utchitel	n
		yes	zhenata	y
	l.s.	short_art	moliva	s
	l.s.	full_art	molivyt	f
6	Clitic		-	-
7	Animate		-	-
8	Owner_Number		-	-
9	Owner_Person		-	-

P	ATT	VAL	Example	C
10	Owned_Number		-	-

Combinations

POS	Type	Gend	Numb	Case	Def	Clit	Anim	OwnN	OwnP	OwdN	Example
N	[cp]	[mfn]	[sp]	-	n	-	-	-	-	-	1.
N	[cp]	m	s	-	[sf]	-	-	-	-	-	2.
N	[cp]	[mf]	-	v	-	-	-	-	-	-	3.
N	[cp]	[mfn]	p	-	y	-	-	-	-	-	4.
N	[cp]	[fn]	s	-	y	-	-	-	-	-	5.
N	c	m	t	-	-	-	-	-	-	-	6.

Examples:

1. narod, zhena, selo, Ivan, Penka
2. naroda, narodyt
3. narode, zheno
4. narodite, zhenite, selata
5. zhenata, seloto
6. naroda

2. Verb (V)

P	ATT	VAL	Example	C
1	Type	main	govorya	m
		auxiliary	sym	a
2	VForm	indicative	govorya	i
		imperative	govorete	m
		participle	govoril	p
		gerund	govorejki	g
3	Tense	present	govorya	p
		imperfect	govoreh	i
		past	govoreno	s
	l.s.	aorist	govorih	a
4	Person	first	govorya	1
		second	govorish	2
		third	govori	3
5	Number	singular	govorya	s
		plural	govoryat	p

6 Gender	masculine	govoril	m
	feminine	govorila	f
	neuter	govorilo	n
7 Voice	active	govorest	a
	passive	govoreno	p
8 Negative			-
9 Definiteness	no	govoril	n
	yes	govorilite	y
	short_art	govoriliya	s
	full_art	govoriliyat	f
10Clitic			-
11Case			-
12Animate			-
13Clitic_s			-

Combinations

PoS	Type	VFrm	Tens	Pers	Numb	Gend	Voic	Neg	Def	Cl1	Case	An	Cl2	Example
V	[ma]	i	[pai]	[123]	[sp]	-	-	-	-	-	-	-	-	1.
V	[ma]	m	-	2	[sp]	-	-	-	-	-	-	-	-	2.
V	m	p	[pai]	-	s	[mfn]	a	-	n	-	-	-	-	3.
V	m	p	[pa]	-	s	m	a	-	[sf]	-	-	-	-	4.
V	m	p	[pa]	-	s	[fn]	a	-	y	-	-	-	-	5.
V	m	p	[pai]	-	p	-	a	-	n	-	-	-	-	6.
V	m	p	[pa]	-	p	-	a	-	y	-	-	-	-	7.
V	m	p	s	-	s	[mfn]	p	-	n	-	-	-	-	8.
V	m	p	s	-	s	m	p	-	[sf]	-	-	-	-	9.
V	m	p	s	-	s	[fn]	p	-	y	-	-	-	-	10.
V	m	p	s	-	p	-	p	-	[ny]	-	-	-	-	11.
V	a	p	[ai]	-	s	[mfn]	a	-	n	-	-	-	-	12.
V	a	p	[a]	-	s	m	a	-	[sf]	-	-	-	-	13.
V	a	p	[a]	-	s	[fn]	a	-	y	-	-	-	-	14.
V	a	p	[ai]	-	p	-	a	-	n	-	-	-	-	15.
V	a	p	[a]	-	p	-	a	-	y	-	-	-	-	16.
V	[ma]	g	-	-	-	-	-	-	-	-	-	-	-	17.

Examples:

1. govorya, sym
2. govori, bydete

3. govorest, govorila
4. govorestiya, govorestiyat
5. govorestta, govoriloto
6. govoresti, govoreli
7. govoresti, govorilite
8. govoren, govorena
9. govoreniya, govoreniyat
10. govorenata, govorenoto
11. govoreni, govorenite
12. bil, bila
13. biliya, biliyat
14. bilata, biloto
15. bili
16. bilite
17. govorejki, bidejki

3. Adjective (A)

P	ATT	VAL	Example	CC
1	Type		-	-
2	Degree		-	-
3	Gender	masculine	bedniyat	m
		feminine	bedna	f
		neuter	bednoto	n
4	Number	singular	bedniya	s
		plural	bednite	p
5	Case			-
6	Definiteness	no	bedna	n
		yes	bednata	y
	l.s.	short_art	bedniya	s
	l.s.	full_art	bedniyat	f
7	Clitic			-
8	Animate			-
9	Formation			-
10	Owner_Number			-
11	Owner_Person			-
12	Owned_Number			-

Combinations

PoS	Type	Degr	Gend	Numb	Case	Def	Clit	An	Frm	OnN	OnP	OdN	Example
A	-	-	s	[mfn]	-	n	-	-	-	-	-	-	beden, bedna
A	-	-	s	m	-	[sf]	-	-	-	-	-	-	bedniya, bedniyat
A	-	-	s	[fn]	-	y	-	-	-	-	-	-	bednata, bednoto
A	-	-	p	-	-	[ny]	-	-	-	-	-	-	bedni, bednite

4. Pronoun (P)

P	ATT	VAL	Example	C
1	Type	personal	az	p
		demonstrative	tozi	d
		indefinite	nyakoj	i
		possessive	moj	s
		interrogative	koi	q
		relative	kojto	r
		reflexive	sebe	x
		negative	nikoj	z
		general	vseki	g
2	Person	first	az	1
		second	ti	2
		third	toj	3
3	Gender	masculine	moj	m
		feminine	moya	f
		neuter	moe	n
4	Number	singular	az	s
		plural	nie	p
5	Case	nominative	toj	n
		dative	nemu	d
		accusative	nego	a
6	Owner_Number			-
7	Owner_Gender			-

****

P	ATT	VAL	Example	C
8	Clitic	no	sebe_si	n
		yes	mi	y
9	Referent_Type	personal	koj	p
		possessive	tchij	s
		attributive	kakva	a

```
                 quantitative    kolko      q
- -------------- -------------- ----------- -
10Syntactic_Type                            -
- -------------- -------------- ----------- -
11Definiteness   no              svoj       n
                 yes             svoyata    y
                 short_art       svoya      s
                 full_art        svoyat     f
- -------------- -------------- ----------- -
12Animate                                   -
- -------------- -------------- ----------- -
13Clitic_s                                  -
- -------------- -------------- ----------- -
14Pronoun_Form                              -
- -------------- -------------- ----------- -
15Owner_Person                              -
- -------------- -------------- ----------- -
16Owned_Number                              -
=============================================
```

Combinations

Personal pronouns

```
=== ==== ==== ==== === ==== === === === ==== ==== === =======
PoS Type Pers Gnd  Nmb Case OnN OnG Clt RefT SynT Def Example
=== ==== ==== ==== === ==== === === === ==== ==== === =======
P    p  [12]   -    s   n    -   -   -   -    -     -  1.
P    p   3    [mfn] s   n    -   -   -   -    -     -  2.
P    p  [123]  -    p   n    -   -   -   -    -     -  3.
P    p  [12]   -    s  [ad]  -   -  [yn] -    -     -  4.
P    p   3    [mnf] s  [ad]  -   -  [yn] -    -     -  5.
P    p  [123]  -    p  [ad]  -   -  [yn] -    -     -  6.
```

Examples:
1. az, ti
2. toj, tya, to
3. nie, vie, te
4. mene, me, mi, mene_me
5. nego, go, nego_go
6. nas, ni, nas_ni, nam

Demonstrative pronouns

```
=== ==== ==== ==== === ==== === === === ==== ==== === =======
PoS Type Pers Gnd  Nmb Case OnN OnG Clt RefT SynT Def Example
=== ==== ==== ==== === ==== === === === ==== ==== === =======
P    d    -  [mfn]  s   -    -   -   -   p    -    -   tozi,tova
P    d    -   -     p   -    -   -   -   p    -    -   tezi
P    d    -   -     -   -    -   -   -   q    -    -   tolkova
```

Indefinite, Interrogative, Relative, Negative pronouns

PoS	Type	Pers	Gnd	Nmb	Case	OnN	OnG	Clt	RefT	SynT	Def	Example
P	[iqrz]	-	m	s	[nad]	-	-	-	p	-	-	1.
P	[iqrz]	-	m	s	-	-	-	-	[as]	-	-	2.
P	[iqrz]	-	[fn]	s	-	-	-	-	[pas]	-	-	3.
P	[iqrz]	-	-	p	-	-	-	-	[pas]	-	-	4.
P	[iqrz]	-	-	-	-	-	-	-	q	-	-	5.

Examples:
1. nyakoj, nyakogo, nyakomu, nikoj
2. nyakakyv, netchij, nikakyv
3. nyakoya, nyakakva, nechiya
4. nyakoi, nyakavi, netchii
5. nyakolko, nikolko, kolko

Possessive pronouns

PoS	Type	Pers	Gnd	Nmb	Case	OnN	OnG	Clt	RefT	SynT	Def	Example
P	s	[123]	m	s	-	-	-	n	-	-	[nsf]	1.
P	s	[123]	[fn]	s	-	-	-	n	-	-	[ny]	2.
P	s	[123]	-	p	-	-	-	n	-	-	[ny]	3.
P	s	[123]	-	[sp]	-	-	-	y	-	-	-	4.

Examples:
1. moj, moya, moyat
2. moya, moyata, tvoya
3. moi, moite, tvoi
4. mi, ti, mu, j, ni, vi, im

Reflexive pronouns

PoS	Type	Pers	Gnd	Nmb	Case	OnN	OnG	Clt	RefT	SynT	Def	Example
P	x	-	-	-	[ad]	-	-	[ny]	p	-	-	1.
P	x	-	m	s	-	-	-	n	s	-	[nsf]	2.
P	x	-	[fn]	s	-	-	-	n	s	-	[ny]	3.
P	x	-	-	p	-	-	-	n	s	-	[ny]	4.
P	x	-	-	-	-	-	-	y	s	-	-	5.

Examples:
1. sebe, se, si, sebe_si
2. svoj, svoyat, svoya
3. svoya, svoyata
4. svoi, svoite
5. si

General pronouns

PoS	Type	Pers	Gnd	Nmb	Case	OnN	OnG	Clt	RefT	SynT	Def	Example
P	g	-	m	s	[nad]	-	-	-	p	-	-	1.
P	g	-	m	s	-	-	-	-	a	-	-	2.
P	g	-	[fn]	s	-	-	-	-	[pa]	-	-	3.
P	g	-	-	p	-	-	-	-	[pa]	-	-	4.
P	g	-	m	s	-	-	-	-	q	-	[sf]	5.
P	g	-	[fn]	s	-	-	-	-	q	-	[ny]	6.
P	g	-	-	p	-	-	-	-	q	-	[ny]	7.

Examples:
1. vseki, vsekigo, vsekimu
2. vsyakakyv
3. vsyaka, vsyakakva
4. vsyakoi, vsyakakvi
5. vsitchkiya, vsitchikiyat
6. vsitchka, vsitchkata
7. vsitchki, vsitchkite

5. Determiner (D)

Not applicable.

6. Article (T)

Not applicable.

7. Adverb (R)

P	ATT	VAL	Example	C
1	Type	general	tuk	g
	l.s.	adjectival	umno	a
2	Degree			-
3	Clitic			-
4	Number			-
5	Person			-

Combinations

POS	Type	Degr	Clct	Numb	Pers	Example

R	g	-	-	-	-	tuk, mnogo
R	a	-	-	-	-	umno, veselo, studeno

Note: Adverbs of type adjectival have the same form as adjectives in Gender = neuter, Person = 3, Number = singular.

8. Adposition (S)

P	ATT	VAL	Example	C
1	Type	preposition	na, v	p
2	Formation			-
3	Case			-
4	Clitic			-

Combinations

POS	Type	Form	Case	Cltc	Examples
S	p	-	-	-	na, za, v, okolo, spored

9. Conjunction (C)

P	ATT	VAL	Example	C
1	Type	coordinating	a, ala, ili	c
		subordinating	tche, da	s
2	Formation	simple	a, i, tche	s
		compound	i_da, za_da	c
3	Coord_Type			-
4	Sub_Type			-
5	Clitic			-
6	Number			-
7	Person			-

Combinations

PoS	Type	Form	CTyp	SubT	Clit	Numb	Pers	Examples
C	c	[sc]	-	-	-	-	-	i, a, ami, tche, tyj_tche
C	s	[sc]	-	-	-	-	-	tche, da, kato, za_da

10. Numeral (M)

P	ATT		VAL	Example	C
1	Type		cardinal	edin	c
			ordinal	vtori	o
2	Gender		masculine	edin	m
			feminine	edna	f
			neuter	edno	n
3	Number		singular	edin	s
			plural	edni	p
4	Case			-	-
******	******	******	******	******	******
5	Form		digit	1984	d
			roman	IX	r
			letter	dva	l
		l.s.	m-form	dvama	m
		l.s.	approx	stotina	a
6	Definiteness		no	edin	n
			yes	ednata	y
			short_art	ediniya	s
			full_art	ediniyat	f
7	Clitic				-
8	Class				-
9	Animate				-
10	Owner_Number				-
11	Owner_Person				-
12	Owned_Number				-

Combinations

PoS	Type	Gend	Numb	Case	Frm	Def	Clit	Clas	Anim	OwnN	OwnP	OwdN	Example
Cardinal													
M	c	-	-	-	d	-	-	-	-	-	-	-	1.
M	c	-	-	-	r	-	-	-	-	-	-	-	2.
M	c	m	s	-	l	[nsf]	-	-	-	-	-	-	3.
M	c	[fn]	s	-	l	[ny]	-	-	-	-	-	-	4.
M	c	-	p	-	l	[ny]	-	-	-	-	-	-	5.
M	c	[mfn]	p	-	l	[ny]	-	-	-	-	-	-	6.
M	c	m	p	-	m	[ny]	-	-	-	-	-	-	7.
M	c	-	p	-	l	[ny]	-	-	-	-	-	-	8.
M	c	-	p	-	a	[ny]	-	-	-	-	-	-	9.
Ordinal													
M	o	m	s	-	-	[nsf]	-	-	-	-	-	-	10.
M	o	[fn]	s	-	-	[ny]	-	-	-	-	-	-	11.
M	o	-	p	-	-	[ny]	-	-	-	-	-	-	12.

Examples:

1. 1984
2. IX
3. edin, ediniya, ediniyat
4. edna, ednata, edno, ednoto
5. edni, ednite
6. dva, dvata, dve, dvete
7. dvama, dvamata, trima
8. tri, trite, chetiri
9. stotina, stotinata
10. pyrvi, pyrviya, pyrviyat
11. pyrva, pyrvata
12. pyrvi, pyrvite

11. Interjection (I)

P	ATT	VAL	Example	C
1	Type			-
2	Formation	simple	ah	s
		compound	bozhe moj!	c

Combinations

POS	Type	Formation	Examples
I	-	s	o, hm-m, ha-ha, ah-lele, uvi
I	-	c	diavol_da_go_vzeme, ama_rabota, bozhe_moj

12. Residual (X)

P	ATT	VAL	C
P	ATT		-

13. Abbreviation (Y)

P	ATT	VAL	Example	C
1	Syntactic_Type			-
2	Gender			
3	Number			
4	Case			
5	Definiteness			

Note: As there are no Attributes for Abbreviations, this subsection is has no examples

Combinations

PoS	SynT	Gend	Numb	Case	Def	Examples
Y	-	-	-	-	-	t.n., vzh., lat., razg...

14. Particle (Q)

P	ATT	VAL	Example	C
1	Type	negative	ne, ni	z
		general	a, be	g
		comparative	po, naj	c
		verbal	da, ste	v

```
                 interrogative   li, dali    q
                 modal           da, dano    o
- -------------- -------------- ----------- --
2 Formation      simple          a, ne       s
                 compound        hajde_de    c
- -------------- -------------- ----------- --
3 Clitic                                     -
==============================================
```

Combinations

```
=== ============ ======= =======================
POS  Type         Form   Cltc Examples
=== ============ ======= =======================
Q    [go]         [sc]    -    a, be, neka,hajde_de
Q    [cvzq]        s      -    po, naj, ne, li, nali
=== ============ ======= =======================
```

Observations
In Bulgarian superlative particles "po" and "naj" precede the superlative Forms of adjectives and adverbs: "po-hubav", "naj-hubav", "po-bavno", "naj-bavno".

3.2 Application to Czech

The application to Czech has been elaborated by Vladimír Petkevič, Faculty of Philosophy, Charles University, Prague.

Acknowledgements:
The most appreciated base used for the elaboration of the application was constituted by morphosyntactic tables for Czech elaborated by Hana Skoumalová. For all possible errors solely the author is to blame.

All Czech diacritical characters used have been encoded in the following way:

1. The Czech 'hachek' diacritic (ˇ) over the following characters is marked by the corresponding nondiacritic counterpart followed by '<'. This concerns the characters `c, d, e, n, r, s, t, z` followed by `<`. For instance: `t<`

2. In Czech, each vowel (a, e, i, o, u, y) can be diacritically marked as to its quantity by ' over the vowel. We shall mark it by `'` *following* the vowel, e.g. `e'`. In addition to `'` there exists also the ring sign (^{o}) over the letter u. Here we shall use this notation: `u0`. Thus, there are the following vocal diacritical alternatives:

   `a' e' i' o' u' u0 y'`

1. Noun (N)

1.1. Lexicon

P	ATT	VAL	C	Example	Czech term
1	Type	common	c	kniha	obecne' jme'no
		proper	p	Petr	vlastni' jme'no
2	Gender	masculine	m	otec	masculinum
		feminine	f	kniha	femininum
		neuter	n	slunce	neutrum
3	Number	singular	s	kniha	singula'r
		plural	p	knihy	plura'l
		dual	d	rukama	dua'l
4	Case	nominative	n	kniha	nominativ
		genitive	g	knihy	genitiv
		dative	d	knize	dativ
		accusative	a	knihu	akuzativ
		vocative	v	kniho!	vokativ
		locative	l	knize	loka'l
		instrumental	i	knihou	instrumenta'l
*	*************	*************	*		
5	Definiteness		-		
6	Clitic		-		

7 Animate	l.s.	no	n	hrad	nez<ivotne’
	l.s.	yes	y	otec	z<ivotne’
8 Owner_Number			-		
9 Owner_Person			-		
10Owned_Number			-		

Notes:

1. Czech distinguishes masculine animate (Animate=yes above) and masculine inanimate (Animate=no) Gender. Masculine inanimate Nouns always have the same form in the nominative and accusative Case, whereas masculine animate Nouns have predominantly the same form in the genitive and accusative Case. Masculine animate Nouns and masculine inanimate Nouns differ in accusative singular and nominative plural only.
2. The dual Number manifests itself only in the instrumental Case of several Nouns denoting dual parts of the human body.
3. Czech distinguishes 7 cases, the locative Case being obligatorily prepositional. With most paradigms, the form of the vocative differs from that of the nominative in singular; in plural the form of the vocative is identical to that of the nominative for all the paradigms.
4. Verbal nouns are classified as Nouns.

1.2 Combinations

PoS	Type	Gend	Numb	Case	Anim	Examples	
N	p	m	[sp]	any	y	Pavel, Pavlove’	
N	p	m	[sp]	any	n	Hradec, Hradce	
N	p	f	[sp]	any	-	Lenka, Lenky	
N	p	n	[sp]	any	-	Bradlo, U’sti’	
N	c	m	s	n	-	kluk,	vor
N	c	m	s	g	-	kluka,	voru
N	c	m	s	d	-	klukovi,	voru
N	c	m	s	a	y	kluka	
N	c	m	s	a	n		vor
N	c	m	s	v	-	kluku,	vore!
N	c	m	s	l	-	klukovi,	voru
N	c	m	s	i	-	klukem,	vorem
N	c	m	p	n	y	kluci	
N	c	m	p	n	n		vory
N	c	m	p	g	-	kluku0	voru0
N	c	m	p	d	-	kluku0m	voru0m
N	c	m	p	a	-	kluky	vory
N	c	m	p	v	-	kluci!	vory!
N	c	m	p	l	-	kluci’ch	vorech

```
 N   c    m    p    i    -   kluky      vory
 N   c   [fn]  s    n    -   sova,      kolo
 N   c   [fn]  s    g    -   sovy,      kola
 N   c   [fn]  s    d    -   sove<      kolu
 N   c   [fn]  s    a    -   sovu       kolo
 N   c   [fn]  s    v    -   sovo!      kolo!
 N   c   [fn]  s    l    -   sove<      kole / kolu
 N   c   [fn]  s    i    -   sovou      kolem
 N   c   [fn]  p    n    -   sovy       kola
 N   c   [fn]  p    g    -   sov        kol
 N   c   [fn]  p    d    -   sova'm     kolu0m
 N   c   [fn]  p    a    -   sovy       kola
 N   c   [fn]  p    v    -   sovy!      kola!
 N   c   [fn]  p    l    -   sova'ch    kolech
 N   c   [fn]  p    i    -   sovami     koly
 N   c   [fn]  d    i    -   rukama     oc<ima    (dual number)
*** **** **** **** **** **** =============================================
```

```
Note: In the Combinations above, 'any' is a variable standing for
      any admissible value.
```

```
2. Verb (V)
```

```
2.1 Lexicon
```

```
= ============== ============== = =================== ========================
P ATT            VAL            C  Example            Czech term
= ============== ============== = =================== ========================
1 Type           main           m de<lat              vy'znamove' sloveso
                 auxiliary      a mi't                pomocne' sloveso
                 modal          o muset               moda'lni' sloveso
                 copula         c by't                spona (kopula)
- -------------- -------------- - ------------------- ------------------------
2 VForm          indicative     i de<la'm             indikativ
                 imperative     m de<lej!             imperativ
                 conditional    c by                  podmin<ovaci' c<a'stice
                 infinitive     n de<lat              infinitiv
                 participle     p de<lal, de<la'n     pr<i'c<esti'
            l.s. transgressive  t de<laje, ude<lavs<i pr<echodni'k
- -------------- -------------- - ------------------- ------------------------
3 Tense          present        p de<la'm             pre'zens
                 future         f budu, pobe<z<i'm    futurum
                 past           s de<lal              c<as minuly'
- -------------- -------------- - ------------------- ------------------------
4 Person         first          1 de<la'm             prvni' osoba
                 second         2 de<la's<            druha' osoba
                 third          3 de<la'              tr<eti' osoba
- -------------- -------------- - ------------------- ------------------------
5 Number         singular       s de<la'm             singula'r
                 plural         p de<la'me            plura'l
- -------------- -------------- - ------------------- ------------------------
6 Gender         masculine      m de<lal              masculinum /rod muz<sky'
                 feminine       f de<lala             femininum /rod z<ensky'
```

```
                neuter        n de<lalo            neutrum /rod str<edni'
* ************* ************* * ------------------ -----------------------
7 Voice         active        a de<lal             aktivum
                passive       p de<la'n            pasi'vum
- ------------- ------------- - ------------------ -----------------------
8 Negative      no            n de<la'm            kladne' sloveso
                yes           y nede<la'm          za'porne' sloveso
- ------------- ------------- - ------------------ -----------------------
9 Definiteness                -
- ------------- ------------- -
10Clitic                      -
- ------------- ------------- -
11Case                        -
- ------------- ------------- - ------------------ -----------------------
12Animate  l.s. no            n de<laly            nez<ivotne'
           l.s. yes           y de<lali            z<ivotne'
- ------------- ------------- - ------------------ -----------------------
13Clitic_s l.s. no            n ude<lal            tvar bez klit. -s
           l.s. yes           y ude<lals           tvar s klit. -s
===========================================================================
```

Notes

1. The verb "by't" (E. "to be") in all its functions is characterized as Type=c (i.e. the copula), which clearly is an over-simplification because the verb has more meanings (auxiliary etc.).
2. Auxiliary verbs (Type=a) include neither the verb "by't" (see above), nor the modal verbs.
3. The 'past participle' in Czech is used for expressing compound active past Tense and is encoded as:
   Type=p(articiple), Tense=p(ast), Voice=a(ctive).
4. Passive participles are encoded as:
   Type=participle, Tense='-', Voice=Passive.
   This encoding is used only for the passive participle in the predicative position, e.g. "byl chycen" (E. "(he) was caught"). The case marked passive participles, both in the predicative and in the attributive position, e.g. "pade<lany' rukopis" (E. "forged manuscript"), are be classified as (qualificative) adjectives.
5. Adjectival active and passive participles, e.g. "stoji'ci'" (E. "standing") or "ude<lany'" (E. "performed" or "done", cf. Note 4 above) are classified as adjectives.
6. Negative verbs are marked as Negative=y, whereas non-negative verbs are marked as Negative=n.
7. The term transgressive roughly corresponds to the term 'verbal participle'. The transgressives distinguish:
   Number (singular, plural),
   Gender (masculine, non-masculine)
   Tense (past, present)
   The Gender opposition of masculine animate vs. masculine inanimate is neutralized in transgressives; thus, there is one masculine form and one non-masculine (the form of feminine and

neuter is neutralized).

8. Gender and Animate values correspond to those associated with Nouns and are necessary to account properly for agreement.
9. Gender manifests itself in past participles, passive participles and transgressives only.
10. Normally, Verbs form the future Tense periphrastically by auxiliary "by't" (E. "to be") plus infinitive of the main Verb. In addition to the copula, there are, however, some Verbs which form future Tense non-periphrastically, i.e. synthetically (Verbs of motion). Such verbal forms are marked as Tense=f.
11. The 'yes' value of the Clitic_s attribute denotes a verbal form having the clitic morpheme 's' appended as a suffix. This 's' morpheme expresses 2nd Person singular present Tense of the auxiliary Verb "by't" (i.e. the form "jsi"). There is no intermediate hyphen between the verbal form and the 's' morpheme.
12. The Clitic_s attribute is specified for VForm=infinitive (VForm=n) and Vform=p(articiple) only.
13. Some modal and auxiliary Verbs do not form imperative and transgressive.
14. The voice value ('a' or 'p') is not specified for VForm=c(onditional) and VForm=t(ransgressive), in which case VForm='-'.

2.2 Combinations

PoS	Type	VFrm	Tens	Pers	Numb	Gend	Voic	Neg	Anim	Cl_s	Examples
V	m	n	-	-	-	-	[na]	[ny]	-	[ny]	pra't, neprat
V	a	n	-	-	-	-	[na]	[ny]	-	[ny]	mi't, nemi't
V	o	n	-	-	-	-	[na]	[ny]	-	[ny]	muset, nemuset
V	c	n	-	-	-	-	[na]	[ny]	-	[ny]	by't, neby't
V	c	c	-	3	s	-	-	-	-	-	by
V	c	c	-	[12]	s	-	-	-	-	-	bych, bys
V	c	c	-	[12]	p	-	-	-	-	-	bychom, byste
V	c	i	f	[123]	s	-	a	n	-	-	budu, budes<, bude
V	c	i	f	[123]	s	-	a	y	-	-	nebudu, nebudes<, nebude
V	c	i	f	[123]	p	-	a	n	-	-	budeme, budete, budou
V	c	i	f	[123]	p	-	a	y	-	-	nebudeme, nebudete, nebudou
V	m	i	f	[123]	s	-	a	n	-	-	poleti'm, poleti's<, poleti'
V	m	i	f	[123]	s	-	a	y	-	-	nepoleti'm, nepoleti's<, nepoleti'
V	m	i	f	[123]	p	-	a	n	-	-	poleti'me, poleti'te, poleti'
V	m	i	f	[123]	p	-	a	y	-	-	nepoleti'me, nepoleti'te, nepoleti'
V	c	i	p	[123]	s	-	a	n	-	-	jsem, jsi, je
V	c	i	p	[123]	s	-	a	y	-	-	nejsem, nejsi, neni'
V	c	i	p	[123]	p	-	a	n	-	-	jsme, jste, jsou
V	c	i	p	[123]	p	-	a	y	-	-	nejsme, nejste, nejsou
V	m	i	p	[123]	s	-	a	n	-	-	tr<u, tr<es<, tr<e

V	m	i	p	[123]	s	-	a	y	-	-	netr<u, netr<es<, netr<e
V	m	i	p	[123]	p	-	a	n	-	-	tr<eme, tr<ete, tr<ou
V	m	i	p	[123]	p	-	a	y	-	-	netr<eme, netr<ete, netr<ou
V	a	i	p	[123]	s	-	a	n	-	-	ma'm, ma's<, ma'
V	a	i	p	[123]	s	-	a	y	-	-	nema'm, nema's<, nema'
V	a	i	p	[123]	p	-	a	n	-	-	ma'me, ma'te, maji'
V	a	i	p	[123]	p	-	a	y	-	-	nema'me, nema'te, nemaji'
V	o	i	p	[123]	s	-	a	n	-	-	musi'm, musi's<, musi'
V	o	i	p	[123]	s	-	a	y	-	-	nemusi'm, nemusi's<, nemusi'
V	o	i	p	[123]	p	-	a	n	-	-	musi'me, musi'te, museji'/musi'
V	o	i	p	[123]	p	-	a	y	-	-	nemusi'me, nemusi'te, nemuseji'
V	c	m	p	1	p	-	a	[ny]	-	-	bud<me!, nebud<me!
V	c	m	p	2	[sp]	-	a	n	-	-	bud<!, bud<te!
V	c	m	p	2	[sp]	-	a	y	-	-	nebud<!, nebud<te!
V	m	m	p	1	p	-	a	[ny]	-	-	pracujme!, nepracujme!
V	m	m	p	2	[sp]	-	a	n	-	-	pracuj!, pracujte!
V	m	m	p	2	[sp]	-	a	y	-	-	nepracuj!, nepracujte!
V	c	p	s	-	s	[mfn]	a	n	-	n	byl, byla, bylo
V	c	p	s	-	s	[mfn]	a	y	-	n	nebyl, nebyla, nebylo
V	c	p	s	-	s	[mfn]	a	n	-	y	byls, bylas, bylos
V	c	p	s	-	s	[mfn]	a	y	-	y	nebyls, nebylas, nebylos
V	c	p	s	-	p	m	a	n	[yn]	n	byli, byly
V	c	p	s	-	p	m	a	y	[yn]	n	nebyli, nebyly
V	c	p	s	-	p	[fn]	a	n	-	n	byly, byla
V	c	p	s	-	p	[fn]	a	y	-	n	nebyly, nebyla
V	a	p	s	-	s	[mfn]	a	n	-	n	me<l, me<la, me<lo
V	a	p	s	-	s	[mfn]	a	y	-	n	neme<l, neme<la, neme<lo
V	a	p	s	-	s	[mfn]	a	n	-	y	me<ls, me<las, me<los
V	a	p	s	-	s	[mfn]	a	y	-	y	neme<ls, neme<las, neme<los
V	a	p	s	-	p	m	a	n	[yn]	n	me<li, me<ly
V	a	p	s	-	p	m	a	y	[yn]	n	neme<li, neme<ly
V	a	p	s	-	p	[fn]	a	n	-	n	me<ly, me<la
V	a	p	s	-	p	[fn]	a	y	-	n	neme<ly, neme<la
V	o	p	s	-	s	[mfn]	a	n	-	n	musel, musela, muselo
V	o	p	s	-	s	[mfn]	a	y	-	n	nemusel, nemusela, nemuselo
V	o	p	s	-	s	[mfn]	a	n	-	y	musels, muselas, muselos
V	o	p	s	-	s	[mfn]	a	y	-	y	nemusels, nemuselas, nemuselos
V	o	p	s	-	p	m	a	n	[yn]	n	museli, musely
V	o	p	s	-	p	m	a	y	[yn]	n	nemuseli, nemusely
V	o	p	s	-	p	[fn]	a	n	-	n	musely, musela
V	o	p	s	-	p	[fn]	a	y	-	n	nemusely, nemusela
V	m	p	s	-	s	[mfn]	a	n	-	n	de<lal, de<lala, de<lalo
V	m	p	s	-	s	[mfn]	a	y	-	n	nede<lal, nede<lala,

											nede<lalo
V	m	p	s	-	s	[mfn]	a	n	-	y	de<lals, de<lalas, de<lalos
V	m	p	s	-	s	[mfn]	a	y	-	y	nede<lals, nede<lalas, nede<lalos
V	m	p	s	-	p	m	a	n	[yn]	n	de<lali, de<laly
V	m	p	s	-	p	m	a	y	[yn]	n	nede<lali, nede<laly
V	m	p	s	-	p	[fn]	a	n	-	n	de<laly, de<lala
V	m	p	s	-	p	[fn]	a	y	-	n	nede<laly, nede<lala
V	m	p	-	-	s	[mfn]	p	n	-	n	ude<la'n, ude<la'na ude<la'no
V	m	p	-	-	s	[mfn]	p	y	-	n	neude<la'n, neude<la'na neude<la'no
V	m	p	-	-	p	m	p	n	[yn]	n	ude<la'ni, ude<la'ny
V	m	p	-	-	p	m	p	y	[yn]	n	neude<la'ni, neude<la'ny
V	m	p	-	-	p	[fn]	p	n	-	n	ude<la'ny, ude<la'na
V	m	p	-	-	p	[fn]	p	y	-	n	neude<la'ny, neude<la'na
V	c	t	p	-	s	m	-	[ny]	-	-	jsa, nejsa
V	c	t	p	-	s	[fn]	-	[ny]	-	-	jsouc, nejsouc
V	c	t	p	-	p	-	-	[ny]	-	-	jsouce, nejsouce
V	m	t	p	-	s	m	-	[ny]	-	-	de<laje, nede<laje
V	m	t	p	-	s	[fn]	-	[ny]	-	-	de<laji'c, nede<laji'c
V	m	t	p	-	p	-	-	[ny]	-	-	de<laji'ce nede<laji'ce
V	c	t	s	-	s	m	-	[ny]	-	-	byv, nebyv
V	c	t	s	-	s	[fn]	-	[ny]	-	-	byvs<i, nebyvs<i
V	c	t	s	-	p	-	-	[ny]	-	-	byvs<e, nebyvs<e
V	m	t	s	-	s	m	-	[ny]	-	-	ude<lav, neude<lav
V	m	t	s	-	s	[fn]	-	[ny]	-	-	ude<lavs<i, neude<lavs<i'
V	m	t	s	-	p	-	-	[ny]	-	-	ude<lavs<e, neude<lavs<e

3. Adjective (A)

3.1 Lexicon

P	ATT	VAL	C	Example	Czech term
1	Type	qualificative	f	dobry'	kvalitativni' adjektivum
		possessive	s	matc<in	posesi'vni' adjektivum
2	Degree	positive	p	dobry'	pozitiv / 1. stupen<
		comparative	c	leps<i'	komparativ / 2. stupen<
		superlative	s	nejleps<i'	superlativ / 3. stupen<
3	Gender	masculine	m	dobry'	masculinum / rod muz<sky'
		feminine	f	dobra'	femininum / rod z<ensky'
		neuter	n	dobre'	neutrum / rod str<edni'
4	Number	singular		dobry'	singula'r
		plural		dobr<i'	plura'l
		dual		dobry'ma	dua'l

5 Case	nominative	n	dobry'	nominativ
	genitive	g	dobre'ho	genitiv
	dative	d	dobre'mu	dativ
	accusative	a	dobre'ho	akuzativ
	vocative	v	dobry'!	vokativ
	locative	l	dobre'm	loka'l
	instrumental	i	dobry'm	instrumenta'l
6 Definiteness		-		
7 Clitic		-		
8 Animate	no	n	dobre'	nez<ivotne'
	yes	y	dobr<i'	z<ivotne'
9 Formation l.s.	nominal	n	sta'r	jmenny' tvar
l.s.	compound	c	stary'	sloz<eny' tvar
10Owner_Number		-		
11Owner_Person		-		
12Owned_Number		-		

Notes

1. Three deverbative adjectival participles, i.e. past active participle, passive participle and present active participle are not distinguished. They are conflated in the 'qualificative' value of the Type attribute (Type=f).
2. Only qualificative (and passive participle) Adjectives can be specified for Degree and for nominal (short) Form. 3. The attributes Gender, Number, Case and Animate correspond to the same categories within the Nouns. They are necessary for the proper account of agreement of Adjectives with Nouns.
4. The Formation attribute distinguishes a nominal (short) form from a so-called compound (long) form of an Adjective. The nominal form can be used in the predicative function only. It is specified for nominative and accusative Case only.
5. The Adjectives which have no degrees of comparison have the Degree value equal to p(ositive).

3.2 Combinations

PoS	Type	Degr	Gend	Numb	Case	Anim	Form	Examples
A	s	-	m	s	n	-	-	otcu0v
A	s	-	m	s	g	-	-	otcova
A	s	-	m	s	d	-	-	otcovu
A	s	-	m	s	a	y	-	otcova

A	s	-	m	s	a	n	-	otcu0v
A	s	-	m	s	v	-	-	otcu0v!
A	s	-	m	s	l	-	-	otcove< / otcovu
A	s	-	m	s	i	-	-	otcovy'm
A	s	-	m	p	n	y	-	otcovi
A	s	-	m	p	n	n	-	otcovy
A	s	-	m	p	g	-	-	otcovy'ch
A	s	-	m	p	d	-	-	otcovy'm
A	s	-	m	p	a	-	-	otcovy
A	s	-	m	p	v	y	-	otcovi!
A	s	-	m	p	v	n	-	otcovy!
A	s	-	m	p	l	-	-	otcovy'ch
A	s	-	m	p	i	-	-	otcovy'mi
A	s	-	[fn]	s	n	-	-	otcova, otcovo
A	s	-	[fn]	s	g	-	-	otcovy, otcova
A	s	-	[fn]	s	d	-	-	otcove<, otcovu
A	s	-	[fn]	s	a	-	-	otcovu, otcovo
A	s	-	[fn]	s	v	-	-	otcova!, otcovo
A	s	-	[fn]	s	l	-	-	otcove<, otcove< / otcovu
A	s	-	[fn]	s	i	-	-	otcovou, otcovy'm
A	s	-	[fn]	p	n	-	-	otcovy, otcova
A	s	-	[fn]	p	g	-	-	otcovy'ch
A	s	-	[fn]	p	d	-	-	otcovy'm
A	s	-	[fn]	p	a	-	-	otcovy, otcova
A	s	-	[fn]	p	v	-	-	otcovy! otcova!
A	s	-	[fn]	p	l	-	-	otcovy'ch
A	s	-	[fn]	p	i	-	-	otcovy'mi
A	s	-	[fn]	d	i	-	-	otcovy'ma
A	f	[pcs]	m	s	n	-	c	dobry'
A	f	[pcs]	m	s	g	-	c	dobre'ho
A	f	[pcs]	m	s	d	-	c	dobre'mu
A	f	[pcs]	m	s	a	y	c	dobre'ho
A	f	[pcs]	m	s	a	n	c	dobry'
A	f	[pcs]	m	s	v	-	c	dobry'!
A	f	[pcs]	m	s	l	-	c	dobre'm
A	f	[pcs]	m	s	i	-	c	dobry'm
A	f	[pcs]	m	p	n	y	c	dobr<i'
A	f	[pcs]	m	p	n	n	c	dobre'
A	f	[pcs]	m	p	g	-	c	dobry'ch
A	f	[pcs]	m	p	d	-	c	dobry'm
A	f	[pcs]	m	p	a	-	c	dobre'
A	f	[pcs]	m	p	v	y	c	dobr<i'
A	f	[pcs]	m	p	v	n	c	dobre'
A	f	[pcs]	m	p	l	-	c	dobry'ch
A	f	[pcs]	m	p	i	-	c	dobry'mi
A	f	[pcs]	[fn]	s	n	-	c	dobra', dobre'
A	f	[pcs]	[fn]	s	g	-	c	dobre', dobre'ho
A	f	[pcs]	[fn]	s	d	-	c	dobre', dobre'mu
A	f	[pcs]	[fn]	s	a	-	c	dobrou, dobre'
A	f	[pcs]	[fn]	s	v	-	c	dobra'!, dobre'
A	f	[pcs]	[fn]	s	l	-	c	dobre', dobre'm
A	f	[pcs]	[fn]	s	i	-	c	dobrou, dobr'ym
A	f	[pcs]	[fn]	p	n	-	c	dobre', dobra'

A	f	[pcs]	[fn]	p	g	-	c	dobry’ch
A	f	[pcs]	[fn]	p	d	-	c	dobry’m
A	f	[pcs]	[fn]	p	a	-	c	dobre’, dobra’
A	f	[pcs]	[fn]	p	v	-	c	dobre’, dobra’
A	f	[pcs]	[fn]	p	l	-	c	dobry’ch
A	f	[pcs]	[fn]	p	i	-	c	dobry’mi
A	f	[pcs]	[fn]	d	i	-	c	dobry’ma
A	f	-	[mfn]	s	n	-	n	sta’r, sta’ra, sta’ro
A	f	-	[mfn]	s	a	-	n	sta’ra, sta’ru, sta’ro
A	f	-	m	p	n	[ny]	n	sta’r<i, sta’ry
A	f	-	[fn]	p	n	-	n	sta’ry, sta’ra
A	f	-	[mfn]	p	a	-	n	sta’ry, sta’ry, sta’ra
***	****	*****	****	****	****	****	****	======================================

4. Pronoun (P)

4.1 Lexicon

P	ATT	VAL	C	Example	Czech term
1	Type	personal	p	ja’	osobni’
		demonstrative	d	ten	ukazovaci’
		indefinite	i	ne<kdo	neurc<ite’
		possessive	s	jeji’	posesi’vni’
		interrogative	q	kdo	tazaci’
		relative	r	jenz<	vztaz<ne’ / relativni’
		reflexive	x	se	zvratne’ / reflexi’vni’
		negative	z	nikdo	za’porna’ / negativni’
		general	g	kaz<dy’	tota’lni’
2	Person	first	1	ja’	prvni’ osoba
		second	2	ty	druha’ osoba
		third	3	on	tr<eti’ osoba
3	Gender	masculine	m	on	masculinum
		feminine	f	ona	femininum
		neuter	n	to	neutrum
4	Number	singular	s	ty	singula’r
		plural	p	oni	plura’l
		dual	d	te<ma	dua’l
5	Case	nominative	n	ty	nominativ
		genitive	g	tebe	genitiv
		dative	d	tobe<,ti	dativ
		accusative	a	tebe, te<	akuzativ
		locative	l	tobe<	loka’l
		instrumental	i	tebou	instrumenta’l
6	Owner_Number	singular	s	mu0j	singula’r
		plural	p	jejich	plura’l

7 Owner_Gender	masculine	m	jehoz<	masculinum
	feminine	f	jeji'hoz<	femininum
	neuter	n	jehoz<	neutrum
8 Clitic	no	n	tobe<	nepr<i'klonne'
	yes	y	ti	pr<i'klonka
9 Referent_Type	personal	p	se, sebe, si	osobni' zvratne'
	possessive	s	svu0j	zvratne' posesi'vni'
10Syntactic_Type	nominal	n	on	syntakticke' substantivum
	adjectival	a	ktery'	syntakticke' adjektivum
11Definiteness		-		
12Animate	no	n	ktery'	nez<ivotne'
	yes	y	kter<i', ktere'ho	z<ivotne'
13Clitic_s l.s.	yes	y	tys,ses	za'jmeno s kliticky'm -s
l.s.	no	n	ty	za'jmeno bez klitic. -s
14Pronoun_Form		-		
15Owner_Person		-		
16Owned_Number		-		

Notes

1. Gender, Number, Case and Animate correspond to the same categories within Nouns. They are necessary for the proper account of agreement of adjectival Pronouns with Nouns.
2. Type=reflexive ecompasses all reflexive pronouns (se, sebe, si svu0j) as well as "se" in its role as the obligatory particle of reflexive verbs. Personal and possessive reflexives are further distinguished via the Referent_Type attribute.
   "se" in all its roles will be marked as the reflexive personal clitic pronoun.
3. Pronouns are distinguished between having a (syntactically) nominal and (syntactically) adjectival function. All pronoun types except demonstrative and possessive can be nominal, and all except personal can be adjectival.
5. Referent_Type is used to distinguish personal reflexives (which include "se" in all its functions) from the possesive reflexives ("svu0j").
6. Negative and general Pronouns ("general" Pronouns concern the Pronouns like "vs<ichni" [E.. "all"], "kaz<dy'" [E. "every"] etc.) are important from the viewpoint of their syntactic distribution.
7. The Clitic attribute distinguishes clitical vs. nonclitical pronominal forms, e.g. "ti" vs. "tobe<".

8. The 'yes' value of the Clitic_s attribute denotes a pronominal form having the clitic morpheme 's' appended as a suffix. This morpheme expresses 2nd Person singular present Tense of the auxiliary Verb "by't" (E. "to be"). There is no intermediate hyphen between the Pronoun and the 's' morpheme.
9. Owner_Number and Owner_Gender concern the possessor's number and gender, respectively.

4.2 Combinations

PoS	Type	Pers	Gend	Numb	Case	Ow_N	Ow_G	Clit	Ref	Syn	Anim	Cl_s	Examples
P	x	-	-	-	[ga]	-	-	y	p	n	-	n	se
P	x	-	-	-	[ga]	-	-	y	p	n	-	y	ses
P	x	-	-	-	[ga]	-	-	n	p	n			sebe
P	x	-	-	-	d	-	-	y	p	n	-	n	si
P	x	-	-	-	d	-	-	y	p	n	-	y	sis
P	x	-	-	-	[dl]	-	-	n	p	n	-	[ny]	sobe<
P	x	-	-	-	i	-	-	n	p	n	-	[ny]	sebou
P	x	-	[mfn]	all	any	-	-	n	s	a	[ny-]	n	svu0j
P	p	1	-	[sp]	all	-	-	[ny]	-	n	-	[ny]	ja', my
P	p	2	-	[sp]	all	-	-	[ny]	-	n	-	n	ty, vy
P	p	2	-	s	n	-	-	n	-	n	-	y	tys
P	p	3	[mfn]	[sp]	all	-	-	[ny]	-	n	-	[ny]	on, oni, ony, ona
P	s	1	[mfn]	all	all	s	-	n	-	a	[ny-]	[ny]	mu0j
P	s	2	[mfn]	all	[na]	s	-	n	-	a	[ny-]	[ny]	tvu0j
P	s	3	-	-	-	s	[mn]	n	-	a	-	[ny]	jeho
P	s	3	[mfn]	all	all	s	f	n	-	a	-	[ny]	jeji'
P	s	3	-	-	-	p	[mfn]	n	-	a	-	-	jejich
P	d	-	[mfn]	all	all	-	-	n	-	a	[ny-]	[ny]	1)
P	i	-	[mn]	s	all	-	-	n	-	n	-	-	2)
P	i	-	[mfn]	[sp]	all	-	-	n	-	a	[ny-]	-	3)
P	[qr]	-	[mn]	s	all	-	-	n	-	n	-	-	4)
P	[qr]	-	[mfn]	[sp]	all	-	-	n	-	a	[ny-]	-	5)
P	z	-	[mn]	s	all	-	-	n	-	n	-	-	6)
P	z	-	[mfn]	[sp]	all	-	-	n	-	a	[ny-]	-	7)
P	g	-	[mfn]	[sp]	all	-	-	n	-	n	[ny-]	-	8)

1) ten, tento, tamten, tenhle, tenhleten, takovy', onaky'
2) ne<kdo, ne<jaky', kdovi'kdo, leckdo, leccos, ne<co
3) jaky', ktery', kdovi'jaky', lecjaky'
4) kdo, co
5) jaky', ktery', jenz<, coz<
6) nikdo, nic
7) z<a'dny', nijaky'
8) vs<echen, kaz<dy'

5. Determiner (D)

Not applicable.

6. Article (T)

Not applicable.

7. Adverb (R)

7.1 Lexicon

P	ATT	VAL	C	Example	Czech term
1	Type	general	g	dobr<e	pr<i'slovce
2	Degree	positive	p	ma'lo	pozitiv / 1. stupen<
		comparative	c	me'ne<	komparativ / 2. stupen<
		superlative	s	nejme'ne<	superlativ / 3. stupen<
3	Clitic		-		
4	Number		-		
5	Person		-		

Notes

```
1. The  classification  given  above  is  greatly  simplified  as
   compared  to traditional  Czech grammars.  There can  be other
   classifications as well, eg.:
   (a) syntactic: Adverb modifying a Verb
                  Adverb modifying an Adjective
                  Adverb modifying another Adverb
                  Adverb modifying a Noun from the left
                  Adverb modifying a Noun from the right
   (b) semantic   temporal
                  spatial
                  qualitative
                   ...
   We refrained from this typology here.
2. Particles form a separate part  of speech category (see below)
   as is customary in Czech grammars.
3. The Adjectives  which have no  degrees of comparison  have the
   Degree value equal to p(ositive) similarly as Adjectives.
```

7.2 Combinations

```
*** **** **** =================================================================
```

```
Pos Type Deg  Examples
*** **** **** ================================================================
 R   g    p   dobr<e
 R   g    c   le'pe
 R   g    s   nejle'pe
 R   g    p   tady
*** **** **** ================================================================
```

8. Adposition (S)

8.1 Lexicon

```
= ============== ============== = =================== ========================
P ATT            VAL            C Example             Czech term
= ============== ============== = =================== ========================
1 Type           preposition    p nad                 pr<edloz<ka
- -------------- -------------- - ------------------- ------------------------
2 Formation      simple         s na, v               predloz<ka (prava')
                 compound       c nan<, oc<           kontrakce pr<edl. + za'jm.
* ************** ************** * ------------------- ------------------------
3 Case
  (req.by prep.) genitive       g bez                 genitiv
                 dative         d proti               dativ
                 accusative     a pro                 akuzativ
                 locative       l v                   loka'l
                 instrumental   i s                   instrumenta'l
- -------------- -------------- - ---- -------------- ------------------------
4 Clitic                        -
=================================
```

Notes

1. Czech has only Prepositions, no postpositions.
2. For the disambiguation of word forms belonging to declension parts of speech it seems necessary to include the information about the case which each Preposition requires.
   3. A preposition can be contracted with a pronoun; such a preposition has Formation=c(ompound).

8.2 Combinations

```
*** **** **** ---- ===========================================================
PoS Type Form Case Examples
*** **** **** ---- ===========================================================
 S    p    s    g  bez, krome<
 S    p    s    d  k, proti
 S    p    s    a  pro, mimo
 S    p    s    l  o, v, pr<i
 S    p    s    i  s, pod
 S    p    c    -  nan<, zac<
*** **** **** ---- ===========================================================
```

9. Conjunction (C)

9.1 Lexicon

P	ATT	VAL	C	Example	Czech term
1	Type	coordinating	c	a, ani	spojka sour<adici’
		subordinating	s	aby, protoz<e	spojka podr<adici’
2	Formation		-		
3	Coord_Type		-		
4	Sub_Type		-		
5	Clitic		-		
6	Number	singular	s	kdybych	spojka ’kdyby’+sg. od ’by’
		plural	p	kdybyste	spojka ’kdyby’+pl. od ’by’
7	Person	first	1	abych	spojka ’aby’+1.os. od ’by’
		second	2	abyste	spojka ’aby’+2.os. od ’by’
		third	3	aby	spojka ’aby’+3.os. od ’by’

Notes

1. Conjunctions "abych", "abys", ..., "kdybych", ... are composed of the Conjunction "aby" or "kdyby" + conditional particle ("bych", "bys", "by", "bychom", "byste"). These Conjunctions are therefore specified for Person and Number for the sake of agreement relation.
2. The class of two-part Conjunctions has not been introduced.

9.2 Combinations

PoS	Type	Numb	Pers	Examples
C	c	-	-	a, i, ba, nebot<, ani
C	s	-	-	z<e, protoz<e, zda
C	s	-	3	aby, kdyby
C	s	s	[12]	abych, abys, kdybych, kdybys
C	s	p	[12]	abychom, abyste, kdybychom, kdybyste

10. Numeral (M)

P	ATT	VAL	C	Example	Czech term
1	Type	cardinal	c	dva	c<i'slovka za'kladni'
		ordinal	o	pa'ty'	c<i'slovka r<adova'
		multiple	m	dvakra't	c<i'slovka na'sobna'
		special	s	dvoji'	c<i'slovka druhova'
2	Gender	masculine	m	dva	masculinum
		feminine	f	dve<	femininum
		neuter	n	dve<	neutrum
3	Number	singular	s	druhy'	singula'r
		plural	p	druzi'	plura'l
		dual	d	druhy'ma	dua'l
4	Case	nominative	n	dva, dve<	nominativ
		genitive	g	dvou	genitiv
		dative	d	dve<ma	dativ
		accusative	a	dva, dve<	akuzativ
		locative	l	dvou	loka'l
		instrumental	i	dve<ma	instrumenta'l
5	Form	digit	d	5	c<i'slo (arabske')
		roman	r	MCMVIII	c<i'slo (r<i'mske')
		letter	l	s<edesa't	c<i'slovka slovem
6	Definiteness		-		
7	Clitic		-		
8	Class	definite1	1	jeden	
		definite2	2	dva	
		definite34	3	tr<i	
		definite	f	pe<t	
		demonstrative	d	tolik	
		indefinite	i	ne<kolik	
		interrogative	q	kolik	
		relative	r	kolik	
9	Animate	no	n	pa'te'	nez<ivotne'
		yes	y	pa'ti'	z<ivotne'
10	Owner_Number		-		
11	Owner_Person		-		
12	Owned_Number		-		

Notes

1. Numerals have been specified as a separate category because of

their specific syntactic distribution. We have specified two syntactic classifications by means of the attributes Type and Class; they concern different syntactic distributions. For instance "ne<kolik" (E. "several") will be characterized as:
Type: cardinal
Class: indefinite

2. Among the definite numbers there are four subclasses (definite1, definite2, definite34, definite) which differ in the syntactic distribution and contain the following Numerals: {1}, {2}, {3,4}, {5,6,...}
3. Gender, Number and Case correspond to the same categories within Nouns. They are necessary for the proper account of agreement of Numerals with Nouns.
4. In direct cases (nominative, accusative) the cardinal numerals belonging to class with one of the values {fdiqr} (see above) behave like neuter Nouns in singular, whereas in oblique cases they behave like adjectival attributes in plural.

Combinations
============

PoS	Type	Gend	Numb	Case	Form	Class	Anim	Examples
M	-	-	-	-	d	[123f]	-	56
M	-	-	-	-	r	[123f]	-	MVIII
M	c	[mfn]	s	any	l	1	-	jeden, jedna, jedno
M	c	[mfn]	p	any	l	2	-	dva, dve<
M	c	-	p	any	l	3	-	tr<i, c<tyr<i
M	c	n	[sp]	any	l	f	-	pe<t, deset, padesa't
M	c	n	[sp]	any	l	[diqr]	-	tolik, ne<kolik, kolik
M	o	[mfn]	[spd]	any	l	any	[ny-]	prvni', druhy', ne<kolika'ty'
M	m	-	-	-	l	any	-	dvakra't, pe<tkra't, ne<kolikra't
M	s	[mfn]	[spd]	n	l	any	[ny-]	dvoji', troje, patery'

Note: In the Combinations above, 'any' is a variable standing for any admissible value.

11. Interjection (I)

P	ATT	VAL	C	Example	Czech term
1	Type		-	au!, och!	citoslovce
2	Formation		-		

12. Residual (X)

```
= ============== ============== = =================== ========================
P ATT            VAL            C Example             Czech term
= ============== ============== = =================== ========================
                                - sic, a+b            Zby'vaji'ci' elementy
= ============== ============== =
```

13. Abbreviation (Y)

```
= ============== ============== = =================== ========================
P ATT            VAL            C Example             Czech term
= ============== ============== = =================== ========================
1 Syntactic_Type                - atd.                zkratka
- -------------- -------------- - ------------------- ------------------------
2 Gender                        -
- -------------- -------------- -
3 Number                        -
- -------------- -------------- -
4 Case                          -
- -------------- -------------- -
5 Definiteness                  -
=================================
```

14. Particle (Q)

```
= ============== ============== = =================== ========================
P ATT            VAL            C Example             Czech term
= ============== ============== = =================== ========================
1 Type                          - ano, ne             partikule / c<a'stice
- -------------- -------------- - ------------------- ------------------------
2 Formation                     -
- -------------- -------------- -
3 Clitic                        -
=================================
```

3.3 Application to Estonian

The application to Estonian has been elaborated by H.J. Kaalep.

Notes:

1. Two additional tables are provided for every POS: one for definitions and one for examples. For nouns, adjectives, numerals and pronouns the table of examples contains more rows than the table of definitions. This is because in Estonian there are two equal ways for forming 11–12 plural cases for these POS and both are given.
2. The ordering of attributes is the same as in the synoptic tables of the proposal.

```
1. Nouns (N)

1.1. Lexicon

= ============== ============== = ============
P ATT            VAL            C EXAMPLE
= ============== ============== = ============
1 Type           common         c jalg
                 proper         p London
- -------------- -------------- - ------------
2 Gender                        -
- -------------- -------------- - ------------
3 Number         singular       s jalg
                 plural         p jalad
- -------------- -------------- - ------------
4 Case           nominative     n jalg
                 genitive       g jala
           l.s.  partitive      1 jalga
                 illative       x jalasse
                 inessive       2 jalas
                 elative        e jalast
                 allative       t jalale
                 adessive       3 jalal
                 ablative       b jalalt
           l.s.  translative    4 jalaks
                 terminative    9 jalani
                 essive         w jalana
           l.s.  abessive       5 jalata
           l.s.  komitative     k jalaga
           l.s.  aditive        7 jalga
* ***************************** * ************
5 Definiteness                  -
- -------------- -------------- - ------------
6 Clitic                        -
- -------------- -------------- - ------------
7 Animate                       -
- -------------- -------------- - ------------
8 Owner_Number                  -
```

```
- -------------- -------------- - ------------
9 Owner_Person                  -
---------------- -------------- - ------------
10Owned_Number                  -
================================= ============
```

```
1.2. Definitions

Lexicon      Definitions
------------------------------------
Nc-sn        Noun common singular nominative
Nc-sg        Noun common singular genitive
Nc-s1        Noun common singular partitive
Nc-sx        Noun common singular illative
Nc-s2        Noun common singular inessive
Nc-se        Noun common singular elative
Nc-st        Noun common singular allative
Nc-s3        Noun common singular adessive
Nc-sb        Noun common singular ablative
Nc-s4        Noun common singular translative
Nc-s9        Noun common singular terminative
Nc-sw        Noun common singular essive
Nc-s5        Noun common singular abessive
Nc-sk        Noun common singular komitative
Nc-s7        Noun common singular aditive
Nc-pn        Noun common plural nominative
Nc-pg        Noun common plural genitive
Nc-p1        Noun common plural partitive
Nc-px        Noun common plural illative
Nc-p2        Noun common plural inessive
Nc-pe        Noun common plural elative
Nc-pt        Noun common plural allative
Nc-p3        Noun common plural adessive
Nc-pb        Noun common plural ablative
Nc-p4        Noun common plural translative
Nc-p9        Noun common plural terminative
Nc-pw        Noun common plural essive
Nc-p5        Noun common plural abessive
Nc-pk        Noun common plural komitative

Np-sn        Noun proper singular nominative
Np-sg        Noun proper singular genitive
Np-s1        Noun proper singular partitive
Np-sx        Noun proper singular illative
Np-s2        Noun proper singular inessive
Np-se        Noun proper singular elative
Np-st        Noun proper singular allative
Np-s3        Noun proper singular adessive
Np-sb        Noun proper singular ablative
Np-s4        Noun proper singular translative
Np-s9        Noun proper singular terminative
Np-sw        Noun proper singular essive
```

```
Np-s5       Noun proper singular abessive
Np-sk       Noun proper singular komitative
Np-s7       Noun proper singular aditive
Np-pn       Noun proper plural nominative
Np-pg       Noun proper plural genitive
Np-p1       Noun proper plural partitive
Np-px       Noun proper plural illative
Np-p2       Noun proper plural inessive
Np-pe       Noun proper plural elative
Np-pt       Noun proper plural allative
Np-p3       Noun proper plural adessive
Np-pb       Noun proper plural ablative
Np-p4       Noun proper plural translative
Np-p9       Noun proper plural terminative
Np-pw       Noun proper plural essive
Np-p5       Noun proper plural abessive
Np-pk       Noun proper plural komitative


1.3. Examples

Lexicon     Examples
----------------------
Nc-sn       jalg
Nc-sg       jala
Nc-s1       jalga
Nc-sx       jalasse
Nc-s2       jalas
Nc-se       jalast
Nc-st       jalale
Nc-s3       jalal
Nc-sb       jalalt
Nc-s4       jalaks
Nc-s9       jalani
Nc-sw       jalana
Nc-s5       jalata
Nc-sk       jalaga
Nc-s7       jalga
Nc-pn       jalad
Nc-pg       jalgade
Nc-p1       jalgasid
Nc-px       jalgadesse
Nc-p2       jalgades
Nc-pe       jalgadest
Nc-pt       jalgadele
Nc-p3       jalgadel
Nc-pb       jalgadelt
Nc-p4       jalgadeks
Nc-p9       jalgadeni
Nc-pw       jalgadena
Nc-p5       jalgadeta
Nc-pk       jalgadega
Nc-pg       jalge
```

Nc-p1	jalgu
Nc-px	jalusse
Nc-p2	jalus
Nc-pe	jalust
Nc-pt	jalule
Nc-p3	jalul
Nc-pb	jalult
Nc-p4	jaluks

Np-sn	London
Np-sg	Londoni
Np-s1	Londonit
Np-sx	Londonisse
Np-s2	Londonis
Np-se	Londonist
Np-st	Londonile
Np-s3	Londonil
Np-sb	Londonilt
Np-s4	Londoniks
Np-s9	Londonini
Np-sw	Londonina
Np-s5	Londonita
Np-sk	Londoniga
Np-s7	Londoni
Np-pn	Londonid
Np-pg	Londonite
Np-p1	Londoneid
Np-px	Londonitesse
Np-p2	Londonites
Np-pe	Londonitest
Np-pt	Londonitele
Np-p3	Londonitel
Np-pb	Londonitelt
Np-p4	Londoniteks
Np-p9	Londoniteni
Np-pw	Londonitena
Np-p5	Londoniteta
Np-pk	Londonitega
Np-px	Londoneisse
Np-p2	Londoneis
Np-pe	Londoneist
Np-pt	Londoneile
Np-p3	Londoneil
Np-pb	Londoneilt
Np-p4	Londoneiks
Np-p9	Londoneini
Np-pw	Londoneina
Np-p5	Londoneita
Np-pk	Londoneiga

2. Verbs (V)

```
2.1. Lexicon

= ============== ============== = ============
P ATT            VAL            C EXAMPLE
= ============== ============== = ============
1 Type           main           m lugema
                 auxiliary      a olema
                 modal          o saama
- -------------- -------------- - ------------
2 VForm          indicative     i loen
                 imperative     m loe
                 conditional    c loeksin
                 infinitive     n lugeda
                 participle     p lugev
                 gerund         g lugedes
                 supine         u lugema
            l.s. quotative      q lugevat
- -------------- -------------- - ------------
3 Tense          present        p loen
                 imperfect      i lugesin
                 past           s lugenuvat
- -------------- -------------- - ------------
4 Person         first          1 loen
                 second         2 loed
                 third          3 loeb
- -------------- -------------- - ------------
5 Number         singular       s loen
                 plural         p loeme
- -------------- -------------- - ------------
6 Gender                        -
******************************** ************
7 Voice          active         a loen
                 passive        p loetakse
- -------------- -------------- - ------------
8 Negative       no             n loen
                 yes            y (ei) + loeta
- -------------- -------------- - ------------
9 Definiteness                  -
- -------------- -------------- - ------------
10Clitic                        -
- -------------- -------------- - ------------
11Case
                 illative       x lugema
                 inessive       2 lugemas
                 elative        e lugemast
                 translative    4 lugemaks
                 abessive       5 lugemata
- -------------- -------------- - ------------
12Animate                       -
- -------------- -------------- - ------------
13Clitic_s                      -
================================ ============
```

2.2. Definitions

```
Lexicon        Definition
-------------------------
Vmip1s-an---   Verb main indic present first singular active afirmative
Vmip2s-an---   Verb main indic present second singular active afirmative
Vmip3s-an---   Verb main indic present third singular active afirmative
Vmip1p-an---   Verb main indic present first plural active afirmative
Vmip2p-an---   Verb main indic present second plural active afirmative
Vmip3p-an---   Verb main indic present third plural active afirmative
Vmip1s-ay---   Verb main indic present first singular active negative
Vmip2s-ay---   Verb main indic present second singular active negative
Vmip3s-ay---   Verb main indic present third singular active negative
Vmip1p-ay---   Verb main indic present first plural active negative
Vmip2p-ay---   Verb main indic present second plural active negative
Vmip3p-ay---   Verb main indic present third plural active negative
Vmip---pn---   Verb main indic present passive afirmative
Vmip---py---   Verb main indic present passive negative
Vmii1s-an---   Verb main indic imperfect first singular active afirmative
Vmii2s-an---   Verb main indic imperfect second singular active afirmative
Vmii3s-an---   Verb main indic imperfect third singular active afirmative
Vmii1p-an---   Verb main indic imperfect first plural active afirmative
Vmii2p-an---   Verb main indic imperfect second plural active afirmative
Vmii3p-an---   Verb main indic imperfect third plural active afirmative
Vmii---pn---   Verb main indic imperfect passive afirmative

Vmmp2s-an---   Verb main imper present second singular active afirmative
Vmmp3s-an---   Verb main imper present third singular active afirmative
Vmmp1p-an---   Verb main imper present first plural active afirmative
Vmmp2p-an---   Verb main imper present second plural active afirmative
Vmmp3p-an---   Verb main imper present third plural active afirmative
Vmmp---pn---   Verb main imper present passive afirmative

Vmcp1s-an---   Verb main condit present first singular active afirmative
Vmcp2s-an---   Verb main condit present second singular active afirmative
Vmcp3s-an---   Verb main condit present third singular active afirmative
Vmcp1p-an---   Verb main condit present first plural active afirmative
Vmcp2p-an---   Verb main condit present second plural active afirmative
Vmcp3p-an---   Verb main condit present third plural active afirmative
Vmcp---pn---   Verb main condit present passive afirmative
Vmcs1s-an---   Verb main condit past first singular active afirmative
Vmcs2s-an---   Verb main condit past second singular active afirmative
Vmcs3s-an---   Verb main condit past third singular active afirmative
Vmcs1p-an---   Verb main condit past first plural active afirmative
Vmcs2p-an---   Verb main condit past second plural active afirmative
Vmcs3p-an---   Verb main condit past third plural active afirmative
Vmcs---pn---   Verb main condit past passive afirmative

Vmn-----n---   Verb main infinit

Vmpp---an---   Verb main partic present active afirmative
Vmpp---pn---   Verb main partic present passive afirmative
```

```
Vmps---an---   Verb main partic past active afirmative
Vmps---pn---   Verb main partic past passive afirmative

Vmg-----n---   Verb main gerund

Vms----an--x   Verb main supine active afirmative illative
Vms----an--2   Verb main supine active afirmative inessive
Vms----an--e   Verb main supine active afirmative elative
Vms----an--4   Verb main supine active afirmative translative
Vms----an--5   Verb main supine active afirmative abessive
Vms----pn---   Verb main supine passive afirmative

Vmqp1s-an---   Verb main quotat present first singular active afirmative
Vmqp2s-an---   Verb main quotat present second singular active afirmative
Vmqp3s-an---   Verb main quotat present third singular active afirmative
Vmqp1p-an---   Verb main quotat present first plural active afirmative
Vmqp2p-an---   Verb main quotat present second plural active afirmative
Vmqp3p-an---   Verb main quotat present third plural active afirmative
Vmqp---pn---   Verb main quotat present passive afirmative
Vmqs1s-an---   Verb main quotat past first singular active afirmative
Vmqs2s-an---   Verb main quotat past second singular active afirmative
Vmqs3s-an---   Verb main quotat past third singular active afirmative
Vmqs1p-an---   Verb main quotat past first plural active afirmative
Vmqs2p-an---   Verb main quotat past second plural active afirmative
Vmqs3p-an---   Verb main quotat past third plural active afirmative
Vmqs---pn---   Verb main quotat past passive afirmative

Vm------n---   Verb main afirmative

Vai-----y---   Verb aux indic negative
Vaip1s-an---   Verb aux indic present first singular active afirmative
Vaip2s-an---   Verb aux indic present second singular active afirmative
Vaip3s-an---   Verb aux indic present third singular active afirmative
Vaip1p-an---   Verb aux indic present first plural active afirmative
Vaip2p-an---   Verb aux indic present second plural active afirmative
Vaip3p-an---   Verb aux indic present third plural active afirmative
Vaip1s-ay---   Verb aux indic present first singular active negative
Vaip2s-ay---   Verb aux indic present second singular active negative
Vaip3s-ay---   Verb aux indic present third singular active negative
Vaip1p-ay---   Verb aux indic present first plural active negative
Vaip2p-ay---   Verb aux indic present second plural active negative
Vaip3p-ay---   Verb aux indic present third plural active negative
Vaip---pn---   Verb aux indic present passive afirmative
Vaip---py---   Verb aux indic present passive negative
Vaii1s-an---   Verb aux indic imperfect first singular active afirmative
Vaii2s-an---   Verb aux indic imperfect second singular active afirmative
Vaii3s-an---   Verb aux indic imperfect third singular active afirmative
Vaii1p-an---   Verb aux indic imperfect first plural active afirmative
Vaii2p-an---   Verb aux indic imperfect second plural active afirmative
Vaii3p-an---   Verb aux indic imperfect third plural active afirmative
Vaii1s-ay---   Verb aux indic imperfect first singular active negative
Vaii2s-ay---   Verb aux indic imperfect second singular active negative
Vaii3s-ay---   Verb aux indic imperfect third singular active negative
```

```
Vaii1p-ay---   Verb aux indic imperfect first plural active negative
Vaii2p-ay---   Verb aux indic imperfect second plural active negative
Vaii3p-ay---   Verb aux indic imperfect third plural active negative
Vaii---pn---   Verb aux indic imperfect passive afirmative

Vamp2s-an---   Verb aux imper present second singular active afirmative
Vamp3s-an---   Verb aux imper present third singular active afirmative
Vamp1p-an---   Verb aux imper present first plural active afirmative
Vamp2p-an---   Verb aux imper present second plural active afirmative
Vamp3p-an---   Verb aux imper present third plural active afirmative
Vamp---pn---   Verb aux imper present passive afirmative
Vamp2s-ay---   Verb aux imper present second singular active negative
Vamp3s-ay---   Verb aux imper present third singular active negative
Vamp1p-ay---   Verb aux imper present first plural active negative
Vamp2p-ay---   Verb aux imper present second plural active negative
Vamp3p-ay---   Verb aux imper present third plural active negative
Vamp---py---   Verb aux imper present passive negative

Vac-----y---   Verb aux condit negative
Vacp1s-an---   Verb aux condit present first singular active afirmative
Vacp2s-an---   Verb aux condit present second singular active afirmative
Vacp3s-an---   Verb aux condit present third singular active afirmative
Vacp1p-an---   Verb aux condit present first plural active afirmative
Vacp2p-an---   Verb aux condit present second plural active afirmative
Vacp3p-an---   Verb aux condit present third plural active afirmative
Vacp1s-ay---   Verb aux condit present first singular active negative
Vacp2s-ay---   Verb aux condit present second singular active negative
Vacp3s-ay---   Verb aux condit present third singular active negative
Vacp1p-ay---   Verb aux condit present first plural active negative
Vacp2p-ay---   Verb aux condit present second plural active negative
Vacp3p-ay---   Verb aux condit present third plural active negative
Vacp---pn---   Verb aux condit present passive afirmative
Vacs1s-an---   Verb aux condit past first singular active afirmative
Vacs2s-an---   Verb aux condit past second singular active afirmative
Vacs3s-an---   Verb aux condit past third singular active afirmative
Vacs1p-an---   Verb aux condit past first plural active afirmative
Vacs2p-an---   Verb aux condit past second plural active afirmative
Vacs3p-an---   Verb aux condit past third plural active afirmative
Vacs1s-ay---   Verb aux condit past first singular active negative
Vacs2s-ay---   Verb aux condit past second singular active negative
Vacs3s-ay---   Verb aux condit past third singular active negative
Vacs1p-ay---   Verb aux condit past first plural active negative
Vacs2p-ay---   Verb aux condit past second plural active negative
Vacs3p-ay---   Verb aux condit past third plural active negative
Vacs---pn---   Verb aux condit past passive afirmative

Van-----n---   Verb aux infinit

Vapp---an---   Verb aux partic present active afirmative
Vapp---pn---   Verb aux partic present passive afirmative
Vaps---an---   Verb aux partic past active afirmative
Vaps---pn---   Verb aux partic past passive afirmative
```

```
Vag-----n---   Verb aux gerund

Vas----an--x   Verb aux supine active afirmative illative
Vas----an--2   Verb aux supine active afirmative inessive
Vas----an--e   Verb aux supine active afirmative elative
Vas----an--4   Verb aux supine active afirmative translative
Vas----an--5   Verb aux supine active afirmative abessive
Vas----pn---   Verb aux supine passive afirmative

Vaq-----y---   Verb aux quotat negative
Vaqp1s-an---   Verb aux quotat present first singular active afirmative
Vaqp2s-an---   Verb aux quotat present second singular active afirmative
Vaqp3s-an---   Verb aux quotat present third singular active afirmative
Vaqp1p-an---   Verb aux quotat present first plural active afirmative
Vaqp2p-an---   Verb aux quotat present second plural active afirmative
Vaqp3p-an---   Verb aux quotat present third plural active afirmative
Vaqp1s-ay---   Verb aux quotat present first singular active negative
Vaqp2s-ay---   Verb aux quotat present second singular active negative
Vaqp3s-ay---   Verb aux quotat present third singular active negative
Vaqp1p-ay---   Verb aux quotat present first plural active negative
Vaqp2p-ay---   Verb aux quotat present second plural active negative
Vaqp3p-ay---   Verb aux quotat present third plural active negative
Vaqp---pn---   Verb aux quotat present passive afirmative
Vaqs1s-an---   Verb aux quotat past first singular active afirmative
Vaqs2s-an---   Verb aux quotat past second singular active afirmative
Vaqs3s-an---   Verb aux quotat past third singular active afirmative
Vaqs1p-an---   Verb aux quotat past first plural active afirmative
Vaqs2p-an---   Verb aux quotat past second plural active afirmative
Vaqs3p-an---   Verb aux quotat past third plural active afirmative
Vaqs---pn---   Verb aux quotat past passive afirmative

Voip1s-an---   Verb modal indic present first singular active afirmative
Voip2s-an---   Verb modal indic present second singular active afirmative
Voip3s-an---   Verb modal indic present third singular active afirmative
Voip1p-an---   Verb modal indic present first plural active afirmative
Voip2p-an---   Verb modal indic present second plural active afirmative
Voip3p-an---   Verb modal indic present third plural active afirmative
Voip---pn---   Verb modal indic present passive afirmative
Voip---py---   Verb modal indic present passive negative
Voii1s-an---   Verb modal indic imperfect first singular active afirmative
Voii2s-an---   Verb modal indic imperfect second singular active afirmative
Voii3s-an---   Verb modal indic imperfect third singular active afirmative
Voii1p-an---   Verb modal indic imperfect first plural active afirmative
Voii2p-an---   Verb modal indic imperfect second plural active afirmative
Voii3p-an---   Verb modal indic imperfect third plural active afirmative
Voii---pn---   Verb modal indic imperfect passive afirmative

Vomp2s-an---   Verb modal imper present second singular active afirmative
Vomp3s-an---   Verb modal imper present third singular active afirmative
Vomp1p-an---   Verb modal imper present first plural active afirmative
Vomp2p-an---   Verb modal imper present second plural active afirmative
Vomp3p-an---   Verb modal imper present third plural active afirmative
Vomp---pn---   Verb modal imper present passive afirmative
```

```
Vocp1s-an---   Verb modal condit present first singular active afirmative
Vocp2s-an---   Verb modal condit present second singular active afirmative
Vocp3s-an---   Verb modal condit present third singular active afirmative
Vocp1p-an---   Verb modal condit present first plural active afirmative
Vocp2p-an---   Verb modal condit present second plural active afirmative
Vocp3p-an---   Verb modal condit present third plural active afirmative
Vocp---pn---   Verb modal condit present passive afirmative
Vocs1s-an---   Verb modal condit past first singular active afirmative
Vocs2s-an---   Verb modal condit past second singular active afirmative
Vocs3s-an---   Verb modal condit past third singular active afirmative
Vocs1p-an---   Verb modal condit past first plural active afirmative
Vocs2p-an---   Verb modal condit past second plural active afirmative
Vocs3p-an---   Verb modal condit past third plural active afirmative
Vocs---pn---   Verb modal condit past passive afirmative

Von-----n---   Verb modal infinit

Vopp---an---   Verb modal partic present active afirmative
Vopp---pn---   Verb modal partic present passive afirmative
Vops---an---   Verb modal partic past active afirmative
Vops---pn---   Verb modal partic past passive afirmative

Vog-----n---   Verb modal gerund

Vos----an--x   Verb modal supine active afirmative illative
Vos----an--2   Verb modal supine active afirmative inessive
Vos----an--e   Verb modal supine active afirmative elative
Vos----an--4   Verb modal supine active afirmative translative
Vos----an--5   Verb modal supine active afirmative abessive
Vos----pn---   Verb modal supine passive afirmative

Voqp1s-an---   Verb modal quotat present first singular active afirmative
Voqp2s-an---   Verb modal quotat present second singular active afirmative
Voqp3s-an---   Verb modal quotat present third singular active afirmative
Voqp1p-an---   Verb modal quotat present first plural active afirmative
Voqp2p-an---   Verb modal quotat present second plural active afirmative
Voqp3p-an---   Verb modal quotat present third plural active afirmative
Voqp---pn---   Verb modal quotat present passive afirmative
Voqs1s-an---   Verb modal quotat past first singular active afirmative
Voqs2s-an---   Verb modal quotat past second singular active afirmative
Voqs3s-an---   Verb modal quotat past third singular active afirmative
Voqs1p-an---   Verb modal quotat past first plural active afirmative
Voqs2p-an---   Verb modal quotat past second plural active afirmative
Voqs3p-an---   Verb modal quotat past third plural active afirmative
Voqs---pn---   Verb modal quotat past passive afirmative


2.3. Examples

Lexicon         Example
-----------------------
```

```
Vmip1s-an---    loen
Vmip2s-an---    loed
Vmip3s-an---    loeb
Vmip1p-an---    loeme
Vmip2p-an---    loete
Vmip3p-an---    loevad
Vmip1s-ay---    (ei)+l&auml;he
Vmip2s-ay---    (ei)+l&auml;he
Vmip3s-ay---    (ei)+l&auml;he
Vmip1p-ay---    (ei)+l&auml;he
Vmip2p-ay---    (ei)+l&auml;he
Vmip3p-ay---    (ei)+l&auml;he
Vmip---pn---    loetakse
Vmip---py---    (ei)+loeta
Vmii1s-an---    lugesin
Vmii2s-an---    lugesid
Vmii3s-an---    luges
Vmii1p-an---    lugesime
Vmii2p-an---    lugesite
Vmii3p-an---    lugesid
Vmii---pn---    loeti

Vmmp2s-an---    loe
Vmmp3s-an---    lugegu
Vmmp1p-an---    lugegem
Vmmp2p-an---    lugege
Vmmp3p-an---    lugegu
Vmmp---pn---    loetagu

Vmcp1s-an---    loeksin
Vmcp2s-an---    loeksid
Vmcp1p-an---    loeksime
Vmcp2p-an---    loeksite
Vmcp3p-an---    loeksid
Vmcp1s-an---    loeks
Vmcp2s-an---    loeks
Vmcp3s-an---    loeks
Vmcp1p-an---    loeks
Vmcp2p-an---    loeks
Vmcp3p-an---    loeks
Vmcp---pn---    loetaks
Vmcs1s-an---    lugenuksin
Vmcs2s-an---    lugenuksid
Vmcs1p-an---    lugenuksime
Vmcs2p-an---    lugenuksite
Vmcs3p-an---    lugenuksid
Vmcs1s-an---    lugenuks
Vmcs2s-an---    lugenuks
Vmcs3s-an---    lugenuks
Vmcs1p-an---    lugenuks
Vmcs2p-an---    lugenuks
Vmcs3p-an---    lugenuks
Vmcs---pn---    loetuks
```

```
Vmn-----n---    lugeda

Vmpp---an---    lugev
Vmpp---pn---    loetav
Vmps---an---    lugenud
Vmps---pn---    loetud

Vmg-----n---    lugedes

Vms----an--x    lugema
Vms----an--2    lugemas
Vms----an--e    lugemast
Vms----an--4    lugemaks
Vms----an--5    lugemata
Vms----pn---    loetama

Vmqp1s-an---    lugevat
Vmqp2s-an---    lugevat
Vmqp3s-an---    lugevat
Vmqp1p-an---    lugevat
Vmqp2p-an---    lugevat
Vmqp3p-an---    lugevat
Vmqp---pn---    loetavat
Vmqs1s-an---    lugenuvat
Vmqs2s-an---    lugenuvat
Vmqs3s-an---    lugenuvat
Vmqs1p-an---    lugenuvat
Vmqs2p-an---    lugenuvat
Vmqs3p-an---    lugenuvat
Vmqs---pn---    loetuvat

Vm------n---    kuulukse

Vai-----y---    ei
Vaip1s-an---    olen
Vaip2s-an---    oled
Vaip3s-an---    on
Vaip1p-an---    oleme
Vaip2p-an---    olete
Vaip3p-an---    on
Vaip1s-ay---    pole
Vaip2s-ay---    pole
Vaip3s-ay---    pole
Vaip1p-ay---    pole
Vaip2p-ay---    pole
Vaip3p-ay---    pole
Vaip---pn---    ollakse
Vaip---py---    (ei)+olda
Vaii1s-an---    olin
Vaii2s-an---    olid
Vaii3s-an---    oli
Vaii1p-an---    olime
```

```
Vaii2p-an---    olite
Vaii3p-an---    olid
Vaii1s-ay---    polnud
Vaii2s-ay---    polnud
Vaii3s-ay---    polnud
Vaii1p-ay---    polnud
Vaii2p-ay---    polnud
Vaii3p-ay---    polnud
Vaii---pn---    oldi

Vamp2s-an---    ole
Vamp3s-an---    olgu
Vamp1p-an---    olgem
Vamp2p-an---    olge
Vamp3p-an---    olgu
Vamp---pn---    oldagu
Vamp2s-ay---    &auml;ra
Vamp3s-ay---    &auml;rgu
Vamp1p-ay---    &auml;rgem
Vamp2p-ay---    &auml;rge
Vamp3p-ay---    &auml;rgu
Vamp---py---    &auml;rgu

Vac-----y---    ei
Vacp1s-an---    oleksin
Vacp2s-an---    oleksid
Vacp1o-an---    oleksime
Vacp2p-an---    oleksite
Vacp3p-an---    oleksid
Vacp1s-an---    oleks
Vacp2s-an---    oleks
Vacp3s-an---    oleks
Vacp1p-an---    oleks
Vacp2p-an---    oleks
Vacp3p-an---    oleks
Vacp1s-ay---    poleks
Vacp2s-ay---    poleks
Vacp3s-ay---    poleks
Vacp1p-ay---    poleks
Vacp2p-ay---    poleks
Vacp3p-ay---    poleks
Vacp---pn---    oldaks
Vacs1s-an---    olnuksin
Vacs2s-an---    olnuksid
Vacs1p-an---    olnuksime
Vacs2p-an---    olnuksite
Vacs3p-an---    olnuksid
Vacs1s-an---    olnuks
Vacs2s-an---    olnuks
Vacs3s-an---    olnuks
Vacs1p-an---    olnuks
Vacs2p-an---    olnuks
Vacs3p-an---    olnuks
```

```
Vacs1s-ay---    polnuks
Vacs2s-ay---    polnuks
Vacs3s-ay---    polnuks
Vacs1p-ay---    polnuks
Vacs2p-ay---    polnuks
Vacs3p-ay---    polnuks
Vacs---pn---    olduks

Van-----n---    olla

Vapp---an---    olev
Vapp---pn---    oldav
Vaps---an---    olnud
Vaps---pn---    oldud

Vag-----n---    olles

Vas----an--x    olema
Vas----an--2    olemas
Vas----an--e    olemast
Vas----an--4    olemaks
Vas----an--5    olemata
Vas----pn---    oldama

Vaq-----y---    ei
Vaqp1s-an---    olevat
Vaqp2s-an---    olevat
Vaqp3s-an---    olevat
Vaqp1p-an---    olevat
Vaqp2p-an---    olevat
Vaqp3p-an---    olevat
Vaqp1s-ay---    polevat
Vaqp2s-ay---    polevat
Vaqp3s-ay---    polevat
Vaqp1p-ay---    polevat
Vaqp2p-ay---    polevat
Vaqp3p-ay---    polevat
Vaqp---pn---    oldavat
Vaqs1s-an---    olnuvat
Vaqs2s-an---    olnuvat
Vaqs3s-an---    olnuvat
Vaqs1p-an---    olnuvat
Vaqs2p-an---    olnuvat
Vaqs3p-an---    olnuvat
Vaqs---pn---    olduvat

Voip1s-an---    saan
Voip2s-an---    saad
Voip3s-an---    saab
Voip1p-an---    saame
Voip2p-an---    saate
Voip3p-an---    saavad
Voip---pn---    saadakse
```

```
Voip---py---    (ei)+saada
Voii1s-an---    sain
Voii2s-an---    said
Voii3s-an---    sai
Voii1p-an---    saime
Voii2p-an---    saite
Voii3p-an---    said
Voii---pn---    saadi

Vomp2s-an---    saa
Vomp3s-an---    saagu
Vomp1p-an---    saagem
Vomp2p-an---    saage
Vomp3p-an---    saagu
Vomp---pn---    saadagu

Vocp1s-an---    saaksin
Vocp2s-an---    saaksid
Vocp1o-an---    saaksime
Vocp2p-an---    saaksite
Vocp3p-an---    saaksid
Vocp1s-an---    saaks
Vocp2s-an---    saaks
Vocp3s-an---    saaks
Vocp1p-an---    saaks
Vocp2p-an---    saaks
Vocp3p-an---    saaks
Vocp---pn---    saadaks
Vocs1s-an---    saanuksin
Vocs2s-an---    saanuksid
Vocs1p-an---    saanuksime
Vocs2p-an---    saanuksite
Vocs3p-an---    saanuksid
Vocs1s-an---    saanuks
Vocs2s-an---    saanuks
Vocs3s-an---    saanuks
Vocs1p-an---    saanuks
Vocs2p-an---    saanuks
Vocs3p-an---    saanuks
Vocs---pn---    saaduks

Von-----n---    saada

Vopp---an---    saav
Vopp---pn---    saadav
Vops---an---    saanud
Vops---pn---    saadud

Vog-----n---    saades

Vos----an--x    saama
Vos----an--2    saamas
Vos----an--e    saamast
```

```
Vos----an--4    saamaks
Vos----an--5    saamata
Vos----pn---    saadama

Voqp1s-an---    saavat
Voqp2s-an---    saavat
Voqp3s-an---    saavat
Voqp1p-an---    saavat
Voqp2p-an---    saavat
Voqp3p-an---    saavat
Voqp---pn---    saadavat
Voqs1s-an---    saanuvat
Voqs2s-an---    saanuvat
Voqs3s-an---    saanuvat
Voqs1p-an---    saanuvat
Voqs2p-an---    saanuvat
Voqs3p-an---    saanuvat
Voqs---pn---    saaduvat
```

3. Adjectives (A)

3.1. Lexicon

P	ATT	VAL	C	EXAMPLE
1	Type		-	
2	Degree	positive	p	oluline
		comparative	c	olulisem
		superlative	s	olulisim
3	Gender		-	
4	Number	singular	s	oluline
		plural	p	olulised
5	Case	nominative	n	oluline
		genitive	g	olulise
	l.s.	partitive	1	olulist
		illative	x	olulisesse
		inessive	2	olulises
		elative	e	olulisest
		allative	t	olulisele
		adessive	3	olulisel
		ablative	b	oluliselt
	l.s.	translative	4	oluliseks
		terminative	9	oluliseni
		essive	w	olulisena
	l.s.	abessive	5	oluliseta
	l.s.	komitative	k	olulisega
	l.s.	aditive	7	olulisse

```
* **************************** * ************
6 Definiteness                 -
- -------------- ------------- - ------------
7 Clitic                       -
- -------------- ------------- - ------------
8 Animate                      -
- -------------- ------------- - ------------
9 Formation                    -
- -------------- ------------- - ------------
10Owner_Number                 -
- -------------- ------------- - ------------
11Owner_Person                 -
---------------- ------------- - ------------
12Owned_Number                 -
================================ ============
```

```
3.2. Definitions

Lexicon    Definitions
----------------------
A-p---     Adjective positive
A-p-sn     Adjective positive singular nominative
A-p-sg     Adjective positive singular genitive
A-p-s1     Adjective positive singular partitive
A-p-sx     Adjective positive singular illative
A-p-s2     Adjective positive singular inessive
A-p-se     Adjective positive singular elative
A-p-st     Adjective positive singular allative
A-p-s3     Adjective positive singular adessive
A-p-sb     Adjective positive singular ablative
A-p-s4     Adjective positive singular translative
A-p-s9     Adjective positive singular terminative
A-p-sw     Adjective positive singular essive
A-p-s5     Adjective positive singular abessive
A-p-sk     Adjective positive singular komitative
A-p-s7     Adjective positive singular aditive
A-p-pn     Adjective positive plural nominative
A-p-pg     Adjective positive plural genitive
A-p-p1     Adjective positive plural partitive
A-p-px     Adjective positive plural illative
A-p-p2     Adjective positive plural inessive
A-p-pe     Adjective positive plural elative
A-p-pt     Adjective positive plural allative
A-p-p3     Adjective positive plural adessive
A-p-pb     Adjective positive plural ablative
A-p-p4     Adjective positive plural translative
A-p-p9     Adjective positive plural terminative
A-p-pw     Adjective positive plural essive
A-p-p5     Adjective positive plural abessive
A-p-pk     Adjective positive plural komitative

A-c-sn     Adjective comparative singular nominative
```

```
A-c-sg     Adjective comparative singular genitive
A-c-s1     Adjective comparative singular partitive
A-c-sx     Adjective comparative singular illative
A-c-s2     Adjective comparative singular inessive
A-c-se     Adjective comparative singular elative
A-c-st     Adjective comparative singular allative
A-c-s3     Adjective comparative singular adessive
A-c-sb     Adjective comparative singular ablative
A-c-s4     Adjective comparative singular translative
A-c-s9     Adjective comparative singular terminative
A-c-sw     Adjective comparative singular essive
A-c-s5     Adjective comparative singular abessive
A-c-sk     Adjective comparative singular komitative
A-c-pn     Adjective comparative plural nominative
A-c-pg     Adjective comparative plural genitive
A-c-p1     Adjective comparative plural partitive
A-c-px     Adjective comparative plural illative
A-c-p2     Adjective comparative plural inessive
A-c-pe     Adjective comparative plural elative
A-c-pt     Adjective comparative plural allative
A-c-p3     Adjective comparative plural adessive
A-c-pb     Adjective comparative plural ablative
A-c-p4     Adjective comparative plural translative
A-c-p9     Adjective comparative plural terminative
A-c-pw     Adjective comparative plural essive
A-c-p5     Adjective comparative plural abessive
A-c-pk     Adjective comparative plural komitative

A-s-sn     Adjective superlative singular nominative
A-s-sg     Adjective superlative singular genitive
A-s-s1     Adjective superlative singular partitive
A-s-sx     Adjective superlative singular illative
A-s-s2     Adjective superlative singular inessive
A-s-se     Adjective superlative singular elative
A-s-st     Adjective superlative singular allative
A-s-s3     Adjective superlative singular adessive
A-s-sb     Adjective superlative singular ablative
A-s-s4     Adjective superlative singular translative
A-s-s9     Adjective superlative singular terminative
A-s-sw     Adjective superlative singular essive
A-s-s5     Adjective superlative singular abessive
A-s-sk     Adjective superlative singular komitative
A-s-pn     Adjective superlative plural nominative
A-s-pg     Adjective superlative plural genitive
A-s-p1     Adjective superlative plural partitive
A-s-px     Adjective superlative plural illative
A-s-p2     Adjective superlative plural inessive
A-s-pe     Adjective superlative plural elative
A-s-pt     Adjective superlative plural allative
A-s-p3     Adjective superlative plural adessive
A-s-pb     Adjective superlative plural ablative
A-s-p4     Adjective superlative plural translative
A-s-p9     Adjective superlative plural terminative
```

```
A-s-pw     Adjective superlative plural essive
A-s-p5     Adjective superlative plural abessive
A-s-pk     Adjective superlative plural komitative
```

3.3. Examples

```
Lexicon   Examples
-----------------------
A-p---    ammuli
A-p-sn    oluline
A-p-sg    olulise
A-p-s1    olulist
A-p-sx    olulisesse
A-p-s2    olulises
A-p-se    olulisest
A-p-st    olulisele
A-p-s3    olulisel
A-p-sb    oluliselt
A-p-s4    oluliseks
A-p-s9    oluliseni
A-p-sw    olulisena
A-p-s5    oluliseta
A-p-sk    olulisega
A-p-s7    olulisse
A-p-pn    olulised
A-p-pg    oluliste
A-p-p1    olulisi
A-p-px    olulistesse
A-p-p2    olulistes
A-p-pe    olulistest
A-p-pt    olulistele
A-p-p3    olulistel
A-p-pb    olulistelt
A-p-p4    olulisteks
A-p-p9    olulisteni
A-p-pw    olulistena
A-p-p5    olulisteta
A-p-pk    olulistega
A-p-px    olulisisse
A-p-p2    olulisis
A-p-pe    olulisist
A-p-pt    olulisile
A-p-p3    olulisil
A-p-pb    olulisilt
A-p-p4    olulisiks
A-p-p9    olulisini
A-p-pw    olulisina
A-p-p5    olulisita
A-p-pk    olulisiga

A-c-sn    olulisem
A-c-sg    olulisema
```

```
A-c-s1    olulisemat
A-c-sx    olulisemasse
A-c-s2    olulisemas
A-c-se    olulisemast
A-c-st    olulisemale
A-c-s3    olulisemal
A-c-sb    olulisemalt
A-c-s4    olulisemaks
A-c-s9    olulisemani
A-c-sw    olulisemana
A-c-s5    olulisemata
A-c-sk    olulisemaga
A-c-pn    olulisemad
A-c-pg    olulisemate
A-c-p1    olulisemaid
A-c-px    olulisematesse
A-c-p2    olulisemates
A-c-pe    olulisematest
A-c-pt    olulisematele
A-c-p3    olulisematel
A-c-pb    olulisematelt
A-c-p4    olulisemateks
A-c-p9    olulisemateni
A-c-pw    olulisematena
A-c-p5    olulisemateta
A-c-pk    olulisematega
A-c-px    olulisemaisse
A-c-p2    olulisemais
A-c-pe    olulisemaist
A-c-pt    olulisemaile
A-c-p3    olulisemail
A-c-pb    olulisemailt
A-c-p4    olulisemaiks
A-c-p9    olulisemaini
A-c-pw    olulisemaina
A-c-p5    olulisemaita
A-c-pk    olulisemaiga

A-s-sn    olulisim
A-s-sg    olulisima
A-s-s1    olulisimat
A-s-sx    olulisimasse
A-s-s2    olulisimas
A-s-se    olulisimast
A-s-st    olulisimale
A-s-s3    olulisimal
A-s-sb    olulisimalt
A-s-s4    olulisimaks
A-s-s9    olulisimani
A-s-sw    olulisimana
A-s-s5    olulisimata
A-s-sk    olulisimaga
A-s-pn    olulisimad
```

```
A-s-pg    olulisimate
A-s-p1    olulisimaid
A-s-px    olulisimatesse
A-s-p2    olulisimates
A-s-pe    olulisimatest
A-s-pt    olulisimatele
A-s-p3    olulisimatel
A-s-pb    olulisimatelt
A-s-p4    olulisimateks
A-s-p9    olulisimateni
A-s-pw    olulisimatena
A-s-p5    olulisimateta
A-s-pk    olulisimatega
A-s-px    olulisimaisse
A-s-p2    olulisimais
A-s-pe    olulisimaist
A-s-pt    olulisimaile
A-s-p3    olulisimail
A-s-pb    olulisimailt
A-s-p4    olulisimaiks
A-s-p9    olulisimaini
A-s-pw    olulisimaina
A-s-p5    olulisimaita
A-s-pk    olulisimaiga
```

4. Pronouns (P)

4.1. Lexicon

```
= ============== ============== = ============
P ATT            VAL            C EXAMPLE
= ============== ============== = ============
1 Type           personal       p mina
                 demonstrative  d selline
                 indefinite     i mingi
                 possessive     s iseenese
                 interrogative  q milline
                 relative       r milline
                 reflexive      x iseenda
                 reciprocal     y teineteise
           l.s.  determinal     m ise
- -------------- -------------- - ------------
2 Person         first          1 mina
                 second         2 sina
                 third          3 tema
- -------------- -------------- - ------------
3 Gender                        -
- -------------- -------------- - ------------
4 Number         singular       s mina
                 plural         p meie
- -------------- -------------- - ------------
```

```
5 Case          nominative     n mina
                genitive       g minu
          l.s.  partitive      1 mind
                illative       x minusse
                inessive       2 minus
                elative        e minust
                allative       t minule
                adessive       3 minul
                ablative       b minult
          l.s.  translative    4 minuks
                terminative    9 minuni
                essive         w minuna
          l.s.  abessive       5 minuta
          l.s.  komitative     k minuga
          l.s.  aditive        7 sellisse
- -------------- -------------- - ------------
6 Owner_Number                 -
- -------------- -------------- - ------------
7 Owner_Gender                 -
******************************** ************
8 Clitic                       -
- -------------- -------------- - ------------
9 Referent_Type                -
- -------------- -------------- - ------------
10Syntactic_Type               -
- -------------- -------------- - ------------
11Definiteness                 -
- -------------- -------------- - ------------
12Animate                      -
- -------------- -------------- - ------------
13Clitic_s                     -
- -------------- -------------- - ------------
14Pronoun_Form                 -
- -------------- -------------- - ------------
15Owner_Person                 -
- -------------- -------------- - ------------
16Owned_Number                 -
================================ ============


4.2. Definitions

Lexicon    Definitions
------------------------------------
Pp1-sn     Pronoun personal first singular nominative
Pp1-sg     Pronoun personal first singular genitive
Pp1-s1     Pronoun personal first singular partitive
Pp1-sx     Pronoun personal first singular illative
Pp1-s2     Pronoun personal first singular inessive
Pp1-se     Pronoun personal first singular elative
Pp1-st     Pronoun personal first singular allative
Pp1-s3     Pronoun personal first singular adessive
Pp1-sb     Pronoun personal first singular ablative
```

```
Pp1-s4     Pronoun personal first singular translative
Pp1-s9     Pronoun personal first singular terminative
Pp1-sw     Pronoun personal first singular essive
Pp1-s5     Pronoun personal first singular abessive
Pp1-sk     Pronoun personal first singular komitative
Pp1-pn     Pronoun personal first plural nominative
Pp1-pg     Pronoun personal first plural genitive
Pp1-p1     Pronoun personal first plural partitive
Pp1-px     Pronoun personal first plural illative
Pp1-p2     Pronoun personal first plural inessive
Pp1-pe     Pronoun personal first plural elative
Pp1-pt     Pronoun personal first plural allative
Pp1-p3     Pronoun personal first plural adessive
Pp1-pb     Pronoun personal first plural ablative
Pp1-p4     Pronoun personal first plural translative
Pp1-p9     Pronoun personal first plural terminative
Pp1-pw     Pronoun personal first plural essive
Pp1-p5     Pronoun personal first plural abessive
Pp1-pk     Pronoun personal first plural komitative

Pp2-sn     Pronoun personal second singular nominative
Pp2-sg     Pronoun personal second singular genitive
Pp2-s1     Pronoun personal second singular partitive
Pp2-sx     Pronoun personal second singular illative
Pp2-s2     Pronoun personal second singular inessive
Pp2-se     Pronoun personal second singular elative
Pp2-st     Pronoun personal second singular allative
Pp2-s3     Pronoun personal second singular adessive
Pp2-sb     Pronoun personal second singular ablative
Pp2-s4     Pronoun personal second singular translative
Pp2-s9     Pronoun personal second singular terminative
Pp2-sw     Pronoun personal second singular essive
Pp2-s5     Pronoun personal second singular abessive
Pp2-sk     Pronoun personal second singular komitative
Pp2-pn     Pronoun personal second plural nominative
Pp2-pg     Pronoun personal second plural genitive
Pp2-p1     Pronoun personal second plural partitive
Pp2-px     Pronoun personal second plural illative
Pp2-p2     Pronoun personal second plural inessive
Pp2-pe     Pronoun personal second plural elative
Pp2-pt     Pronoun personal second plural allative
Pp2-p3     Pronoun personal second plural adessive
Pp2-pb     Pronoun personal second plural ablative
Pp2-p4     Pronoun personal second plural translative
Pp2-p9     Pronoun personal second plural terminative
Pp2-pw     Pronoun personal second plural essive
Pp2-p5     Pronoun personal second plural abessive
Pp2-pk     Pronoun personal second plural komitative

Pp3-sn     Pronoun personal third singular nominative
Pp3-sg     Pronoun personal third singular genitive
Pp3-s1     Pronoun personal third singular partitive
Pp3-sx     Pronoun personal third singular illative
```

```
Pp3-s2    Pronoun personal third singular inessive
Pp3-se    Pronoun personal third singular elative
Pp3-st    Pronoun personal third singular allative
Pp3-s3    Pronoun personal third singular adessive
Pp3-sb    Pronoun personal third singular ablative
Pp3-s4    Pronoun personal third singular translative
Pp3-s9    Pronoun personal third singular terminative
Pp3-sw    Pronoun personal third singular essive
Pp3-s5    Pronoun personal third singular abessive
Pp3-sk    Pronoun personal third singular komitative
Pp3-pn    Pronoun personal third plural nominative
Pp3-pg    Pronoun personal third plural genitive
Pp3-p1    Pronoun personal third plural partitive
Pp3-px    Pronoun personal third plural illative
Pp3-p2    Pronoun personal third plural inessive
Pp3-pe    Pronoun personal third plural elative
Pp3-pt    Pronoun personal third plural allative
Pp3-p3    Pronoun personal third plural adessive
Pp3-pb    Pronoun personal third plural ablative
Pp3-p4    Pronoun personal third plural translative
Pp3-p9    Pronoun personal third plural terminative
Pp3-pw    Pronoun personal third plural essive
Pp3-p5    Pronoun personal third plural abessive
Pp3-pk    Pronoun personal third plural komitative

Pd--sn    Pronoun demonstrative singular nominative
Pd--sg    Pronoun demonstrative singular genitive
Pd--s1    Pronoun demonstrative singular partitive
Pd--sx    Pronoun demonstrative singular illative
Pd--s2    Pronoun demonstrative singular inessive
Pd--se    Pronoun demonstrative singular elative
Pd--st    Pronoun demonstrative singular allative
Pd--s3    Pronoun demonstrative singular adessive
Pd--sb    Pronoun demonstrative singular ablative
Pd--s4    Pronoun demonstrative singular translative
Pd--s9    Pronoun demonstrative singular terminative
Pd--sw    Pronoun demonstrative singular essive
Pd--s5    Pronoun demonstrative singular abessive
Pd--sk    Pronoun demonstrative singular komitative
Pd--s7    Pronoun demonstrative singular aditive
Pd--pn    Pronoun demonstrative plural nominative
Pd--pg    Pronoun demonstrative plural genitive
Pd--p1    Pronoun demonstrative plural partitive
Pd--px    Pronoun demonstrative plural illative
Pd--p2    Pronoun demonstrative plural inessive
Pd--pe    Pronoun demonstrative plural elative
Pd--pt    Pronoun demonstrative plural allative
Pd--p3    Pronoun demonstrative plural adessive
Pd--pb    Pronoun demonstrative plural ablative
Pd--p4    Pronoun demonstrative plural translative
Pd--p9    Pronoun demonstrative plural terminative
Pd--pw    Pronoun demonstrative plural essive
Pd--p5    Pronoun demonstrative plural abessive
```

```
Pd--pk     Pronoun demonstrative plural komitative

Pi----     Pronoun indefinite
Pi--sn     Pronoun indefinite singular nominative
Pi--sg     Pronoun indefinite singular genitive
Pi--s1     Pronoun indefinite singular partitive
Pi--sx     Pronoun indefinite singular illative
Pi--s2     Pronoun indefinite singular inessive
Pi--se     Pronoun indefinite singular elative
Pi--st     Pronoun indefinite singular allative
Pi--s3     Pronoun indefinite singular adessive
Pi--sb     Pronoun indefinite singular ablative
Pi--s4     Pronoun indefinite singular translative
Pi--s9     Pronoun indefinite singular terminative
Pi--sw     Pronoun indefinite singular essive
Pi--s5     Pronoun indefinite singular abessive
Pi--sk     Pronoun indefinite singular komitative
Pi--pn     Pronoun indefinite plural nominative
Pi--pg     Pronoun indefinite plural genitive
Pi--p1     Pronoun indefinite plural partitive
Pi--px     Pronoun indefinite plural illative
Pi--p2     Pronoun indefinite plural inessive
Pi--pe     Pronoun indefinite plural elative
Pi--pt     Pronoun indefinite plural allative
Pi--p3     Pronoun indefinite plural adessive
Pi--pb     Pronoun indefinite plural ablative
Pi--p4     Pronoun indefinite plural translative
Pi--p9     Pronoun indefinite plural terminative
Pi--pw     Pronoun indefinite plural essive
Pi--p5     Pronoun indefinite plural abessive
Pi--pk     Pronoun indefinite plural komitative

Ps----     Pronoun possessive
Ps--sn     Pronoun possessive singular nominative
Ps--sg     Pronoun possessive singular genitive
Ps--s1     Pronoun possessive singular partitive
Ps--sx     Pronoun possessive singular illative
Ps--s2     Pronoun possessive singular inessive
Ps--se     Pronoun possessive singular elative
Ps--st     Pronoun possessive singular allative
Ps--s3     Pronoun possessive singular adessive
Ps--sb     Pronoun possessive singular ablative
Ps--s4     Pronoun possessive singular translative
Ps--s9     Pronoun possessive singular terminative
Ps--sw     Pronoun possessive singular essive
Ps--s5     Pronoun possessive singular abessive
Ps--sk     Pronoun possessive singular komitative
Ps--pn     Pronoun possessive plural nominative
Ps--pg     Pronoun possessive plural genitive
Ps--p1     Pronoun possessive plural partitive
Ps--px     Pronoun possessive plural illative
Ps--p2     Pronoun possessive plural inessive
Ps--pe     Pronoun possessive plural elative
```

```
Ps--pt     Pronoun possessive plural allative
Ps--p3     Pronoun possessive plural adessive
Ps--pb     Pronoun possessive plural ablative
Ps--p4     Pronoun possessive plural translative
Ps--p9     Pronoun possessive plural terminative
Ps--pw     Pronoun possessive plural essive
Ps--p5     Pronoun possessive plural abessive
Ps--pk     Pronoun possessive plural komitative

Pq--sn     Pronoun interrogative singular nominative
Pq--sg     Pronoun interrogative singular genitive
Pq--s1     Pronoun interrogative singular partitive
Pq--sx     Pronoun interrogative singular illative
Pq--s2     Pronoun interrogative singular inessive
Pq--se     Pronoun interrogative singular elative
Pq--st     Pronoun interrogative singular allative
Pq--s3     Pronoun interrogative singular adessive
Pq--sb     Pronoun interrogative singular ablative
Pq--s4     Pronoun interrogative singular translative
Pq--s9     Pronoun interrogative singular terminative
Pq--sw     Pronoun interrogative singular essive
Pq--s5     Pronoun interrogative singular abessive
Pq--sk     Pronoun interrogative singular komitative
Pq--pn     Pronoun interrogative plural nominative
Pq--pg     Pronoun interrogative plural genitive
Pq--p1     Pronoun interrogative plural partitive
Pq--px     Pronoun interrogative plural illative
Pq--p2     Pronoun interrogative plural inessive
Pq--pe     Pronoun interrogative plural elative
Pq--pt     Pronoun interrogative plural allative
Pq--p3     Pronoun interrogative plural adessive
Pq--pb     Pronoun interrogative plural ablative
Pq--p4     Pronoun interrogative plural translative
Pq--p9     Pronoun interrogative plural terminative
Pq--pw     Pronoun interrogative plural essive
Pq--p5     Pronoun interrogative plural abessive
Pq--pk     Pronoun interrogative plural komitative

Pr--sn     Pronoun relative singular nominative
Pr--sg     Pronoun relative singular genitive
Pr--s1     Pronoun relative singular partitive
Pr--sx     Pronoun relative singular illative
Pr--s2     Pronoun relative singular inessive
Pr--se     Pronoun relative singular elative
Pr--st     Pronoun relative singular allative
Pr--s3     Pronoun relative singular adessive
Pr--sb     Pronoun relative singular ablative
Pr--s4     Pronoun relative singular translative
Pr--s9     Pronoun relative singular terminative
Pr--sw     Pronoun relative singular essive
Pr--s5     Pronoun relative singular abessive
Pr--sk     Pronoun relative singular komitative
Pr--pn     Pronoun relative plural nominative
```

```
Pr--pg     Pronoun relative plural genitive
Pr--p1     Pronoun relative plural partitive
Pr--px     Pronoun relative plural illative
Pr--p2     Pronoun relative plural inessive
Pr--pe     Pronoun relative plural elative
Pr--pt     Pronoun relative plural allative
Pr--p3     Pronoun relative plural adessive
Pr--pb     Pronoun relative plural ablative
Pr--p4     Pronoun relative plural translative
Pr--p9     Pronoun relative plural terminative
Pr--pw     Pronoun relative plural essive
Pr--p5     Pronoun relative plural abessive
Pr--pk     Pronoun relative plural komitative

Px--sg     Pronoun reflexive singular genitive
Px--s1     Pronoun reflexive singular partitive
Px--sx     Pronoun reflexive singular illative
Px--s2     Pronoun reflexive singular inessive
Px--se     Pronoun reflexive singular elative
Px--st     Pronoun reflexive singular allative
Px--s3     Pronoun reflexive singular adessive
Px--sb     Pronoun reflexive singular ablative
Px--s4     Pronoun reflexive singular translative
Px--s9     Pronoun reflexive singular terminative
Px--sw     Pronoun reflexive singular essive
Px--s5     Pronoun reflexive singular abessive
Px--sk     Pronoun reflexive singular komitative
Px--pg     Pronoun reflexive plural genitive
Px--p1     Pronoun reflexive plural partitive
Px--px     Pronoun reflexive plural illative
Px--p2     Pronoun reflexive plural inessive
Px--pe     Pronoun reflexive plural elative
Px--pt     Pronoun reflexive plural allative
Px--p3     Pronoun reflexive plural adessive
Px--pb     Pronoun reflexive plural ablative
Px--p4     Pronoun reflexive plural translative
Px--p9     Pronoun reflexive plural terminative
Px--pw     Pronoun reflexive plural essive
Px--p5     Pronoun reflexive plural abessive
Px--pk     Pronoun reflexive plural komitative

Py--sg     Pronoun reciprocal singular genitive
Py--s1     Pronoun reciprocal singular partitive
Py--sx     Pronoun reciprocal singular illative
Py--s2     Pronoun reciprocal singular inessive
Py--se     Pronoun reciprocal singular elative
Py--st     Pronoun reciprocal singular allative
Py--s3     Pronoun reciprocal singular adessive
Py--sb     Pronoun reciprocal singular ablative
Py--s4     Pronoun reciprocal singular translative
Py--s9     Pronoun reciprocal singular terminative
Py--sw     Pronoun reciprocal singular essive
Py--s5     Pronoun reciprocal singular abessive
```

```
Py--sk     Pronoun reciprocal singular komitative
Py--pg     Pronoun reciprocal plural genitive
Py--p1     Pronoun reciprocal plural partitive
Py--px     Pronoun reciprocal plural illative
Py--p2     Pronoun reciprocal plural inessive
Py--pe     Pronoun reciprocal plural elative
Py--pt     Pronoun reciprocal plural allative
Py--p3     Pronoun reciprocal plural adessive
Py--pb     Pronoun reciprocal plural ablative
Py--p4     Pronoun reciprocal plural translative
Py--p9     Pronoun reciprocal plural terminative
Py--pw     Pronoun reciprocal plural essive
Py--p5     Pronoun reciprocal plural abessive
Py--pk     Pronoun reciprocal plural komitative

Pm--sn     Pronoun determinal singular nominative
Pm--sg     Pronoun determinal singular genitive
Pm--s1     Pronoun determinal singular partitive
Pm--sx     Pronoun determinal singular illative
Pm--s2     Pronoun determinal singular inessive
Pm--se     Pronoun determinal singular elative
Pm--st     Pronoun determinal singular allative
Pm--s3     Pronoun determinal singular adessive
Pm--sb     Pronoun determinal singular ablative
Pm--s4     Pronoun determinal singular translative
Pm--s9     Pronoun determinal singular terminative
Pm--sw     Pronoun determinal singular essive
Pm--s5     Pronoun determinal singular abessive
Pm--sk     Pronoun determinal singular komitative
Pm--pn     Pronoun determinal plural nominative
Pm--pg     Pronoun determinal plural genitive
Pm--p1     Pronoun determinal plural partitive
Pm--px     Pronoun determinal plural illative
Pm--p2     Pronoun determinal plural inessive
Pm--pe     Pronoun determinal plural elative
Pm--pt     Pronoun determinal plural allative
Pm--p3     Pronoun determinal plural adessive
Pm--pb     Pronoun determinal plural ablative
Pm--p4     Pronoun determinal plural translative
Pm--p9     Pronoun determinal plural terminative
Pm--pw     Pronoun determinal plural essive
Pm--p5     Pronoun determinal plural abessive
Pm--pk     Pronoun determinal plural komitative


4.3. Examples

Lexicon  Examples
------------------------------------
Pp1-sn   mina
Pp1-sg   minu
Pp1-s1   mind
Pp1-sx   minusse
```

```
Pp1-s2   minus
Pp1-se   minust
Pp1-st   minule
Pp1-s3   minul
Pp1-sb   minult
Pp1-s4   minuks
Pp1-s9   minuni
Pp1-sw   minuna
Pp1-s5   minuta
Pp1-sk   minuga
Pp1-pn   meie
Pp1-pg   meie
Pp1-p1   meid
Pp1-px   meisse
Pp1-p2   meis
Pp1-pe   meist
Pp1-pt   meile
Pp1-p3   meil
Pp1-pb   meilt
Pp1-p4   meieks
Pp1-p9   meieni
Pp1-pw   meiena
Pp1-p5   meieta
Pp1-pk   meiega

Pp2-sn   sina
Pp2-sg   sinu
Pp2-s1   sind
Pp2-sx   sinusse
Pp2-s2   sinus
Pp2-se   sinust
Pp2-st   sinule
Pp2-s3   sinul
Pp2-sb   sinult
Pp2-s4   sinuks
Pp2-s9   sinuni
Pp2-sw   sinuna
Pp2-s5   sinuta
Pp2-sk   sinuga
Pp2-pn   teie
Pp2-pg   teie
Pp2-p1   teid
Pp2-px   teisse
Pp2-p2   teis
Pp2-pe   teist
Pp2-pt   teile
Pp2-p3   teil
Pp2-pb   teilt
Pp2-p4   teieks
Pp2-p9   teieni
Pp2-pw   teiena
Pp2-p5   teieta
Pp2-pk   teiega
```

```
Pp3-sn   tema
Pp3-sg   tema
Pp3-s1   teda
Pp3-sx   temasse
Pp3-s2   temas
Pp3-se   temast
Pp3-st   temale
Pp3-s3   temal
Pp3-sb   temalt
Pp3-s4   temaks
Pp3-s9   temani
Pp3-sw   temana
Pp3-s5   temata
Pp3-sk   temaga
Pp3-pn   nemad
Pp3-pg   nende
Pp3-p1   neid
Pp3-px   nendesse
Pp3-p2   nendes
Pp3-pe   nendest
Pp3-pt   nendele
Pp3-p3   nendel
Pp3-pb   nendelt
Pp3-p4   nendeks
Pp3-p9   nendeni
Pp3-pw   nendena
Pp3-p5   nendeta
Pp3-pk   nendega
Pp3-px   neisse
Pp3-p2   neis
Pp3-pe   neist
Pp3-pt   neile
Pp3-p3   neil
Pp3-pb   neilt
Pp3-p4   neiks

Pd--sn   selline
Pd--sg   sellise
Pd--s1   sellist
Pd--sx   sellisesse
Pd--s2   sellises
Pd--se   sellisest
Pd--st   sellisele
Pd--s3   sellisel
Pd--sb   selliselt
Pd--s4   selliseks
Pd--s9   selliseni
Pd--sw   sellisena
Pd--s5   selliseta
Pd--sk   sellisega
Pd--s7   sellisse
Pd--pn   sellised
```

```
Pd--pg   selliste
Pd--p1   selliseid
Pd--px   sellistesse
Pd--p2   sellistes
Pd--pe   sellistest
Pd--pt   sellistele
Pd--p3   sellistel
Pd--pb   sellistelt
Pd--p4   sellisteks
Pd--p9   sellisteni
Pd--pw   sellistena
Pd--p5   sellisteta
Pd--pk   sellistega
Pd--px   selliseisse
Pd--p2   selliseis
Pd--pe   selliseist
Pd--pt   selliseile
Pd--p3   selliseil
Pd--pb   selliseilt
Pd--p4   selliseiks
Pd--p9   selliseini
Pd--pw   selliseina
Pd--p5   selliseita
Pd--pk   selliseiga

Pi----   muist
Pi--sn   mingi
Pi--sg   mingi
Pi--s1   mingit
Pi--sx   mingisse
Pi--s2   mingis
Pi--se   mingist
Pi--st   mingile
Pi--s3   mingil
Pi--sb   mingilt
Pi--s4   mingiks
Pi--s9   mingini
Pi--sw   mingina
Pi--s5   mingita
Pi--sk   mingiga
Pi--pn   mingid
Pi--pg   mingite
Pi--p1   mingeid
Pi--px   mingitesse
Pi--p2   mingites
Pi--pe   mingitest
Pi--pt   mingitele
Pi--p3   mingitel
Pi--pb   mingitelt
Pi--p4   mingiteks
Pi--p9   mingiteni
Pi--pw   mingitena
Pi--p5   mingiteta
```

```
Pi--pk   mingitega
Pi--px   mingeisse
Pi--p2   mingeis
Pi--pe   mingeist
Pi--pt   mingeile
Pi--p3   mingeil
Pi--pb   mingeilt
Pi--p4   mingeiks
Pi--p9   mingeini
Pi--pw   mingeina
Pi--p5   mingeita
Pi--pk   mingeiga

Ps----   oma
Ps--sg   iseenese
Ps--s1   iseennast
Ps--sx   iseenesesse
Ps--s2   iseeneses
Ps--se   iseenesest
Ps--st   iseenesele
Ps--s3   iseenesel
Ps--sb   iseeneselt
Ps--s4   iseeneseks
Ps--s9   iseeneseni
Ps--sw   iseenesena
Ps--s5   iseeneseta
Ps--sk   iseenesega
Ps--pg   iseeneste
Ps--p1   iseendid
Ps--px   iseenestesse
Ps--p2   iseenestes
Ps--pe   iseenestest
Ps--pt   iseenestele
Ps--p3   iseenestel
Ps--pb   iseenestelt
Ps--p4   iseenesteks
Ps--p9   iseenesteni
Ps--pw   iseenestena
Ps--p5   iseenesteta
Ps--pk   iseenestega

Pq--sn   milline
Pq--sg   millise
Pq--s1   millist
Pq--sx   millisesse
Pq--s2   millises
Pq--se   millisest
Pq--st   millisele
Pq--s3   millisel
Pq--sb   milliselt
Pq--s4   milliseks
Pq--s9   milliseni
Pq--sw   millisena
```

```
Pq--s5   milliseta
Pq--sk   millisega
Pq--pn   millised
Pq--pg   milliste
Pq--p1   milliseid
Pq--px   millistesse
Pq--p2   millistes
Pq--pe   millistest
Pq--pt   millistele
Pq--p3   millistel
Pq--pb   millistelt
Pq--p4   millisteks
Pq--p9   millisteni
Pq--pw   millistena
Pq--p5   millisteta
Pq--pk   millistega
Pq--px   milliseisse
Pq--p2   milliseis
Pq--pe   milliseist
Pq--pt   milliseile
Pq--p3   milliseil
Pq--pb   milliseilt
Pq--p4   milliseiks
Pq--p9   milliseini
Pq--pw   milliseina
Pq--p5   milliseita
Pq--pk   milliseiga

Pr--sn   milline
Pr--sg   millise
Pr--s1   millist
Pr--sx   millisesse
Pr--s2   millises
Pr--se   millisest
Pr--st   millisele
Pr--s3   millisel
Pr--sb   milliselt
Pr--s4   milliseks
Pr--s9   milliseni
Pr--sw   millisena
Pr--s5   milliseta
Pr--sk   millisega
Pr--pn   millised
Pr--pg   milliste
Pr--p1   milliseid
Pr--px   millistesse
Pr--p2   millistes
Pr--pe   millistest
Pr--pt   millistele
Pr--p3   millistel
Pr--pb   millistelt
Pr--p4   millisteks
Pr--p9   millisteni
```

```
Pr--pw   millistena
Pr--p5   millisteta
Pr--pk   millistega
Pr--px   milliseisse
Pr--p2   milliseis
Pr--pe   milliseist
Pr--pt   milliseile
Pr--p3   milliseil
Pr--pb   milliseilt
Pr--p4   milliseiks
Pr--p9   milliseini
Pr--pw   milliseina
Pr--p5   milliseita
Pr--pk   milliseiga

Px--sg   iseenda
Px--s1   iseend
Px--sx   iseendasse
Px--s2   iseendas
Px--se   iseendast
Px--st   iseendale
Px--s3   iseendal
Px--sb   iseendalt
Px--s4   iseendaks
Px--s9   iseendani
Px--sw   iseendana
Px--s5   iseendata
Px--sk   iseendaga
Px--pg   iseendi
Px--p1   iseendid
Px--px   iseendisse
Px--p2   iseendis
Px--pe   iseendist
Px--pt   iseendile
Px--p3   iseendil
Px--pb   iseendilt
Px--p4   iseendiks
Px--p9   iseendini
Px--pw   iseendina
Px--p5   iseendita
Px--pk   iseendiga

Py--sg   teineteise
Py--s1   teineteist
Py--sx   teineteisesse
Py--s2   teineteises
Py--se   teineteisest
Py--st   teineteisele
Py--s3   teineteisel
Py--sb   teineteiselt
Py--s4   teineteiseks
Py--s9   teineteiseni
Py--sw   teineteisena
```

```
Py--s5   teineteiseta
Py--sk   teineteisega
Py--pg   teineteiste
Py--p1   teineteisi
Py--px   teineteistesse
Py--p2   teineteistes
Py--pe   teineteistest
Py--pt   teineteistele
Py--p3   teineteistel
Py--pb   teineteistelt
Py--p4   teineteisteks
Py--p9   teineteisteni
Py--pw   teineteistena
Py--p5   teineteisteta
Py--pk   teineteistega

Pm--sn   ise
Pm--sg   enda
Pm--s1   end
Pm--sx   endasse
Pm--s2   endas
Pm--se   endast
Pm--st   endale
Pm--s3   endal
Pm--sb   endalt
Pm--s4   endaks
Pm--s9   endani
Pm--sw   endana
Pm--s5   endata
Pm--sk   endaga
Pm--pn   ise
Pm--pg   endi
Pm--p1   endid
Pm--px   endisse
Pm--p2   endis
Pm--pe   endist
Pm--pt   endile
Pm--p3   endil
Pm--pb   endilt
Pm--p4   endiks
Pm--p9   endini
Pm--pw   endina
Pm--p5   endita
Pm--pk   endiga


5. Determiners (D)

Not applicable.


6. Atricles (T)
```

Not applicable.

7. Adverbs (R)

7.1 Lexicon

```
= ============== ============== = ============
P ATT            VAL            C EXAMPLE
= ============== ============== = ============
1 Type                          - asjatult
- -------------- -------------- - ------------
2 Degree                        -
*********************************************
3 Clitic                        -
- -------------- -------------- - ------------
4 Number                        -
- -------------- -------------- - ------------
5 Person                        -
================================ ============
```

7.2. Definitions

```
Lexicon  Definitions
--------------------
R        Adverb
```

7.3. Examples

```
Lexicon  Examples
-----------------
R        asjatult
```

8. Adpositions (S)

8.1. Lexicon

```
= ============== ============== = ============
P ATT            VAL            C EXAMPLE
= ============== ============== = ============
1 Type           preposition    p enne
                 postposition   t kaudu
- -------------- -------------- - ------------
2 Formation                     -
*********************************************
3 Case                          -
- -------------- -------------- - ------------
4 Clitic                        -
================================ ============
```

8.2. Definitions

```
Lexicon  Definitions
-----------------------------------
Sp       Adposition preposition
St       Adposition postposition
```

8.3. Examples

```
Lexicon  Examples
-----------------------------------
Sp       enne
St       kaudu
```

9. Conjunctions (C)

9.1. Lexicon

```
= ============== ============== = ============
P ATT            VAL            C EXAMPLE
= ============== ============== = ============
1 Type           coordinating   c ja
                 subordinating  s et
**********************************************
2 Formation                     -
- -------------- -------------- - ------------
3 Coord_Type                    -
- -------------- -------------- - ------------
4 Sub_Type                      -
- -------------- -------------- - ------------
5 Clitic                        -
- -------------- -------------- - ------------
6 Number                        -
- -------------- -------------- - ------------
7 Person                        -
================================ ============
```

9.2. Definitions

```
Lexicon  Definitions
-----------------------------------
Cc       Conjuction coordinating
Cs       Conjuction subordinating
```

9.3. Examples

```
Lexicon  Examples
```

Cc ja

Cs et

10. Numerals (M)

10.1. Lexicon

P	ATT		VAL	C	EXAMPLE
1	Type		cardinal	c	kaheksa
			ordinal	o	kaheksas
2	Gender			-	
3	Number		singular	s	kaheksa
			plural	p	kaheksad
4	Case		nominative	n	kaheksa
			genitive	g	kaheksa
		l.s.	partitive	1	kaheksat
			illative	x	kaheksasse
			inessive	2	kaheksas
			elative	e	kaheksast
			allative	t	kaheksale
			adessive	3	kaheksal
			ablative	b	kaheksalt
		l.s.	translative	4	kaheksaks
			terminative	9	kaheksani
			essive	w	kaheksana
		l.s.	abessive	5	kaheksata
		l.s.	komitative	k	kaheksaga
		l.s.	aditive	7	viite
5	Form		digit	d	1984
			roman	r	IX
			letter	l	kaheksa
6	Definiteness			-	
7	Clitic			-	
8	Class			-	
9	Animate			-	
10	Owner_Number			-	
11	Owner_Person			-	
12	Owned_Number			-	

```
================================ ============


10.2. Definitions

Lexicon    Definitions
-----------------------------------
Mc-snl     Numeral cardinal singular nominative letter
Mc-sgl     Numeral cardinal singular genitive letter
Mc-s1l     Numeral cardinal singular partitive letter
Mc-sxl     Numeral cardinal singular illative letter
Mc-s2l     Numeral cardinal singular inessive letter
Mc-sel     Numeral cardinal singular elative letter
Mc-stl     Numeral cardinal singular allative letter
Mc-s3l     Numeral cardinal singular adessive letter
Mc-sbl     Numeral cardinal singular ablative letter
Mc-s4l     Numeral cardinal singular translative letter
Mc-s9l     Numeral cardinal singular terminative letter
Mc-swl     Numeral cardinal singular essive letter
Mc-s5l     Numeral cardinal singular abessive letter
Mc-skl     Numeral cardinal singular komitative letter
Mc-s7l     Numeral cardinal singular aditive letter
Mc-pnl     Numeral cardinal plural nominative letter
Mc-pgl     Numeral cardinal plural genitive letter
Mc-p1l     Numeral cardinal plural partitive letter
Mc-pxl     Numeral cardinal plural illative letter
Mc-p2l     Numeral cardinal plural inessive letter
Mc-pel     Numeral cardinal plural elative letter
Mc-ptl     Numeral cardinal plural allative letter
Mc-p3l     Numeral cardinal plural adessive letter
Mc-pbl     Numeral cardinal plural ablative letter
Mc-p4l     Numeral cardinal plural translative letter
Mc-p9l     Numeral cardinal plural terminative letter
Mc-pwl     Numeral cardinal plural essive letter
Mc-p5l     Numeral cardinal plural abessive letter
Mc-pkl     Numeral cardinal plural komitative letter

Mo-snl     Numeral ordinal singular nominative letter
Mo-sgl     Numeral ordinal singular genitive letter
Mo-s1l     Numeral ordinal singular partitive letter
Mo-sxl     Numeral ordinal singular illative letter
Mo-s2l     Numeral ordinal singular inessive letter
Mo-sel     Numeral ordinal singular elative letter
Mo-stl     Numeral ordinal singular allative letter
Mo-s3l     Numeral ordinal singular adessive letter
Mo-sbl     Numeral ordinal singular ablative letter
Mo-s4l     Numeral ordinal singular translative letter
Mo-s9l     Numeral ordinal singular terminative letter
Mo-swl     Numeral ordinal singular essive letter
Mo-s5l     Numeral ordinal singular abessive letter
Mo-skl     Numeral ordinal singular komitative letter
Mo-pnl     Numeral ordinal plural nominative letter
Mo-pgl     Numeral ordinal plural genitive letter
```

```
Mo-p1l     Numeral ordinal plural partitive letter
Mo-pxl     Numeral ordinal plural illative letter
Mo-p2l     Numeral ordinal plural inessive letter
Mo-pel     Numeral ordinal plural elative letter
Mo-ptl     Numeral ordinal plural allative letter
Mo-p3l     Numeral ordinal plural adessive letter
Mo-pbl     Numeral ordinal plural ablative letter
Mo-p4l     Numeral ordinal plural translative letter
Mo-p9l     Numeral ordinal plural terminative letter
Mo-pwl     Numeral ordinal plural essive letter
Mo-p5l     Numeral ordinal plural abessive letter
Mo-pkl     Numeral ordinal plural komitative letter
M----d     Numeral digit
M----r     Numeral roman


10.3. Examples

Lexicon   Examples
-----------------------
Mc-snl    kaheksa
Mc-sgl    kaheksa
Mc-s1l    kaheksat
Mc-sxl    kaheksasse
Mc-s2l    kaheksas
Mc-sel    kaheksast
Mc-stl    kaheksale
Mc-s3l    kaheksal
Mc-sbl    kaheksalt
Mc-s4l    kaheksaks
Mc-s9l    kaheksani
Mc-swl    kaheksana
Mc-s5l    kaheksata
Mc-skl    kaheksaga
Mc-s7l    viite
Mc-pnl    kaheksad
Mc-pgl    kaheksate
Mc-p1l    kaheksaid
Mc-pxl    kaheksatesse
Mc-p2l    kaheksates
Mc-pel    kaheksatest
Mc-ptl    kaheksatele
Mc-p3l    kaheksatel
Mc-pbl    kaheksatelt
Mc-p4l    kaheksateks
Mc-p9l    kaheksateni
Mc-pwl    kaheksatena
Mc-p5l    kaheksateta
Mc-pkl    kaheksatega
Mc-pxl    kaheksaisse
Mc-p2l    kaheksais
Mc-pel    kaheksaist
Mc-ptl    kaheksaile
```

```
Mc-p3l    kaheksail
Mc-pbl    kaheksailt
Mc-p4l    kaheksaiks
Mc-p9l    kaheksaini
Mc-pwl    kaheksaina
Mc-p5l    kaheksaita
Mc-pkl    kaheksaiga

Mo-snl    kaheksas
Mo-sgl    kaheksanda
Mo-s1l    kaheksandat
Mo-sxl    kaheksandasse
Mo-s2l    kaheksandas
Mo-sel    kaheksandast
Mo-stl    kaheksandale
Mo-s3l    kaheksandal
Mo-sbl    kaheksandalt
Mo-s4l    kaheksandaks
Mo-s9l    kaheksandani
Mo-swl    kaheksandana
Mo-s5l    kaheksandata
Mo-skl    kaheksandaga
Mo-pnl    kaheksandad
Mo-pgl    kaheksandate
Mo-p1l    kaheksandaid
Mo-pxl    kaheksandatesse
Mo-p2l    kaheksandates
Mo-pel    kaheksandatest
Mo-ptl    kaheksandatele
Mo-p3l    kaheksandatel
Mo-pbl    kaheksandatelt
Mo-p4l    kaheksandateks
Mo-p9l    kaheksandateni
Mo-pwl    kaheksandatena
Mo-p5l    kaheksandateta
Mo-pkl    kaheksandatega
Mo-pxl    kaheksandaisse
Mo-p2l    kaheksandais
Mo-pel    kaheksandaist
Mo-ptl    kaheksandaile
Mo-p3l    kaheksandail
Mo-pbl    kaheksandailt
Mo-p4l    kaheksandaiks
Mo-p9l    kaheksandaini
Mo-pwl    kaheksandaina
Mo-p5l    kaheksandaita
Mo-pkl    kaheksandaiga
M----d    1984
M----r    IX


11. Interjections (I)
```

11.1. Lexicon

```
= ============== ============== = ============
P ATT            VAL            C EXAMPLE
= ============== ============== = ============
1 Type                          - oi
- -------------- -------------- - ------------
2 Formation                     -
================================= ============
```

11.2. Definitions

```
Lexicon  Definitions
---------------------
I        Interjection
```

11.3. Examples

```
Lexicon  Examples
-----------------
I        oi
```

12. Residual (X)

Not applicable.

13. Abreviations (Y)

13.1. Lexicon

```
= ============== ============== = ============
P ATT            VAL            C
= ============== ============== = ============
1 Syntactic_Type nominal        n CD
                 verbal         v vt
                 adjectival     a hisp
                 adverbial      r jne
- ------------------------------- ------------
2 Gender                        -
- -------------- -------------- - ------------
3 Number         singular       s CD
                 plural         p CDd
- -------------- -------------- - ------------
4 Case      l.s. nominative     n CD
            l.s. genitive       g CD
            l.s. partitive      1 CDd
            l.s. illative       x CDsse
            l.s. inessive       2 CDs
            l.s. elative        e CDst
```

```
          l.s.  allative       t CDle
          l.s.  adessive       3 CDl
          l.s.  ablative       b CDlt
          l.s.  translative    4 CDks
          l.s.  terminative    9 CDni
          l.s.  essive         w CDna
          l.s.  abessive       5 CDta
          l.s.  komitative     k CDga
          l.s.  aditive        7
- ------------- ------------- - ------------
5 Definiteness                 -
================================ ============


13.2. Definitions

Lexicon   Definitions
------------------------------------
Yn-sn     Abbreviation nominal singular nominative
Yn-sg     Abbreviation nominal singular genitive
Yn-s1     Abbreviation nominal singular partitive
Yn-sx     Abbreviation nominal singular illative
Yn-s2     Abbreviation nominal singular inessive
Yn-se     Abbreviation nominal singular elative
Yn-st     Abbreviation nominal singular allative
Yn-s3     Abbreviation nominal singular adessive
Yn-sb     Abbreviation nominal singular ablative
Yn-s4     Abbreviation nominal singular translative
Yn-s9     Abbreviation nominal singular terminative
Yn-sw     Abbreviation nominal singular essive
Yn-s5     Abbreviation nominal singular abessive
Yn-sk     Abbreviation nominal singular komitative
Yn-pn     Abbreviation nominal plural nominative
Yn-pg     Abbreviation nominal plural genitive
Yn-p1     Abbreviation nominal plural partitive
Yn-px     Abbreviation nominal plural illative
Yn-p2     Abbreviation nominal plural inessive
Yn-pe     Abbreviation nominal plural elative
Yn-pt     Abbreviation nominal plural allative
Yn-p3     Abbreviation nominal plural adessive
Yn-pb     Abbreviation nominal plural ablative
Yn-p4     Abbreviation nominal plural translative
Yn-p9     Abbreviation nominal plural terminative
Yn-pw     Abbreviation nominal plural essive
Yn-p5     Abbreviation nominal plural abessive
Yn-pk     Abbreviation nominal plural komitative

Yv---     Abbreviation verbal

Ya---     Abbreviation adjectival

Yr---     Abbreviation adverbial
```

13.3. Examples

Lexicon	Examples
Yn-sn	CD
Yn-sg	CD
Yn-s1	CDd
Yn-sx	CDsse
Yn-s2	CDs
Yn-se	CDst
Yn-st	CDle
Yn-s3	CDl
Yn-sb	CDlt
Yn-s4	CDks
Yn-s9	CDni
Yn-sw	CDna
Yn-s5	CDta
Yn-sk	CDga
Yn-pn	CDd
Yn-pg	CDde
Yn-p1	CDsid
Yn-px	CDdesse
Yn-p2	CDdes
Yn-pe	CDdest
Yn-pt	CDdele
Yn-p3	CDdel
Yn-pb	CDdelt
Yn-p4	CDdeks
Yn-p9	CDdeni
Yn-pw	CDdena
Yn-p5	CDdeta
Yn-pk	CDdega
Yv---	vt
Ya---	hisp
Yr---	jne

14. Particles (Q)

Not applicable.

3.4 Application to Hungarian

The application to Hungarian has been elaborated by Laszlo Tihanyi.

```
1. Noun (N)

= ============== ============== =
P ATT            VAL            C
= ============== ============== =
1 Type           common         c
                 proper         p
- -------------- -------------- -
2 Gender                        -
- -------------- -------------- -
3 Number         singular       s
                 plural         p
- -------------- -------------- -
4 Case           nominative     n
                 genitive       g
                 dative         d
                 accusative     a
                 instrumental   i
                 illative       x
                 inessive       2
                 elative        e
                 allative       t
                 adessive       3
                 ablative       b
                 terminative    9
                 essive         w
           l.s.  temporalis     m
           l.s.  causalis       c
           l.s.  sublative      s
           l.s.  delative       h
           l.s.  sociative      q
           l.s.  factive        y
           l.s.  superessive    p
           l.s.  distributive   u
* ***************************** *
5 Definiteness                  -
- -------------- -------------- -
6 Clitic                        -
- -------------- -------------- -
7 Animate        no             n
                 yes            y
- -------------- -------------- -
8 Owner_Number   singular       s
                 plural         p
- -------------- -------------- -
9 Owner_Person   first          1
                 second         2
                 third          3
```

```
---------------- -------------- -
10Owned_Number   singular       s
                 plural         p
================================
```

Notes:

1. Gender: Not applicable to Hungarian.

2. Numbers:
   Hungarian has three types of number in the nominal inflection:
   1. The number of the noun.
   2. The number of owners that own the noun.
   3. The number of the context given referent, which is some possession of the noun, i.e. belongs to the noun (anaphoric possessive).

3. Genitive is rarely marked in Hungarian. If marked then with the same suffix as that of dative case.
   Nouns with zero suffix can be nominative or genitive, so they are ambigious.

4. Common Hungarian nouns can have
   2(Number)*7(OwnerPerson,OwnerNumber)*3(OwnedNumber)*22(Case)=1324
   different forms.

5. The usage of -szerte[SZERTE] meaning 'many places around' is restricted so we do not take it as a regular case ending. The same stands for '-lag/-leg' marked with [LAG], e.g. 'ha'zilag' means (made) at home.

Combinations:

```
0   1    3    4                        7     8        9         10
--- ---- ---- ------------------------ ----  -------- --------- --------
Pos Type Num  Case                     Anim  OwnerNum OwnerPers OwnedNum
--- ---- ---- ------------------------ ----  -------- --------- --------
 N  [cp] [sp] [ngdaix2et3b9wmcshqypu] [yn]  [sp]     [123]     [sp]
```

Examples on combinations:

a) Combinations on Number, OwnerNumber, OwnerPerson and OwnedNumber:

```
01234567890
Nc-sn--n---  asztal[N]                         table
Nc-sn--n--s  asztal[N]+e'[POS]                 thing of the table
Nc-sn--n--p  asztal[N]+e'i[POSi]               things of the table
Nc-sn--ns1-  asztal[N]+om[PSe1]                my table
Nc-sn--ns1s  asztal[N]+om[PSe1]+e'[POS]        thing of my table
Nc-sn--ns1p  asztal[N]+om[PSe1]+e'i[POSi]      things of my table
Nc-sn--ns2-  asztal[N]+od[PSe2]                your table
Nc-sn--ns2s  asztal[N]+od[PSe2]+e'[POS]        thing of your table
```

```
Nc-sn--ns2p  asztal[N]+od[PSe2]+e'i[POSi]       things of your table
Nc-sn--ns3-  asztal[N]+a[PSe3]                  his/her table
Nc-sn--ns3s  asztal[N]+a'[PSe3]+e'[POS]         thing of his/her table
Nc-sn--ns3p  asztal[N]+a'[PSe3]+e'i[POSi]       things of his/her table
Nc-sn--np1-  asztal[N]+unk[PSt1]                our table
Nc-sn--np1s  asztal[N]+unk[PSt1]+e'[POS]        thing of our table
Nc-sn--np1p  asztal[N]+unk[PSt1]+e'i[POSi]      things of our table
Nc-sn--np2-  asztal[N]+otok[PSt2]               your table
Nc-sn--np2s  asztal[N]+otok[PSt2]+e'[POS]       thing of your table
Nc-sn--np2p  asztal[N]+otok[PSt2]+e'i[POSi]     things of your table
Nc-sn--np3-  asztal[N]+uk[PSt2]                 their table
Nc-sn--np3s  asztal[N]+uk[PSt2]+e'[POS]         thing of their table
Nc-sn--np3p  asztal[N]+uk[PSt2]+e'i[POSi]       things of their table
Nc-pn--n---  asztal[N]+ok[PL]                   tables
Nc-pn--n--s  asztal[N]+ok[PL]+e'[POS]           thing of the tables
Nc-pn--n--p  asztal[N]+ok[PL]+e'i[POSi]         things of the tables
Nc-pn--ns1-  asztal[N]+aim[PSe1i]               my tables
Nc-pn--ns1s  asztal[N]+aim[PSe1i]+e'[POS]       thing of my tables
Nc-pn--ns1p  asztal[N]+aim[PSe1i]+e'i[POSi]     things of my tables
Nc-pn--ns2-  asztal[N]+aid[PSe2i]               your tables
Nc-pn--ns2s  asztal[N]+aid[PSe2i]+e'[POS]       thing of your tables
Nc-pn--ns2p  asztal[N]+aid[PSe2i]+e'i[POSi]     things of your tables
Nc-pn--ns3-  asztal[N]+ai[PSe3i]                his/her tables
Nc-pn--ns3s  asztal[N]+ai[PSe3i]+e'[POS]        thing of his/her tables
Nc-pn--ns3p  asztal[N]+ai[PSe3i]+e'i[POSi]      things of his/her tables
Nc-pn--np1-  asztal[N]+aink[PSt1i]              our tables
Nc-pn--np1s  asztal[N]+aink[PSt1i]+e'[POS]      thing of our tables
Nc-pn--np1p  asztal[N]+aink[PSt1i]+e'i[POSi]    things of our tables
Nc-pn--np2-  asztal[N]+aitok[PSt2i]             your tables
Nc-pn--np2s  asztal[N]+aitok[PSt2i]+e'[POS]     thing of your tables
Nc-pn--np2p  asztal[N]+aitok[PSt2i]+e'i[POSi]   things of your tables
Nc-pn--np3-  asztal[N]+aik[PSt3i]               their tables
Nc-pn--np3s  asztal[N]+aik[PSt3i]+e'[POS]       thing of their tables
Nc-pn--np3p  asztal[N]+aik[PSt3i]+e'i[POSi]     things of their tables


b) Combinations on Case:

Category:   Case:          Example analysis:
01234567890
Nc-sn------ nominative     asztal[N]             The table is new.
Nc-sg------ genitive       asztal[N]+nak[GEN]    The leg of the table is red.
Nc-sd------ dative         asztal[N]+nak[DAT]    It gives a new look to the table.
Nc-sa------ accusative     asztal[N]+t[ACC]      I see the table.
Nc-si------ instrumental   asztal[N]+lal[INS]    Do something with the table.
Nc-sx------ illative       asztal[N]+ba[ILL]     She put it into the table.
Nc-s2------ inessive       asztal[N]+ban[INE]    He keeps it in this table.
Nc-se------ elative        asztal[N]+bo'l[ELA]   She took it out from this table.
Nc-st------ allative       asztal[N]+hoz[ALL]    Go to the table.
Nc-s3------ adessive       asztal[N]+na'l[ADE]   At the table there is a chair.
Nc-sb------ ablative       asztal[N]+to'l[ABL]   She came from the table.
Nc-s9------ terminative    asztal[N]+ig[TER]     Go as far as the table.
Nc-sw------ essive         asztal[N]+ul[ESS]     The plate served us as a table.
```

```
Nc-sm------ temporalis     hat[N]+kor[TEM]        We arrived at six.
Nc-sc------ causalis       asztal[N]+e'rt[CAU]    We do it for the table.
Nc-ss------ sublative      asztal[N]+ra[SUB]      Put it onto the table.
Nc-sh------ delative       asztal[N]+ro'l[DEL]    Talk about the table.
Nc-sq------ sociative      asztal[N]+ostul[SOC]   It is sold together with the table.
Nc-sy------ factive        asztal[N]+la'[FAC]     Soon it became a table.
Nc-sp------ superessive    asztal[N]+on[SUP]      The cat sits on the table.
Nc-su------ distributive   asztal[N]+onke'nt[DIS] We collected 10 forints in each table.
-------------------------------------------------------------------------------
```

2. Verb (V)

```
= ============== ============== =
P ATT            VAL            C
= ============== ============== =
1 Type           main           m
                 auxiliary      a
- -------------- -------------- -
2 VForm          indicative     i
                 imperative     m
                 conditional    c
                 infinitive     n
- -------------- -------------- -
3 Tense          present        p
                 past           s
- -------------- -------------- -
4 Person         first          1
                 second         2
                 third          3
- -------------- -------------- -
5 Number         singular       s
                 plural         p
- -------------- -------------- -
6 Gender                        -
*********************************
7 Voice                         -
- -------------- -------------- -
8 Negative                      -
- -------------- -------------- -
9 Definiteness   no             n
                 yes            y
           l.s.  1s2s           2
- -------------- -------------- -
10Clitic                        -
- -------------- -------------- -
11Case                          -
- -------------- -------------- -
12Animate                       -
- -------------- -------------- -
13Clitic_s                      -
=================================
```

Notes:

1. 1s2s is a special form for definitness, in which the speaker's person is first singular (I) and the target of the transitivity is second singular (you).

2. A Hungarian verb has
   3(Person)*2(Number)*4(Present indicative, Present imperativ,
   Present conditional,Past indicative)*2(Transitivity)
   +4(1s2s)+7(Infinitive)=59 different forms.

Combinations:

Pos	Type	VForm	Tense	Person	Number	Definitness
V	m	i	[ps]	[123]	[sp]	[yn]
V	m	c	p	[123]	[sp]	[yn]
V	m	m	p	[123]	[sp]	[yn]
V	m	i	[ps]	1	s	2
V	m	[cm]	p	1	s	2
V	m	n	-	-	-	-
V	m	n	p	[123]	[sp]	-
V	a	i	p	[123]	[sp]	n

Examples on combinations:

```
01234567890123
Vmip1s------n-   tanul[V]+ok[e1]                I learn (a)
Vmip2s------n-   tanul[V]+sz[e2]                you learn (a)
Vmip3s------n-   tanul[V]                       she learns (a)
Vmip1p------n-   tanul[V]+unk[t1]               we learn (a)
Vmip2p------n-   tanul[V]+tok[t2]               you learn  (a)
Vmip3p------n-   tanul[V]+nak[t3]               they learn (a)
Vmip1s------y-   tanul[V]+om[Te1]               I learn (the)
Vmip2s------y-   tanul[V]+od[Te2]               you learn (the)
Vmip3s------y-   tanul[V]+ja[Te3]               she learns (the)
Vmip1p------y-   tanul[V]+juk[Tt1]              we learn (the)
Vmip2p------y-   tanul[V]+ja'tok[Tt2]           you learn  (the)
Vmip3p------y-   tanul[V]+ja'k[Tt3]             they learn (the)
Vmis1s------n-   tanul[V]+tam[Me1]              I learnt (a)
Vmis2s------n-   tanul[V]+ta'l[Me2]             you learnt (a)
Vmis3s------n-   tanul[V]+t[Me3]                she learnt (a)
Vmis1p------n-   tanul[V]+tunk[Mt1]             we learnt (a)
Vmis2p------n-   tanul[V]+tatok[Mt2]            you learnt  (a)
Vmis3p------n-   tanul[V]+tak[Mt3]              they learnt (a)
Vmis1s------y-   tanul[V]+tam[TMe1]             I learnt (the)
Vmis2s------y-   tanul[V]+tad[TMe2]             you learnt (the)
```

Vmis3s------y-	tanul[V]+ta[TMe3]	she learnt (the)
Vmis1p------y-	tanul[V]+tuk[TMt1]	we learnt (the)
Vmis2p------y-	tanul[V]+ta'tok[TMt2]	you learnt (the)
Vmis3p------y-	tanul[V]+ta'k[TMt3]	they learnt (the)
Vmcp1s------n-	tanul[V]+ne'k[Fe1]	(if) I learnt (a)
Vmcp2s------n-	tanul[V]+na'l[Fe2]	(if) you learnt (a)
Vmcp3s------n-	tanul[V]+na[Fe3]	(if) she learnt (a)
Vmcp1p------n-	tanul[V]+na'nk[Ft1]	(if) we learnt (a)
Vmcp2p------n-	tanul[V]+na'tok[Ft2]	(if) you learnt (a)
Vmcp3p------n-	tanul[V]+na'nak[Ft3]	(if) they learnt (a)
Vmcp1s------y-	tanul[V]+na'm[TFe1]	(if) I learnt (the)
Vmcp2s------y-	tanul[V]+na'd[TFe2]	(if) you learnt (the)
Vmcp3s------y-	tanul[V]+na'[TFe3]	(if) she learnt (the)
Vmcp1p------y-	tanul[V]+na'nk[TFt1]	(if) we learnt (the)
Vmcp2p------y-	tanul[V]+na'tok[TFt2]	(if) you learnt (the)
Vmcp3p------y-	tanul[V]+na'k[TFt3]	(if) they learnt (the)
Vmmp1s------n-	tanul[V]+jak[Pe1]	(let) me learn (a)
Vmmp2s------n-	tanul[V]+ja'l[Pe2]	(let) you learn (a)
Vmmp3s------n-	tanul[V]+jon[Pe3]	(let) she learn (a)
Vmmp1p------n-	tanul[V]+junk[Pt1]	(let) we learn (a)
Vmmp2p------n-	tanul[V]+jatok[Pt2]	(let) you learn (a)
Vmmp3p------n-	tanul[V]+janak[Pt3]	(let) they learn (a)
Vmmp1s------y-	tanul[V]+jam[TPe1]	(let) me learn (the)
Vmmp2s------y-	tanul[V]+jad[TPe2]	(let) you learn (the)
Vmmp3s------y-	tanul[V]+ja[TPe3]	(let) she learn (the)
Vmmp1p------y-	tanul[V]+juk[TPt1]	(let) we learn (the)
Vmmp2p------y-	tanul[V]+ja'tok[TPt2]	(let) you learn (the)
Vmmp3p------y-	tanul[V]+ja'k[TPt3]	(let) they learn (the)
Vmip1s------2-	tanul[V]+lak[Ie1]	I learn you
Vmis1s------2-	tanul[V]+talak[IMe1]	I learnt you
Vmcp1s------2-	tanul[V]+na'lak[IFe1]	(if) I learnt you
Vmmp1s------2-	tanul[V]+jalak[IPe1]	(let) me learn you
Vmn-----------	tanul[V]+ni[INF]	to learn
Vmnp1s--------	tanul[V]+nom[INRe1]	for me to learn
Vmnp2s--------	tanul[V]+nod[INRe2]	for you to learn
Vmnp3s--------	tanul[V]+nia[INRe3]	for her to learn
Vmnp1p--------	tanul[V]+nunk[INRt1]	for us to learn
Vmnp2p--------	tanul[V]+notok[INRt2]	for you to learn
Vmnp3p--------	tanul[V]+niuk[INRt3]	for them to learn
Vaip1s--------	fog[V]+ok[e1]	I shall

3. Adjective (A)

P	ATT	VAL	C
1	Type	qualificative	f

```
- -------------- -------------- -
2 Degree         positive       p
                 comparative    c
                 superlative    s
- -------------- -------------- -
3 Gender                        -
- -------------- -------------- -
4 Number         singular       s
                 plural         p
- -------------- -------------- -
5 Case           nominative     n
                 genitive       g
                 dative         d
                 accusative     a
                 instrumental   i
                 illative       x
                 inessive       2
                 elative        e
                 allative       t
                 adessive       3
                 ablative       b
                 terminative    9
                 essive         w
           l.s.  temporalis     m
           l.s.  causalis       c
           l.s.  sublative      s
           l.s.  delative       h
           l.s.  sociative      q
           l.s.  factive        y
           l.s.  superessive    p
           l.s.  distributive   u
           l.s.  essive_formal  f

* **************************** *
6 Definiteness                  -
- -------------- -------------- -
7 Clitic                        -
- -------------- -------------- -
8 Animate        no             n
                 yes            y
- -------------- -------------- -
9 Formation                     -
- -------------- -------------- -
10Owner_Number   singular       s
                 plural         p
- -------------- -------------- -
11Owner_Person   first          1
                 second         2
                 third          3
---------------- -------------- -
12Owned_Number   singular       s
                 plural         p
=================================
```

```
Notes:

1. Adjectives have the same suffixes that Nouns have plus Degree.
   Thus the number of possibble forms is 3*924=2772.

2. Types like ordinal and cardinal are grouped as numerals.


Combinations:

--- ---- ----- ---- ------------------------ ----  -------- --------- --------
Pos Type Degr  Num  Case                     Anim  OwnerNum OwnerPers OwnedNum
--- ---- ----- ---- ------------------------ ----  -------- --------- --------
 A  f    [pcs] [sp] [ngdaix2et3b9wmcshqypuf] [yn]  [sp]     [123]     [sp]
--- ---- ----- ---- ------------------------ ----  -------- --------- --------


Examples on combinations:

0123456789012
Afp-sn-------    nagy[A]                          big, great
Afc-sn-------    nagy[A]+obb[FOK]                 bigger
Afs-sn-------    leg[FF]+nagy[A]+obb[FOK]         biggest
Afs-sn----p1s    leg[FF]+nagy[A]+obb[FOK]+jaink[PSt1i]+e'[POS]
                                            sg that our greatest (heroes) have
Afp-sw-------    magyar[A]+ul[ESSMOD]             in Hungarian


4. Pronoun (P)

= ============== ============== =
P ATT            VAL            C
= ============== ============== =
1 Type           personal       p
                 demonstrative  d
                 indefinite     i
                 possessive     s
                 interrogative  q
                 relative       r
                 reflexive      x
                 reciprocal     y
- -------------- -------------- -
2 Person         first          1
                 second         2
                 third          3
- -------------- -------------- -
3 Gender                        -
- -------------- -------------- -
4 Number         singular       s
                 plural         p
```

```
- -------------- -------------- -
5 Case           nominative     n
                 genitive       g
                 dative         d
                 accusative     a
                 instrumental   i
                 illative       x
                 inessive       2
                 elative        e
                 allative       t
                 adessive       3
                 ablative       b
                 terminative    9
                 essive         w
           l.s.  temporalis     m
           l.s.  causalis       c
           l.s.  sublative      s
           l.s.  delative       h
           l.s.  sociative      q
           l.s.  factive        y
           l.s.  superessive    p
           l.s.  distributive   u
           l.s.  essive_formal  f
- -------------- -------------- -
6 Owner_Number   singular       s
                 plural         p
- -------------- -------------- -
7 Owner_Gender                  -
*********************************
8 Clitic                        -
- -------------- -------------- -
9 Referent_Type                 -
- -------------- -------------- -
10Syntactic_Type                -
- -------------- -------------- -
11Definiteness                  -
- -------------- -------------- -
12Animate                       -
- -------------- -------------- -
13Clitic_s                      -
- -------------- -------------- -
14Pronoun_Form                  -
- -------------- -------------- -
15Owner_Person   first          1
                 second         2
                 third          3
- -------------- -------------- -
16Owned_Number   singular       s
                 plural         p
=================================


Combinations:
```

Pos	Type	Pers	Num	Case	Owner_Number	Owner_Person	Owned_Number
P	[px]	[123]	[sp]	[ngdaix2et3b9wmcshqypuf]	[sp]	[123]	[sp]
P	y	3	p	[ngdaix2et3b9wmcshqypuf]	[sp]	[123]	[sp]
P	s	[123]	[sp]	[ngdaix2et3b9wmcshqypuf]	-	-	
P	[diqr]	3	[sp]	[ngdaix2et3b9wmcshqypuf]	[sp]	[123]	[sp]

Examples on combinations:

01234567890123456		
Pp1-s------------	e'n[P]	I
Pp1-p-s--------1-	enye'im[P]	my things (plural)
Pd3-s------------	ez[P]	this
Pi3-s------------	minden[P]	every
Ps1-s-s--------1-	e'n[P]=enye'm+[POS]	my
Pq3-s------------	ki[P]	who (in questions)
Pr3-s------------	aki[P]	who (relative)
Px3-s------------	maga[P]	himself
Pp3-p------------	ti[P]	you
Pp3-s-p--------2-	tietek[P]	your something
Pp3-p-p--------2-	tieitek[P]	your somethings
Pp3-s-p--------2s	tieteke'[P]	your something
Py3-p------------	egyma's[P]	each other

5. Determiner (D)

Not applicable.

6. Article (T)

P	ATT	VAL	C
1	Type	definite	f
		indefinite	i
2	Gender		-
3	Number		-
4	Case		-
5	Clitic		-

```
Notes:

We have tree articles: a, az and egy.  These may not have number and
case. The word 'az' may have but that is a pronoun in those cases.


Combinations:

--- ----
Pos Type
--- ----
T   [fi]

01
012345
Tf----              a[DET]              the
Tf----              az[DET]             the
Ti----              egy[DET]            a



7. Adverb (R)

= ============== ============== =
P ATT            VAL            C
= ============== ============== =
1 Type           general        g
                 particle       p
           l.s.  causal         o
           l.s.  verbal         v
                 modifier       m
           l.s.  interrogative  q
- -------------- -------------- -
2 Degree                        -
*********************************
3 Clitic         no             n
                 yes            y
- -------------- -------------- -
4 Number         singular       s
                 plural         p
- -------------- -------------- -
5 Person         first          1
                 second         2
                 third          3
=================================


Combinations:

----  ------ ------  ------  ------ ------
Pos   Type   Degree  Clitic  Number Person
----  ------ ------  ------  ------ ------
```

```
 R    [gmp]   -        -        -     -
 R       q    -        y        -     -
 R       o    -        -        [sp]  [123]
----  ------ ------  ------  ------ ------
```

Examples on combinations:

```
012345
Rg----        most[R]                                now
Rg----        hogyan[R]                              how
Rgp---        belu:l[R]                              inside
Rgc---        belu:l[R]=belj+ebb[FOK]                deeper inside
Rgs---        leg[FF]+belu:l[R]=belj+ebb[FOK]        deepest inside
Rv----        olvas[V]+va[HIN]                       being read
Rm----        nem[R]                                 no
Rp----        be[IK]                                 into
Rq-y--        kutya[N]+-e[KSZE] (kutya-e?)           dog?
Ro--s1        a'll[V]+tomban[HIVe1]                  as I stand
Ro--s2        a'll[V]+todban[HIVe2]                  as you stand
Ro--s3        a'll[V]+ta'ban[HIVe3]                  as she stands
Ro--p1        a'll[V]+tunkban[HIVp1]                 as we stand
Ro--p2        a'll[V]+totokban[HIVp2]                as you stand
Ro--sp        a'll[V]+tukban[HIVep]                  as they stand
Ro----        a'll[V]+va'n[HINN]                     as sy stands
```

Notes:

1. The modifier -e question word (the only Hungarian clitic) is attached to the preceding word with a hyphen.

2. Some adverbs may have degree, but these do not formulate a special class. Presently we cannot give a criteria for this.

8. Adposition (S)

```
= ============== ============== =
P ATT            VAL            C
= ============== ============== =
1 Type           postposition   t
- -------------- -------------- -
2 Formation                     -
*********************************
3 Case                          -
- -------------- -------------- -
4 Clitic                        -
=================================
```

Notes:

```
1. Some of them require a suffix on the preceding noun (e.g. asztal[N]+
   on[SUP] tu'l[S]) while others do not (e.g. asztal[N] mellett[S]).
   This feature is not represented here.


Combinations:

---  ----
Pos  Type
---  ----
 S     t
---  ----

Examples on combinations:

01234
St---      miatt[S]                     because of
St---      kereszt u:l[S]               through
```

```
9. Conjunction (C)

= ============== ============== =
P ATT            VAL            C
= ============== ============== =
1 Type           coordinating   c
                 subordinating  s
*********************************
2 Formation      simple         s
                 compound       c
- -------------- -------------- -
3 Coord_Type     sentence       p
                 words          w
- -------------- -------------- -
4 Sub_Type                      -
- -------------- -------------- -
5 Clitic                        -
- -------------- -------------- -
6 Number                        -
- -------------- -------------- -
7 Person                        -
=================================


Notes:

1. 'form': Some conjuctions in Hungarian might occur alone (1) while
    others in pairs (2).


Combinations:
```

```
---  ---- ---------- ---------
Pos  Type Coord-Type Formation
---  ---- ---------- ---------
 C    [cs]   [pw]       [12]
---  ---- ---------- ---------
```

```
Examples on combinations:              Meaning:

01234567
Csp-1---           hogy[C]               that
Ccp-1---           e's[C]                and
Ccw-2---           is[C]                 also
Ccw-2---           mind[C]               both
```

10. Numeral (M)

```
= ============== ============== =
P ATT            VAL            C
= ============== ============== =
1 Type           cardinal       c
                 ordinal        o
                 fractal        f
                 collect        l
- -------------- -------------- -
2 Gender                        -
- -------------- -------------- -
3 Number         singular       s
                 plural         p
- -------------- -------------- -
4 Case           nominative     n
                 genitive       g
                 dative         d
                 accusative     a
                 instrumental   i
                 illative       x
                 inessive       2
                 elative        e
                 allative       t
                 adessive       3
                 ablative       b
                 terminative    9
                 essive         w
            l.s. temporalis     m
            l.s. causalis       c
            l.s. sublative      s
            l.s. delative       h
            l.s. sociative      q
            l.s. factive        y
            l.s. superessive    p
```

```
           l.s.  distributive   u
           l.s.  essive_formal  f
           l.s.  multiplicative 6
*********************************
5 Form           digit          d
                 roman          r
                 letter         l
- -------------- -------------- -
6 Definiteness                  -
- -------------- -------------- -
7 Clitic                        -
- -------------- -------------- -
8 Class                         -
- -------------- -------------- -
9 Animate                       -
- -------------- -------------- -
10Owner_Number   singular       s
                 plural         p
- -------------- -------------- -
11Owner_Person   first          1
                 second         2
                 third          3
- -------------- -------------- -
12Owned_Number   singular       s
                 plural         p
=================================
```

Combinations:

```
--- ---- ---- ------------------------ ----  -------- --------- --------
Pos Type Num  Case                     Form  OwnerNum OwnerPers OwnedNum
--- ---- ---- ------------------------ ----  -------- --------- --------
 N  [cp] [sp] [ngdaix2et3b9wmcshqypuf] [dlr] [sp]    [123]     [sp]
--- ---- ---- ------------------------ ----  -------- --------- --------
```

Examples on combinations:

```
0123456789012
Mc-sn--------        egy[M]                  one
Mc-pn--------        nyolc[M]+ak[PL]         those eight (men)
Mc-pn-----p3s        nyolc[M]+ak[PL]+e'[POS] this belongs to those eight (men)
Mc-sa--------        sok[M]+at[ACC]          many (in accusative)
Mo-sn--------        hat[M]+odik[SORSZ]      6th
Mf-sn--------        hat[M]+od[TORT]         1/6
Mc-s6--------        egy[M]+szer[MUL]        one time
Mc-sw--------        hat[M]+an[ESSMOD]       six of them
```

11. Interjection (I)

```
= ============== ============== =
P ATT            VAL            C
= ============== ============== =
1 Type           mood           m
                 other          o
- -------------- -------------- -
2 Formation                     -
=================================
```

```
12. Residual (X)

= ============== ============== =
P ATT            VAL            C
= ============== ============== =
                                -
=================================
```

```
13. Abbreviation (Y)

= ============== ============== =
P ATT            VAL            C
= ============== ============== =
1 Syntactic_Type                -
- -------------------------------
2 Gender                        -
- -------------- -------------- -
3 Number                        -
- -------------- -------------- -
4 Case                          -
- -------------- -------------- -
5 Definiteness                  -
=================================
```

```
14. Particle (Q)

Not applicable.
```

3.4.1 Derivation

Without handling derivation a satisfactory morphological analysis is not possible for Hungarian. The HUMOR system, a general purpose morphological analyzer, handles it and the results can be converted to MULTEXT format since on syntactic level the morphological origin of stems are generally irrelevant. The resulting word class is defined by the rightmost derivational suffix. The suffix characters are literally attached to the word.

Here are the derivations that the analyser recognizes but instead of the origin we place only the resulting class to the output. (Suffix tags used in HUMOR are in upper case, actual suffixes are in lower case.)

```
Noun   -> Adjective
-------------------
-----   -------        --------------    ------------------------
Type    Form           Example           Comment
-----   -------        --------------    ------------------------
 BELI  : beli           ha'z+beli        property of living in the house
 FAJTA : fajta          ma's+fajta       of some other kind
 FELE  : fe'le          bu'tor+fe'le     similar to furniture
 FORMA : forma          toja's+forma     egg shaped
 SZERU : szeru"         tej+szeru"       milk+y
 IKEP  : i              ha'z+i           home (e.g. made)
 SKEP  : s, as, os,
         es, o:s        gyerek+es        child+ish
 UKEP  : u',
         u",
         ju',
         ju"            arc+u'           (red)-face+d
 FFOSZ : tlan,tlen,
         atlan,etlen,
         talan,telen                     'devoid of', '-less'
 MER   : nyi            kana'l+nyi       spoon+full


Noun,A -> Noun
--------------
-----   -------        --------------         ------------------------
Type    Form           Example                Comment
-----   -------        --------------         ------------------------
 COL   : sa'g,         bara't+sa'g            friend+ship
         se'g


Noun   -> Noun
--------------
-----   -------        --------------         ------------------------
Type    Form           Example                Comment
-----   -------        --------------         ------------------------
 DIM   : cska,acska,
        ecske,o:cske,
        ocska          utca'+cska             little street
 FEM   : ne'           Kova'cs+ne'            Mrs. Kova'cs


Noun   -> Verb
--------------
-----   -------        --------------         ------------------------
Type    Form           Example                Comment
-----   -------        --------------         ------------------------
 FI    : z,az,oz,ez,
        o:z            auto'+z                go by car
```

```
Verb   -> Adjective
-------------------
-----   -------        --------------         ------------------------
Type    Form           Example                Comment
-----   -------        --------------         ------------------------
 IFOSZT: atlan, etlen  felel+etlen            sg not being answered
 MIF   : o',
         o"            felel+o"               sy who answers
 MIB   : t,ott,ett,
         o:tt          felel+t                the answered (question)
 MIA   : ando',
         endo"         felel+endo"            sg that should be answered
 NIVALO: anivalo',
         enivalo',
         nivalo'       ne'z+nivalo'           sg that should be seen


Verb   -> Adverb
----------------
-----   -------        --------------         ------------------------
Type    Form           Example                Comment
-----   -------        --------------         ------------------------
 HIN   :  va,ve        olvas+va              (while ) reading (the book)


Numeral-> Adjective
-------------------
-----   -------        --------------         ------------------------
Type    Form           Example                Comment
-----   -------        --------------         ------------------------
 KIEM  : ik            hatod+ik               six+th
 LAGOS : lagos,leges   ma'sod+lagos           second+ary


Verb   -> Noun
--------------
-----   -------        --------------         ------------------------
Type    Form           Example                Comment
-----   -------        --------------         ------------------------
 IF    : a's,
         e's           olvas+a's              read+ing (gerund)
 DES   : hatne'k,
        hetne'k        olvas+hatne'k          the intention of reading


Adj    -> Verb
--------------
-----   -------        --------------         ------------------------
Type    Form           Example                Comment
-----   -------        --------------         ------------------------
 FAK   : i't           sze'p+i't              make it pretty (in compounds only)
```

MI	: od,ed,o:d	va’llas+od+ik	becomes strong
MIGY	: kod,ked, ko:d	okos+kod+ik	plays the smart (frequently)

Verb -> Verb

Type	Form	Example	Comment
MUV	: at,et,tat,tet	olvas+tat	makes him read
GYAK	: gat,get,ogat, eget,o:get	olvas+gat	he reads frequently
HAT	: hat,het	olvas+hat	he may read
VISSZ	: o’d, o"d	old+o’dik	dissolves
SZENV	: tatik, tetik	olvas+tatik	makes the book being read

Examples:

If ’szemtele’s’ (littering, action of throwing away litter) is not in the dictionary we derive it from the verb ’litter’ szemetel[V] + e’s[IF] (where IF=Verb2Noun).

Instead of giving the extra attribute to the verb expressing that it has a derivational suffix we simply give the result of the analysis+conversion: szemetele’s[N].

In Hungarian some derivation may follow the inflectional suffix. For these derivations the suffix+derivation together forms a compound derivation. The a new stem is generated from the stem + inflection + derivation segments and the resulting part of speech is determined by the derivation.

Type	Form	Example	Comment
Nc-sn--ns1- +FAM :	e’k	ap +m+e’k	some people with my father
Nc-su--u--- +IKEP :	i	asztal+onke’nt+i	sg. done by each every table
Afc-sn--n---- +KIEM :	ik	nagy+obb+ik	the bigger one

There are adverbs that may get case endings. Since case inflections derivate adverb from nouns these constructions can be handled as derivations. That means the stem is the stem + inflection combination and the part of speech is adverb.

Type	Form	Example	Comment
Ag---- + ablativ	t"l	akkor+t"l	since then

3.4.2 Compounding

Compounding is handled in a very similar way to derivation. The rightmost word class is always the resulting one. If it contains some derivation as well then the result is the word class that the derivation determines.

Examples:

1. Hungarian is similar to German but we have a competence limit: we do not put together more then 2 nouns. These two words might be compounds as well but they must be lexicalized forms. So e.g.: rendo"regyenruha (police uniform) is valid since it is put together from rendo"r (police) and egyenruha (uniform) where rendo"r=rend (order) + o"r (guard) and egyenruha=egyen (uni) + ruha (clothes).

2. Of course the situation is more complicated since nouns can be derived from verbs, adjectives or other nouns, and these derivations can be parts of compoundns: e.g. auto'buszmega'llo' (bus stop) where meg+a'll+o' is derived from the verb a'll (stand). Whereas mega'llo' is lexicalized so dictionaries might contain it, the morphological rule is productive so compounding works well for constructions like tandi'jbefizete's (paying the tution fee)= tan(tution)+ di'j(fee)+ be(in) +fizet(pay) +e's(ment).

3. Compounding, such as derivation, will not be mirrored in the MULTEXT format morphological analysis* a converter will produce an acceptable segmentation in the corpus. The word class (POS) for these compounds will be the word class of the resulting compounding (e.g. tandi'jbefizete's/N).

3.5 Application to Romanian

The application to Romanian has been elaborated by D.Tufiş and A.M.Barbu.

The Romanian diacritic characters used have been encoded in the following way:

- ă as `a(`
- ş and ţ as `s,` and `t,`
- â and î as `a>` and `i>`

1. Noun (N)

In Romanian the following attribute-value pairs are applicable to Nouns:

1.1 Type

Attribute	value	Ro. example
Type	common (c)	carte
	proper (p)	Ion

1.2 Gender

Attribute	value	Ro. example
Gender	masculine (m)	ba(iatul
	feminine (f)	casa
	neuter (n)	fir (m.sg.),fire (f.pl.)

In Romanian the declension of a neuter noun always follows in singular a masculine paradigm and in plural a feminine one. Specific implementations could take advantage of this rule and by organizing the paradigmatic space in partial paradigms (masc-sing, masc-pl, fem-sing, fem-pl) to get rid of neuter value for the gender attribute.

1.3 Number

Attribute	value	Ro. example
Number	singular (s)	fata(
	plural (p)	fete

1.4 Case

There are five functional cases in Romanian (nominative, genitive, dative, accusative and vocative) but they are expressed by at most three syncretic forms for each number: 1. nominative-accusative; 2. genitive-dative; 3. vocative. The ambiguity of a syncretic case form may be solved at the syntactic level. Taking into account this syncretism we considered the following attribute-value combinations.

Attribute	value	Ro. example
Case	direct(d)	omul
	oblique (o)	omului
	vocative (v)	omule

At the word level, the distinction between the three syncretic forms is possible only for the definite nouns. Masculine indefinite nouns are not differentiated by case (except, sometimes for vocative. The feminine indefinite nouns have different forms in singular for nominative-accusative, genitive-dative and vocative, but the genitive-dative singular forms are also indistinguishable from the plural forms:

```
fata(      - nominative-accusative, vocative singular, indefinite
fato       - vocative singular, indefinite
fete       - genitive-dative singular, nominative-accusative,
             genitive-dative, vocative plural, indefinite
ba(iat     - nominative-accusative, genitive-dative, vocative
             singular, indefinite
ba(iete    - vocative singular, indefinite
ba(iet,i   - nominative-accusative, genitive-dative, vocative,
             plural, indefinite
```

1.5 Definiteness

In Romanian, nouns can be marked for definiteness with the enclitic definite article.

Attribute	value	Ro. example
Definiteness	yes (y)	omul
	no (n)	om

1.6 Clitic

See discussion in 2.10

Attribute	value	Ro. example
Clitic	no (n)	sora
	yes (y)	soru-mea

Combinations

Here, and in all the sections to follow, the trailing hyphens are deleted.

Tag	Example
Ncmsrn	frate
Ncmson	frate

Ncmsvn	frate
Ncmsry	fratele
Ncmsoy	fratelui
Ncmprn	frat,i
Ncmpon	frat,i
Ncmpvn	frat,i
Ncmpry	frat,ii
Ncmpoy	frat,ilor
Ncmpvy	frat,ilor
Ncfsrn	sora(
Ncfsvn	soro
Ncfson	surori
Ncfprn	surori
Ncfpon	surori
Ncfpvn	surori
Ncfsoyy	sora((-sii)
Ncfpry	surorile
Ncfpoy	surorilor
Ncfpvy	surorilor
Ncfsryy	sora((-sa)
Ncmsrn	creion
Ncmson	creion
Ncmsryy	creionu-(i)
Ncmsoy	creionului
Ncfprn	creioane
Ncfpon	creioane
Ncfpry	creioanele
Ncfpoy	creioanelor
Npfsr	Ioana
Npfso	Ioanei
Npmsrn	Bucures,ti
Npmsry	Bucures,tiul

2. Verb (V)

The following attribute-value pairs are applicable to verbs in Romanian:

2.1 Type

Attribute	value	Ro. example
Type	main (m)	a vedea
	auxiliary (a)	a avea, a fi, a voi
	modal (o)	a putea, a trebui
	copulative (c)	a fi, a deveni

2.2 VForm

Traditionally, Romanian linguistics distinguishes between predicative and non-predicative moods. This distinction may be easily mapped into finite/non-finite dichotomy: indicative, subjunctive and imperative are finite; infinitive, participle and gerund are non-finite (only synthetic (non-compound) moods were mentioned; we use the opposition synthetic-analytic to distinguish between concatenative (synthetic) and compound (analytic) morpho-lexical phenomena).

Attribute	value	Ro. example
VForm	indicative(i)	vine
	subjunctive (s)	vina(
	imperative (m)	vino
	infinitive (n)	veni
	participle (p)	venit
	gerund (g)	venind

As only synthetic forms were considered, the values conditional and presumptive for the VForm attribute were left out in Romanian. Another value for VForm which was left out is the Supine. It appears mostly with a preposition, except for a few intransitive verbs when they are subordinated to the impersonal verb a trebui (must). Only the preposition allows for differentiating a supine from a participle-masculine-singular.

2.3 Tense

The synthetic values for the attribute Tense, as listed in the table below, apply to the indicative mood. The value p (present) is used also for subjunctive and infinitive. All the other moods either have no tense or have compound form tenses.

Attribute	value	Ro. example
Tense	present (p)	va(d
	imperfect (i)	vedeam
	past (s)	va(zui
	pluperfect (l)	va(zusem

2.4 Person

Attribute	value	Ro. example
Person	first (1)	va(d
	second (2)	vezi
	third (3)	vede

The following features are pertinent to those moods which permit an adjectival use, i.e. participle and gerund. However, the adjectival use of gerund is extremely rare (o ma>na(tremurnda(
- a shaking hand) and therefore gender and number apply mainly for the participle.

2.5 Number

Attribute	value	Ro. example
Number	singular (s)	ba(tut
	plural (p)	ba(tut,i

2.6 Gender

Attribute	value	Ro. example
Gender	masculine(m)	ba(tut
	feminine(f)	ba(tuta(
	neuter(n)	ba(tut-ba(tute

2.7, 2.8, 2.9 Voice, Negation, Definiteness

As these feature values are either realized as compound forms or irrelevant for Romanian, in our word-level encoding they were omitted.

2.10 Clitic

The cliticization phenomenon in Romanian is not restricted to verb-pronoun relationship, but may also be observed with the (main) verb and the auxiliary, the noun or adjective with pronoun, with noun or adjective with copula, pronoun with auxiliary, preposition with (indefinite) article, numeral or (indefinite) pronoun, negative adverb with verb, auxiliary or pronoun, and some others (mainly created through the contracted forms of the verb "a fi"-to be). We restrict ourselves to considering only the graphically marked clicitizations. In such cases, the two, three or (sometimes) four constituents of a cliticized word-form are always separated by a hyphen. Omitting the hyphen in such cases is an unacceptable error in written Romanian. The examples below illustrate the specific types of cliticization we will consider:

da(-mi-l !	(you give +to me+it/him = give it/him to me)
la(satu-ne-ai	(left + us+ you have = you have left us)
sparge-t,i-s-ar lampa	(break + your + s-part-conj + has lamp = I wish your lamp would break)
sora(-mii	(sister + my = to my sister)
fat,a-i	(his/her face | the face is)
ros,u-i	(his/her red | the red is)
m-au	(me + they have)
i>ntr-o gaura(	(in + a hole)
i>ntr-o ora(	(in + one hour)
i>ntr-unele	(into + some of)
n-aud	(not + I hear = I do not hear)
n-am	(not + I/we have = I have not)
nu-mi	(not + to me)

The order in which different constituents of a cliticized form appear is governed by precise morphological rules. For instance, the auxiliaries always appear in the last position. The main verbs, except those beginning either with the letter "a" or the letter i> and the contracted forms (-s and -i) of the verb "a fi"- to be, always appear in the first position, nouns and adjectives always precede the citicized pronouns, the negative adverbial particles nu- and n- only appear in the first position, and so on. However, in order to reduce spurious ambiguity in morpho-lexical encoding, we considered the attribute CLITIC as relevant only in those cases where the clicitization phenomenon resulted in graphemic modification of the citicized term (as it is the epenthetic u in the gerund form shown in the table below).

Attribute	value	Ro. example
Clitic	no (n)	am ridicat
	yes (y)	ridica>ndu-l

Combinations

Tag	Example
Vmii1s	abandonam
Vmii2s	abandonai
Vmii3s	abandona
Vmii1p	abandonam
Vmii2p	abandonat,i
Vmii3p	abandonau
Vmis1s	abandonai
Vmis2s	abandonas,i
Vmis3s	abandona(
Vmis1p	abandonara(m
Vmis2p	abandonara(t,i
Vmis3p	abandona(
Vmil1s	abandonasem
Vmil2s	abandonases,i
Vmil3s	abandonase
Vmil1p	abandonasera(m
Vmil2p	abandonasera(t,i
Vmil3p	abandonasera(
Vmip1s	abandonez
Vmsp1s	abandonez
Vmip2s	abandonezi
Vmsp2s	abandonezi
Vmip3s	abandoneaza(
Vmip3p	abandoneaza(
Vmsp3s	abandoneze
Vmsp3p	abandoneze
Vmsp1p	abandona(m
Vmsp2p	abandonat,i
Vmm-2s	abandoneaza(
Vmm-2p	abandonat,i
Vmnp	abandona
Vmp--sm	abandonat
Vmp--sm---y	abandonatu

Vmp--sf	abandonata(
Vmp--pf	abandonate
Vmp--pm	abandonat,i
Vmg	abandona>nd
Vmg-------y	abandona>ndu
Va--1s	as,
Voip	trebuie
Vcip1s	sunt
Vcip3p	sunt
Vcip1s----y	-s
Vcip3p----y	-s

3. Adjective (A)

3.1 Type

Although it is not common practice in Romanian linguistics, one could make the distinction between qualificative and determinative adjectives. However, the attribute-value pairs proposed in this section are appropriate for the qualificative adjectives.

Attribute	value	Ro. example
Type	qualificative (f)	frumos

3.2 Degree

The default value is positive; adjectives have also comparative and superlative degrees, but in most of the cases they are expressed by means of analytical forms (e.g. comp. mai bun (better), superl. cel mai bun (the best)). A few adjectives have intrinsic etymological comparative or superlative meanings (e.g. comparatives: anterior, major; superlatives: optim, maxim, extrem etc.). The prefixes super-, extra-, ultra- etc., are quite productive in forming the quasi-analytic1 superlatives. Adjectives are characterized by gender, number and case.

Attribute	value	Ro. example
Degree	positive (p)	frumos
	comparative (c)	ulterior
	superlative (s)	extrem

3.3 Gender

Attribute	value	Ro. example
Gender	masculine (m)	bun
	feminine (f)	buna(
	neuter (n)	sg.bun/pl.bune

3.4 Number

Attribute	value	Ro. example
Number	singular (s)	bun
	plural (p)	buni

3.5 Case

The adjectives present the same case syncretism as the nouns, except for few adjectives that have an additional special form for Genitive-Dative cases in plural (e.g. G.D.pl. multor).

Attribute	value	Ro. example
Case	direct(r)	bunul
	oblique (o)	bunului
	vocative (v)	bunule

3.6 Definiteness

In noun-adjective construction, the definite article may attach enclitically to either adjectives or modified nouns (never to both of them). If present, the definite article attaches to the right of the first word in the sequence.

Bunul om (The kind man)
Omul bun. (The kind man)

Attribute	value	Ro. example
Definiteness	yes (y)	bunul
	no (n)	bun

3.7 Clitic

See discussion on clitics in 2.10

Combinations

Tag	Example
Afpmsrn	bun
Afpmson	bun
Afpmsvn	bun
Afpmprn	buni
Afpmpon	buni
Afpmpvn	buni
Afpmsry	bunul
Afpmsoy	bunului

Afpmpry	bunii
Afpmpoy	bunilor
Afpfsrn	buna(
Afpfsvn	buna(
Afpfson	bune
Afpfprn	bune
Afpfpon	bune
Afpfpvn	bune
Afpfsry	buna
Afpfsoy	bunei
Afpfpry	bunele
Afpfpoy	bunelor
Afcmsrn	ulterior
Afcmson	ulterior
Afsmsrn	extrem
Afp	gri

4. Pronoun (P)

4.1 Type

In Romanian it is worth differentiating the negative pronoun from other indefinite pronouns: a negative pronoun cannot be an argument for a verb unless the verb itself is negated too (e.g. Nu am va(zut pe nimeni / *Am va(zut pe nimeni).

Attribute	value	Ro. example
Type	demonstrative(d)	acesta
	indefinite (i)	oricine
	possesive(s)	(al) meu
	int_rel (w)	ce
	personal(p)	eu
	reflexive(x)	se
	negative (z)	nimeni
	emphatic (h)	i>nsumi

4.2 Person

Attribute	value	Ro. example
Person	first (1)	eu
	second (2)	tu
	third (3)	el

4.3 Gender

Attribute	value	Ro. example
Gender	masculine (m)	el
	feminine (f)	ea
	neuter (n)	sg.acesta/pl.acestea

4.4 Number

Attribute	value	Ro. example
Number	singular (s)	eu
	plural (p)	noi

4.5 Case

For the second person of the personal pronoun in both singular and plural there is the vocative case too.The direct and oblique values are needed for the syncretic causal forms of the other pronouns than the personal ones.

Attribute	value	Ro. example
Case	nominative (n)	el
	genitive (g)	(al) lui
	dative (d)	lui
	accusative (a)	(pe) el
	vocative (v)	tu, voi!
	direct(r)	acesta
	oblique (o)	acestuia

4.6 Owner_Number

This attribute is meaningful for the Possessive pronouns and refers to the grammatical number of the possessor.

Attribute	value	Ro. example
Owner_Number	singular (s)	meu
	plural (p)	nostru

The gramatical number of the possesed object(s) is expressed by the attribute Number (described above).

4.7 Owner_Gender

This attribute is irrelevant for Romanian.

4.8 Clitic

See discussion on clitics in 2.10.

4.9, 4.10, 4.11, 4.12, 4.13 Referent_Type, Syntactic_Type, Definiteness, Animate, Clitic_s

These attributes are irrelevant for Romanian.

4.14 Pronoun_Form

For Romanian we need an attribute (called Pronoun_Form) to make the distinction between strong and weak forms of the same pronoun. All the weak forms can be adjoined to the adjacent words both proclitically or enclitically. In such cases the junction is always graphically marked by a hyphen between the pronoun and the neighboring word. The hyphen also marks possible elisions from either pronoun or the adjacent word. Although in traditional grammar books the demonstrative, int_rel and indefinite pronouns are not characterised by person, in our dictionaries they are recorded (for reasons beyond morpho-lexical encoding) as 3rd person (the same as nouns). However, for the automatic tagging this value has been marked as irrelevant.

Attribute	value	Ro. example
Pronoun_Form	strong (s)	lui
	weak (w)	i>i, i-

Combinations

Tag	Example
Pp1msn--------s	eu
Pp1msd--------w	mi
Pp1msd--------s	mie
Pp1msd--y-----s	mi-
Pd-msr	acesta
Pd-mso	acestuia
Pi-mpr	tot,i
Ps1fsrs	mea
Pw-mso	ca(rui
Pn-msr	nimeni
Ph1msr	i>nsumi
Ph1fsr	i>nsa(mi
Px3msa--------s	sine
Px3msa--------w	se
Px3msa--y-----w	s-

5. Determiner (D)

5.1 Type

The need for a negative value of the determiners' Type attribute is argued on the same lines as in the section on pronoun' s Type. In Romanian the negative determiner is expressed by the unit nici + indefinite article (e.g. nici un, nici o). In Romanian, there are specific forms for the so-called emphatic determiner, which may

accompany both a noun and a personal pronoun: fata
i>nsa(s,i (the girl herself), also ea
i>nsa(s,i (she herself).

Attribute	value	Ro. example
Type	demonstrative (d)	acest
	indefinite (i)	orice
	possessive (s)	meu
	int_rel (w)	ce
	negative (z)	nici un
	emphatic (h)	i>nsus,i

5.2 Person

This attribute is meaningful for the Possessive determiners and refers to the grammatical person of the possessor.

Attribute	value	Ro. example
Person	first (1)	meu
	second (2)	ta(u
	third (3)	sa(u

5.3 Gender

Attribute	value	Ro. example
Gender	masculine (m)	meu
	feminine (f)	mea
	neuter (n)	sg.meu/pl.mele

5.4 Number

Attribute	value	Ro. example
Number	singular (s)	meu
	plural (p)	mei

5.5 Case

Attribute	value	Ro. example
Case	direct(d)	aceasta
	oblique (o)	acestei

5.6 Owner_Number

This attribute is meaningful for the Possessive determiners and refers to the grammatical number of the possessor.

Attribute	value	Ro. example
Owner_Number	singular (s)	meu

	plural (p)	nostru

5.7 Owner_Gender

This attribute is irrelevant for Romanian.

5.8 Clitic

See discussion on clitics in 2.10.

Attribute	value	Ro. example
Clitic	no (n)	mama mea
	yes (y)	maica(- mea

5.9 Modific_Type

As mentioned in the corresponding section on Pronoun, the Modific_Type attribute is relevant for some determiners too. The prenominal determiner always precedes the noun (e.g.acest ba(iat - this boy), whereas the postnominal determiner appears only after the noun (e.g. ba(iatul acesta - this boy).

Attribute	value	Ro. example
Modific_Type	prenominal (e)	acest
	postnominal (o)	acesta

Combinations

Tag	Example
Dd-mso---e	acestui
Dd-mso---o	acestuia
Di-mpr	tot,i
Ds1fsrs	mea
Dw-msr	care
Dw-mso	ca(rui
Dz-msr	nici_un
Dh1msr	i>nsumi
Dh1fsr	i>nsa(mi

Although in traditional grammar books the demonstrative, indefinite and int_rel determiners are not characterised by person, in our dictionaries they are recorded (for reasons beyond morpho-lexical encoding) as 3rd person (the same as nouns). However, for the automatic tagging this value has been marked as irrelevant.

6. Article (T)

6.1 Type

Although it presents only a few items, the article in Romanian has four types, unlike in most of the European languages. Beside the two recommended types: definite and indefinite which have the generally known semantic value, Romanian uses two additional types of articles, which are semantically subordinated to the definite article but which have special forms and meanings:

- the possessive article (also called genitival article) is an element in the structure of the possessive pronoun, of the ordinal numeral (e.g. al meu (mine) and al treilea (the third)), and of the indefinite genitive forms of the nouns (e.g. capitol al ca(rt,ii (chapter of the book)).

- the demonstrative article links a definite noun to its determinants, links a numeral or an adjective to a noun, and it is a constituent part of the relative superlative (e.g. fata cea mare (the elder girl), cel lenes, (the lazy), respectively prietenul cel mai bun (the best friend)).

Notice that the definite article has only enclitic forms, except for one proclitical form (lui + proper noun: lui Ion).

Attribute	value	Ro. example
Type	definite (f)	lui
	indefinite (i)	un
	possessive (s)	al
	demonstrative (d)	cel

6.2 Gender

Attribute	value	Ro. example
Gender	masculine (m)	un
	feminine (f)	o
	neuter (n)	sg.cel/pl.cele

6.3 Number

Attribute	value	Ro. example
Number	singular (s)	un
	plural (p)	nis,te

6.4 Case

Attribute	value	Ro. example
Case	direct(r)	cel

oblique (o)	celui

6.5 Clitic

The inflected forms of the foreign-origin words (mainly nouns) not fully assimilated, are usually written with a hyphen between the base-form and the inflectional ending. In our encoding, we classified these endings (which are supposed to be split by the segmenter) as clitic articles (clitic attribute is always "y") which can be either definite (type=f, "-istul") or indefinite (type=i, "ist") and are characterised by gender (gender=m, "ist"; gender=f, "ista("), number (number=s, "ist"; number=p, "is,ti") and case (case=r, "istul"; case=o, "istului").

Combinations

Tag	Example
Tfmso	lui
Tffso	lui
Timsr	un
Tsmpr	ai
Tdfso	celei
Timsry	-ist
Timsoy	-ist
Tfmsry	-istul
Tfmsoy	-istului

7. Adverb (R)

7.1 Type

The distinction proposed here considers the principal syntactic properties of the adverbs. For Romanian, the general type includes most of the pronominal adverbs (demonstrative: aici (here), indefinite: oriunde (anywhere)). As argued before for pronouns and determiners, a distinct negative value is needed for adverbs as well (nica(ieri - nowhere, niciodata(- never). The particle type covers those adverbs which can dislocate verbal compound forms (ex. Ea a tot ca>ntat -- She has ever sung) or mark degrees (ex. circa (about), foarte (very), prea (too)). Such adverbs are cam, mai, prea, s,i, tot, foarte etc. A useful distinction in Romanian considers the adverbs which can have predicative role, that is they can govern a subordinate sentence (ex. Fires,te ca(o s,tiu -- Certainly I know it). Here (for uniformity within a multilingual environment), they are squeezed into the modifier class. No formal distinction is made between the interrogative adverbs and the relative ones.

Attribute	value	Ro. example
Type	general (g)	bine, acolo
	particle (p)	mai, cam
	negative (z)	nica(ieri
	modifier (m)	fires,te, poate
	int_rel(w)	cum

7.2 Degree

In Romanian, the comparative and superlative of adverbs is formed analytically with mai (put,in), cel mai (put,in), foarte: ex. mai repede (faster), cel mai devreme (at the earliest). Nonetheless there are some adverbs with comparative or superlative meaning (ex. optim, ulterior,. definitiv). These adverbs can be used for expressing the absolute superlative of other adverbs or adjectives: ex. extrem de bine, formidabil de frumos.

Attribute	value	Ro. example
Degree	positive (p)	bine
	comparative (c)	ulterior
	superlative (s)	extrem

7.3 Clitic

See discussion on clitics in 2.10.

Combinations

Tag	Example
Rgp	repede
Rgs	extraordinar
Rgc	ulterior
Rp	mai
Rz	nica(ieri
Rm	probabil
Rw	cum

8. Adposition (S)

8.1 Type

It is the preposition type which is only pertinent to Romanian, although some intercalating adpositions may be seen as a sort of circumposition, for instance i>ntre...s,i... (between..and...).

Attribute	value	Ro. example
Type	preposition (p)	la, pe, i>n

8.2 Formation

In Romanian there is a distinct class of compound prepositions. Each of them forms a formal and semantic unit, although graphically they stay unfused, e.g. de la, pe la, de pe, etc.

Attribute	value	Ro. example
Formation	simple (s)	la, pe, i>n
	compound (c)	de la

8.3 Case

This attribute marks the subcategorisation properties of the adpositions.

Attribute	value	Ro. example
Case	genitive (g)	i>naintea
	dative (d)	datorita(
	accusative (a)	la

8.4 Clitic

See discussion on clitics in 2.10.

Combinations

Tag	Example
Spsa	i>n
Spsay	i>ntr-
Spsd	datorita(
Spca	de_la

9. Conjunction (C)

9.1 Type

The distinction between coordinating and subordinating conjunctions is pertinent to Romanian as well.

Attribute	value	Ro. example
Type	coordinating (c)	s,i, dar
	subordinating (s)	ca(, daca(

9.2 Formation

Likewise prepositions, we can distinguish two kinds of conjunctions in Romanian:

- simple conjunctions: e.g. s,i,dar,des,i etc.

- conjunctions formed periphrastically, with some word/phrase combined by a conjunction: din moment ce, fa(ra(sa(, fat,a(de cum etc.

Attribute	value	Ro. example
Formation	simple (s)	deoarece
	compound (c)	de_vreme_ce

9.3 Coord_Type

In Romanian, there are three kinds of conjunctions depending on their usage: as such or together with other conjunctions or adverbs:

- simple, between conjuncts: Ion s,i Maria (John and Mary);

- repetitive, before each conjunct: ori Ion ori Maria ori... (either John or Mary or...)

- correlative, before a conjoined phrase, it requires specific coordinators between conjuncts: ata>t mama ca>t s,i tata (both mother and father).

With respect to the place of the conjunctions, most of them stay before the conjunct, except for: as,adar, deci (so), dar, i>nsa((but), daca((if), which also appear with expressive value inside the conjoined sentence.

Attribute	value	Ro. example
Coord-Type	simple (s)	s,i,deoarece
	repetit (r)	fie...fie...
	correlat (c)	ati>t...ca>t s,i

9.3 Sub_Type

In Romanian, each conjunction requires another mood, so that the diversity may be controlled by subcategorisation rules.

Attribute	value	Ro. example
Sub-Type	negative (z)	nici
	positive (p)	dar

This attribute distinguishes among the positive and negative conjunctions, providing means to control verbal double negation, (as in case of the negative pronouns, determiners and adverbs): nici NU am venit, nimeni NU vorbes,te, nici_un tren N-a trecut, nica(ieri N-am va(zut

9.5 Clitic

See discussion on clitics in 2.10.

Attribute	value	Ro. example
Clitic	no (n)	ca(as,a
	yes (y)	c-as,a

Combinations

Tag	Example
Ccsps	s,i
Ccrps	fie...fie
Csrzs	nici...nici
Csspc	de_vreme_ce

10. Numeral (M)

10.1 Type

Traditional Romanian grammars usually distinguish seven numeral types, where five of them have specific forms and the other two are obtained by composition.

The first group is made up by the following numeral types: cardinal (trei-three), ordinal (al treilea-the third), fractional (treime-one third), multiple (i>ntreit-trine), collective (ama>ndoi-both).

The second group contains the numeral types which are composed by means of other parts of speech: distributive (ca>te trei-...each three...), adverbial (de trei ori-thrice) and again the collective numeral which also has compound forms (tot,i trei-all three). Nonetheless, as the numerals of the second group have a weak syntactic cohesion, namely each composition element may be regarded as an element of the sentence, with its own grammatical function, these last numeral types are irrelevant for the morphosyntactic annotation.

Attribute	value	Ro. example
Type	cardinal (c)	trei
	ordinal (o)	(al) treilea
	fractal (f)	treime

	multiple (m)	i>ntreit
	collect(l)	tustrei

In Romanian (as in many other languages) several numerals have noun behaviour (some grammarians classify such numerals as nouns) with gender and declension of their own, which they preserve even in the composition of the superior order numerals; these are, for instance, suta((hundred), mie (thousand), milion (million) and miliard (billion). In a sentence most numerals may fulfill the function of other parts of speech like noun, determiner or adverb.

10.2 Gender

Attribute	value	Ro. example
Gender	masculine (m)	doi, primul
	feminine (f)	doua(, prima
	neuter (n)	(un) milion, (doua() milioane

10.3 Number

Attribute	value	Ro. example
Number	singular (s)	primul
	plural (p)	primii

10.4 Case

Attribute	value	Ro. example
Case	direct(r)	primul
	oblique (o)	primului

10.5 Form

Attribute	value	Ro. example
Form	digit (d)	1690
	letter (l)	unsprezece
	both (b)	5 mii
	roman (r)	XIV

10.6 Definiteness

By virtue of their noun or adjective value, some numerals may take the enclitic article (prim/primul - first/the first). Consequently for the Romanian, definiteness attribute helps distinguish the enclitic forms from the other forms.

Attribute	value	Ro. example
Definiteness	yes (y)	primul
	no (n)	prim

10.7 Clitic

See discussion on clitics in 2.10.

Combinations

Tag	Example
Mcmprl	doi
Mcmpol	doi
Momsrl	doilea
Momsol	doilea
Mlmpr	ama>ndoi
Momsrlyy	primu-i
Mffpoly	treimilor

11. Interjections (I)

In Romanian there are no relevant subcategories of interjections.

Tag	Example
I	oh,ah,au

12. Residual (X)

No attributes are defined for this category.

Tag	Example
X	show, a+b, retro-

13. Abbreviation (Y)

The Syntactic_Type attribute is useful for specifying the grammatical category of an abbreviation. Although the values for this attribute could range over the part of speech categories in the language, in Romanian most of the abbreviations falls into noun class.

13.1 Syntactic_Type

Attribute	value	Ro. example
Syntactic_Type	nominal(n)	d-na (doamna)
	verbal (v)	v. (vezi)
	adjectival (a)	ant. (anterior)
	adverbial(r)	f. (foarte)

13.2 Gender

Attribute	value	Ro. example
Gender	masculine (m)	d-lui
	feminine (f)	d-na
	neuter(n)	apt.

13.3 Number

Attribute	value	Ro. example
Number	singular (s)	d-na
	plural (p)	d-nele

13.4 Case

Attribute	value	Ro. example
Case	direct (r)	d-na
	oblique (o)	d-nei

13.5 Definiteness

Attribute	value	Ro. example
Definiteness	yes (y)	d-nele
	no (n)	d-ne

Combinations

Tag	Example
Ynmsry	d-ul
Ynfsoy	d-nei
Ynnsry	apt.

14. Particle (Q)

14.1 Type

Attribute	value	Ro. example

Type	negation(z)	nu,n-
	infinitive (n)	a
	subjunctive (s)	sa(
	aspect	fi
	future	o

14.2 Formation

This attribute is not irrelevant for Romanian.

14.3 Clitic

See discussion on clitics in 2.10.

Attribute	value	Ro. example
Clitic	yes (y)	n-am
	no (n)	nu am

Combinations

Tag	Example
Qz	nu
Qz-y	n-
Qn	a
Qs	sa(
Qa	fi
Qf	o

3.6 Application to Slovene

The application to Slovene has been elaborated by Tomaž Erjavec and Peter Holozan.

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All Slovene diacritical characters used have been encoded in the following way:

1. The Slovene 'hachek' diacritic (ˇ) is marked by the corresponding nondiacritic counterpart followed by '<'. The following possibilities exist:
   `c< s< z<`

```
1. Noun (N)

1.1 Lexicon

= ============== ============== = ================= =========================
P ATT            VAL            C Example           Slovene term
= ============== ============== = ================= =========================
1 Type           common         c stol              obc<i samostalnik
                 proper         p Janez             lastni samostalnik
- -------------- -------------- - ----------------- -------------------------
2 Gender         masculine      m stol              mos<ki spol
                 feminine       f miza              z<enski spol
                 neuter         n sonce             srednji spol
- -------------- -------------- - ----------------- -------------------------
3 Number         singular       s stol              ednina
                 plural         p stoli             mnoz<ina
                 dual           d stola             dvojina
- -------------- -------------- - ----------------- -------------------------
4 Case           nominative     n stol,  medved     imenovalnik
                 genitive       g stola, medveda    rodilnik
                 dative         d stolu             dajalnik
                 accusative     a stol,  medveda    toz<ilnik
                 locative       l stolu             mestnik
                 instrumental   i stolom            orodnik
* ***************************** * ----------------- -------------------------
5 Definiteness                  -
- -------------- -------------- -
6 Clitic                        -
- -------------- -------------- -
7 Animate                       -
- -------------- -------------- -
8 Owner_Number                  -
- -------------- -------------- -
9 Owner_Person                  -
---------------- -------------- -
10Owned_Number                  -
=================================
```

1.2 Combinations

PoS	Type	Gend	Numb	Case	Examples
N	p	[mfn]	s	n	Janez, Micka, Kosovo
N	p	[mfn]	s	g	Janeza, Micke, Kosova
N	p	[mfn]	s	d	Janezu, Micki, Kosovu
N	p	[mfn]	s	a	Janeza, Micko, Kosova
N	p	[mfn]	s	l	Janezu, Micki, Kosovu
N	p	[mfn]	s	i	Janezom, Micko, Kosovom
N	p	[mf]	p	n	Kristusi, Slovenke
N	p	[mf]	p	g	Kristusov, Slovenk
N	p	[mf]	p	d	Kristusom, Slovenkam
N	p	[mf]	p	a	Kristusi, Slovenke
N	p	[mf]	p	l	Kristusih, Slovenkah
N	p	[mf]	p	i	Kristusi, Slovenkami
N	p	[mf]	d	n	Kristusa, Slovenki
N	p	[mf]	d	g	Kristusov, Slovenk
N	p	[mf]	d	d	Kristusoma, Slovenkama
N	p	[mf]	d	a	Kristusa, Slovenki
N	p	[mf]	d	l	Kristusih, Slovenkah
N	p	[mf]	d	i	Kristusi, Slovenkama
N	c	n	s	n	iskanje ('gerund' classified a Noun)
N	c	[mfn]	s	n	stol, lipa, sonce
N	c	[mfn]	s	g	stola, lipe, sonca
N	c	[mfn]	s	d	stolu, lipi, soncu
N	c	[mfn]	s	a	stol, lipo, sonce
N	c	[mfn]	s	l	stolu, lipi, soncu
N	c	[mfn]	s	i	stolom, lipo, soncem
N	c	[mfn]	p	n	stoli, lipe, sonca
N	c	[mfn]	p	g	stolov, lip, sonc
N	c	[mfn]	p	d	stolom, lipam, soncem
N	c	[mfn]	p	a	stole, lipe, sonca
N	c	[mfn]	p	l	stolih, lipah, soncih
N	c	[mfn]	p	i	stoli, lipami, sonci
N	c	[mfn]	d	n	stola, lipi, sonci
N	c	[mfn]	d	g	stolov, lip, sonc
N	c	[mfn]	d	d	stoloma, lipama, soncema
N	c	[mfn]	d	a	stola, lipi, sonci
N	c	[mfn]	d	l	stolih, lipah, soncih
N	c	[mfn]	d	i	stoloma, lipama, soncem

2. Verb (V)

2.1 Lexicon

```
= ============== ============== = ================= =========================
P ATT            VAL            C Example           Slovene term
= ============== ============== = ================= =========================
1 Type           main           m delati            glavni glagol
                 auxiliary      a imeti             pomoz<ni glagol
                 modal          o hoteti            naklonski glagol
                 copula         c biti              pomoz<nik 'biti'
- -------------- -------------- - ----------------- -------------------------
2 VForm          indicative     i delam             sedanjik
                 imperative     m delaj             velelnik
                 conditional    c bi                pogojnik od 'biti'
                 infinitive     n delati            nedoloc<nik
                 participle     p delal,(po)delan   delez<nik
                 supine         u delat             namenilnik
- -------------- -------------- - ----------------- -------------------------
3 Tense          present        p delam, delaj      sedanjik, velelnik
                 future         f bom               prihodnjik od 'biti'
                 past           s delal             opisni delez<nik na -l
- -------------- -------------- - ----------------- -------------------------
4 Person         first          1 delam             prva oseba
                 second         2 delas<            druga oseba
                 third          3 dela              tretja oseba
- -------------- -------------- - ----------------- -------------------------
5 Number         singular       s delam             ednina
                 plural         p delamo            mnoz<ina
                 dual           d delata            dvojina
- -------------- -------------- - ----------------- -------------------------
6 Gender         masculine      m delal             mos<ki spol
                 feminine       f delala            z<enski spol
                 neuter         n delalo            srednji spol
********************************* ----------------- -------------------------
7 Voice          active         a delam, delal      tvorni nac<in
                 passive        p (po)delan         trpni nac<in
- -------------- -------------- - ----------------- -------------------------
8 Negative       no             n ho"cem            nezanikan
                 yes            y no"cem            zanikan
- -------------- -------------- - ----------------- -------------------------
9 Definiteness                  -
- -------------- -------------- -
10Clitic                        -
- -------------- -------------- -
11Case                          -
- -------------- -------------- -
12Animate                       -
- -------------- -------------- -
13Clitic_s                      -
=================================
```

Notes:

1. The verb 'to be' in all its functions is Type=c;
   Auxiliary verbs Type=a do not include the 'to be' and modal verbs.
2. The "past participle" is actually used for making all the compound
   active tenses (future, past, pulperfect) and is encoded
   analytically as Type=participle, Tense=past, Voice=Active.
3. The passive participles is encoded analytically as
   Type=participle, Tense='-', Voice=Passive.
   This encoding will only be used for the passive participle in the
   predicative position, e.g. 'on je bil tepen'/he was beaten. The
   case marked passive participles in the attributive position (e.g.
   'tepen pes'/beaten dog) or those in non-nominative case (e.g.
   'hrano imam skuhano'/I have the food cooked[acc]) will be
   classified as (qualitative) adjectives.
4. The adjectival (e.g. 'stokajoc<'/moaning) and adverbial (e.g.
   'lez<e'/lying down) participles are classified as adjectives and
   adverbs respectively.
5. Negative is always marked as 'n' except for two verbs:
   'noc<em'/to not_want, 'nisem'/to not_be

2.2 Combinations

PoS	Type	VFrm	Tens	Pers	Numb	Gend	Voic	Neg	Examples
V	c	n	-	-	-	-	-	-	biti
V	c	u	-	-	-	-	-	-	bit
V	c	c	-	-	-	-	-	-	bi
V	c	m	p	[12]	[pd]	-	-	-	bodimo, bodiva, bodite, bodita
V	c	i	f	[123]	[spd]	-	-	-	bom, bos<, bo, bomo, bova,...
V	c	i	p	[123]	[spd]	-	a	[ny]	sem, si, je, smo, ...
V	c	p	s	-	[spd]	[mfn]	a	-	bil, bila, bili, ...
V	o	n	-	-	-	-	-	-	hoteti
V	o	i	p	[123]	[spd]	-	-	[ny]	hoc"ceva, noc<es, ...
V	o	m	p	[12]	[pds]	-	-	-	hoti, hotimo, hotita, ...
V	o	p	s	-	[spd]	[mfn]	a	-	smel, smela, smeli,...
V	o	p	-	-	[spd]	[mfn]	p	-	dovoljen, dovoljeni, ...
V	m	n	-	-	-	-	-	-	delati
V	m	u	-	-	-	-	-	-	delat
V	m	m	p	[12]	[pd]	-	-	-	dejaj, delajte, ...
V	m	p	-	-	[spd]	[mfn]	p	-	dovoljen, dovoljeni, ...
V	m	p	s	-	[spd]	[mfn]	p	-	dovolil, dovolili, ...
V	m	i	p	[123]	[spd]	-	-	[ny]	nimam, delam, delava, delamo

3. Adjective (A)

3.1 Lexicon

P	ATT	VAL	C	Example	Slovene term
1	Type	qualificative	f	lep	kakovostni
		possessive	s	stric<ev	svojilni
	l.s.	ordinal	o	slovenski	vrstni
2	Degree	positive	p	lep	osnovnik
		comparative	c	leps<i	primerjalnik
		superlative	s	najleps<i	presez<nik
3	Gender	masculine	m	lep	mos<ki spol
		feminine	f	lepa	z<enski spol
		neuter	n	lepo	srednji spol
4	Number	singular	s	lep	ednina
		plural	p	lepi	mnoz<ina
		dual	d	lepa	dvojina
5	Case	nominative	n	lep, lepi	imenovalnik
		genitive	g	lepega	rodilnik
		dative	d	lepemu	dajalnik
		accusative	a	lep, lepega	toz<ilnik
		locative	l	lepemu	mestnik
		instrumental	i	lepim	orodnik
6	Definiteness		-		
7	Clitic		-		
8	Animate		-		
9	Formation		-		
10	Owner_Number		-		
11	Owner_Person		-		
12	Owned_Number		-		

Notes:

The three deverbative adjectival participles (part. -l, part -n/t, part. c<) are also classified as qualificative adjectives. e.g. 'otekel (obraz), premagan, (sovrag) govorec< (pes)' are marked Afpmsn.

3.2 Combinations

PoS	Type	Degr	Gend	Numb	Case	Examples
A	s	p	[mfs]	[spd]	[ngdali]	stric<ev, galjotove, ...
A	o	p	[mfs]	[spd]	[ngdali]	dlakocepski, slovenskega, ...
A	f	[spd]	[mfs]	[spd]	[ngdali]	lep, lepi, lepa, leps<i, najleps<i, ...

4. Pronoun (P)

4.1 Lexicon

P	ATT	VAL	C	Example	Slovene term
1	Type	personal	p	jaz	osebni
		demonstrative	d	ta	kazalni
		indefinite	i	nekdo	nedoloc<nostni
		possessive	s	moj	svojilni
		interrogative	q	kdo	vpras<alni
		relative	r	kdor	oziralnostni
		reflexive	x	se, svojih	povratni
		negative	z	nihc<e	nikalni
		general	g	vsak	celostni
2	Person	first	1	moj	prva oseba
		second	2	tvoj	druga oseba
		third	3	njegov	tretja oseba
3	Gender	masculine	m	moj	mos<ki spol
		feminine	f	moja	z<enski spol
		neuter	n	moje	srednji spol
4	Number	singular	s	moj	ednina
		plural	p	moji	mnoz<ina
		dual	d	moja	dvojina
5	Case	nominative	n	moj	imenovalnik
		genitive	g	mojega	rodilnik
		dative	d	mojemu	dajalnik
		accusative	a	moj/mojega	toz<ilnik
		locative	l	mojemu	mestnik
		instrumental	i	mojim	orodnik
6	Owner_Number	singular	s	moj	ednina svojine
		plural	p	nas<	mnoz<ina svojine
		dual	d	najin	dvojina svojine
7	Owner_Gender	masculine	m	njegov	mos<ki spol svojine
		feminine	f	njen	z<enski spol svojine

```
                 neuter         n njegov            srednji spol svojine
********************************* ----------------- -------------------------
8 Clitic         no             n mene              beseda
                 yes            y me                naslonka
- -------------- -------------- - ----------------- -------------------------
9 Referent_Type  personal       p sebe, se, si      osebni povratni
                 possessive     s svoj              svojilni povratni
- -------------- -------------- - ----------------- -------------------------
10Syntactic_Type nominal        n kdo               samostalnis<ki
                 adjectival     a kateri            pridevnis<ki
- -------------- -------------- - ----------------- -------------------------
11Definiteness                  -
- -------------- -------------- -
12Animate                       -
- -------------- -------------- -
13Clitic_s                      -
- -------------- -------------- -
14Pronoun_Form                  -
- -------------- -------------- -
15Owner_Person                  -
- -------------- -------------- -
16Owned_Number                  -
=================================

Notes:

1. The Type taxonomy for pronouns different from the one of Slovene
   grammars. Mostly Sl. grammar classes were merged. In particular,
   the indefinite and relative types contain many of pronoun types
   from Slovene grammars:
   (nedoloc<nostni = nedoloc<ni+poljubnostni+mnogostni+istostni+drugostni)
   (oziralnostni = oziralni + oziralno poljubnostni)
2. Type=relative includes so called 'relative general' (oziralno poljubnostni)
   pronouns. They can consist of two words, where the second is 'koli'.
   Variant spelling exists: 'kolikorkoli', 'kolikor koli'.
   Possible solution: they can be treated as compounds.
3. Type=reflexive ecompasses all reflexive pronouns (sebe, se, sebi,
   si, svoj) as well as 'se' and 'si' in all their roles.
   Personal and possessive reflexives are further distinguished via
   the Referent_Type attribute.
   'se' and 'si' in their roles as an obligatory but dislocated
   constituent' of reflexive verbs have the unique MSD Px------y.
   Note: 'se' can also appear as a suffix: e.g. 'zase'/for_oneself with
   variant spelling 'za se'.
4. Owner_Gender is relevant only for third person singular
   possessive pronouns, and distinguishes only masculine and feminine
   forms. It will be '-' in all other cases.
5. As in Slovene grammars, pronouns are distinguished between having a nominal
   and adjectival function. All pronoun types except demonstrative and
   possessive can be nominal, and all except personal can be
   adjectival.
   In the future version of the specifications, this attribute should
   be given a lower position, as it is used by three languages.
```

6. Referent_Type is used to distinguish personal reflexives (which include 'se' in all its functions) from the possesive reflexives ('svoj').

4.2 Combinations

PoS	Type	Pers	Gend	Numb	Case	PosN	PosG	Cltc	Ref	Syn	Examples
P	x	-	-	-	-	-	-	y	-	-	se, si
P	x	-	-	-	[gdali]	-	-	[ny]	p	n	sebe, se, sabo,...
P	x	-	[mfn]	[spd]	[ngdali]	-	-	-	s	a	svoj, svoja, ...
P	p	[123]	-	[spd]	[ngdali]	-	-	[ny]	-	a	njega, ga, jih, ...
P	s	[12]	[mfn]	[spd]	[ngdali]	[spd]	-	-	-	a	moj, vajinima, ...
P	s	[3]	[mfn]	[spd]	[ngdali]	s	[mfn]	-	-	a	njegov, njen, njegova,...
P	s	[3]	[mfn]	[spd]	[ngdali]	[pd]	-	-	-	a	njihova, njuna, ...
P	d	-	-	-	-	-	-	-	-	a	le-tega, onega, ...
P	d	-	[mfn]	[spd]	[ngdali]	-	-	-	-	[an]	le-ta, le-tega, onega, ...
P	i	-	-	-	-	-	-	-	-	a	koliko, c<igar
P	i	-	-	-	[ngdali]	-	-	-	-	n	kaj, marsikaj, ...
P	i	-	[mfn]	[spd]	[ngdali]	-	-	-	-	[an]	en, tegale, drug, ...
P	q	-	-	-	-	-	-	-	-	a	koliko
P	q	-	-	-	[ngdali]	-	-	-	-	n	kaj, c<cesa, kdo, ...
P	q	-	[mfn]	[spd]	[ngdali]	-	-	-	-	a	kaks<sen, kateri, ...
P	r	-	-	-	-	-	-	-	-	a	kolikor, c<igar
P	r	-	-	-	[ngdali]	-	-	-	-	n	kar, c<esar, kdorkoli, ...
P	r	-	[mfn]	[spd]	[ngdali]	-	-	-	-	a	kakrs<en, kateri
P	z	-	-	-	-	-	-	-	-	a	nic<, nikogar, noben
P	z	-	-	-	[gdali]	-	-	-	-	n	nikogar, nikomur, ...
P	z	-	[mfn]	[spd]	[ngdali]	-	-	-	-	a	nikakrs<en, noben
P	g	-	-	-	-	-	-	-	-	a	vsakogar
P	g	-	-	-	[ngdali]	-	-	-	-	n	vsakdo, vsakogar, ...
P	g	-	[mfn]	[spd]	[ngdali]	-	-	-	-	[an]	ves, vsega, vsa, vsak, ...

5. Determiner (D)

Not applicable.

6. Article (T)

Not applicable.

Notes:

This category (Slovene: 'c<len') exists for Slovene, but it encompasses only two words ('ta'/this, 'en'/one) and even these are used only colloquially. Furthermore, the context in which these two words can appear as articles is identical to the one in which they appear as a pronoun or numeral respectively. As it would be impossible to disambiguate between their two meanings, this category will not be used for Slovene.

7. Adverb (R)

7.1 Lexicon

P	ATT	VAL	C	Example	Slovene term
1	Type	general	g	potihoma	prislov
2	Degree	positive	p	malo	osnovnik
		comparative	c	manj	primernik
		superlative	s	najmanj	presez<nik
3	Clitic		-		
4	Number		-		
5	Person		-		

Notes:

1. The adverbial (e.g. part -e: 'lez<e'/lying down) participles are classified as and adverbs.
2. Some pronouns can also have an adverbial function. This issue has not been considered here.

7.2 Combinations

PoS	Type	Degr	Examples
R	g	p	bljuvaje
R	g	c	kasneje
R	g	s	najprijazneje

8. Adposition (S)

8.1 Lexicon

P	ATT	VAL	C	Example	Slovene term
1	Type	preposition	p	nad	predlog
2	Formation	simple	s	nad, pod	(enostaven) predlog
		compound	c	zase, nanj	predlog s pripon. zaimkom
3	Case (req.by prep.)	genitive	g	brez	rodilnik
		dative	d	k	dajalnik
		accusative	a	po	toz<ilnik
		locative	l	pri	mestnik
		instrumental	i	s	orodnik
4	Clitic		-		

Notes:

Slovene has prepositions only, with some arguable exceptions (e.g. 'navkljub'/in spite of), which can be pre- or postpositions. These would need further study.

8.2 Combinations

PoS	Type	Form	Case	Examples
S	p	c	-	zase, nase, nanj, nanjo, nanju, ...
S	p	s	g	brez, izpred, od, ...
S	p	s	d	k, navzlic, ...
S	p	s	a	s, po, skozi, ...
S	p	s	l	po, na, v, ...
S	p	s	i	pod, s, med, ...

9. Conjunction (C)

9.1 Lexicon

P	ATT	VAL	C	Example	Slovene term
1	Type	coordinating	c	in	priredni veznik
		subordinating	s	da	podredni veznik

```
******************************** ----------------- -------------------------
2 Formation      simple         s in, da, ...       enodelni, dvodelni
                 compound       c kljub_temu_da     vec<besedni
- -------------- -------------- - ----------------- -------------------------
3 Coord_Type                    -
- -------------- -------------- -
4 Sub_Type                      -
- -------------- -------------- -
5 Clitic                        -
- -------------- -------------- -
6 Number                        -
- -------------- -------------- -
7 Person                        -
=================================
```

Notes:

1. According to Slov. grammar, some conjunctions are 'two-part', but these
   can often be either single or two-part conjunctions with identical first
   and second conjunct, e.g. 'ali ... ali'; such conunctions are treated
   as ordinary, 'one-part' conjunctions, i.e. as Formation=simple.

2. Conjunctions are also classified into 'multi-word' conjunctions,
   e.g. 'kljub temu da'/in spite of. These conjuctions constitute one
   lexical 'word'; should be merged by the text tokeniser e.g.:
   kljub_temu_da and marked as Formation=compound.

9.2 Combinations

```
*** **** ---- ==============================================================
PoS Type Form Examples
*** **** ---- ==============================================================
 C    c    s   in, ali
 C    s    s   da, ki, ali
 C    s    c   medtem_ko
*** **** ===================================================================
```

10. Numeral (M)

10.1 Lexicon

```
= ============== ============== = ================= =========================
P ATT            VAL            C Example           Slovene term
= ============== ============== = ================= =========================
1 Type           cardinal       c en                glavni s<tevnik
                 ordinal        o prvi              vrstilni s<tevnik
                 multiple       m enojen            mnoz<ilni s<tevnik
                 special        s dvoje, ...        ostali s<tevniki
- -------------- -------------- - ----------------- -------------------------
2 Gender         masculine      m en                mos<ki spol
                 feminine       f ena               z<enski spol
```

```
                 neuter         n eno               srednji spol
- -------------- -------------- - ----------------- -------------------------
3 Number         singular       s en                ednina
                 plural         p tri               mnoz<ina
                 dual           d dva               dvojina
- -------------- -------------- - ----------------- -------------------------
4 Case           nominative     n en                imenovalnik
                 genitive       g enega             rodilnik
                 dative         d enemu             dajalnik
                 accusative     a en / enega        toz<ilnik
                 locative       l enemu             mestnik
                 instrumental   i enim              orodnik
********************************* ----------------- -------------------------
5 Form           digit          d 1984              arabska s<tevilka
                 roman          r MCMXXCIV          rimska stevilka
                 letter         l tisoc<devetsto    s<tevnik
- -------------- -------------- - ----------------- -------------------------
6 Definiteness                  -
- -------------- -------------- -
7 Clitic                        -
- -------------- -------------- -
8 Class                         -
- -------------- -------------- -
9 Animate                       -
- -------------- -------------- -
10Owner_Number                  -
- -------------- -------------- -
11Owner_Person                  -
- -------------- -------------- -
12Owned_Number                  -
= ============== ============== =
```

Notes:

Numerals in Slovene can function as nouns, adjectives or adverbs, and are in grammars described as subtypes of these categories. The above classification runs counter to the established practice and is missing an important syntactic distinction.

10.2 Combinations

```
*** **** **** **** **** ---- ===============================================
PoS Type Gend Numb Case Form Examples
*** **** **** **** **** ---- ===============================================
 M    -    -    -    -    d  1984, ...
 M    -    -    -    -    r  MCMXXCIV, ...
 M    c [mfs][spd][ngdali]l  en, eden, dva, trije, s<tirje, pet, ...
 M    o [mfs][spd][ngdali]l  prvi, drugi, tretji, c<etrti, peti, ...
 M    m [mfs][spd][ngdali]l  enojen, dvojen, trojen, ...
 M    s [mfs][spd][ngdali]l  dvoje, troje, dvoj, dvakraten, ...
 M    c [mfs][spd][ngdali]l  en, eden, ena, eno, trije, tri, troje, dva, ...
*** **** **** **** **** ====================================================
```

11. Interjection (I)

P	ATT	VAL	C	Example	Slovene term
1	Type		-	ah, aha, amen,	medmet
2	Formation		-		

12. Residual (X)

P	ATT	VAL	C	Example	Slovene term
P	ATT		-	sic, 2+2=5, ...	Ostanki

13. Abbreviation (Y)

P	ATT	VAL	C	Example	Slovene term
1	Syntactic_Type		-	dr., ipd, ZSMS	okrajs<ava
2	Gender		-		
3	Number		-		
4	Case		-		
5	Definiteness		-		

Notes:
Abbreviation often functions as a proper noun or adjective (NATO, Elra).

14. Particle (Q)

P	ATT	VAL	C	Example	Slovene term
1	Type		-	spet	c<lenek
2	Formation		-		
3	Clitic		-		

Chapter 4

References

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