# Specifications and Notation for Lexicon Encoding

**COP Project 106** MULTEXT**-East**

**Work Package WP1 – Task 1.1**
**Deliverable D1.1 F**

**Final Report**

**17 December 1997**


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# Chapter 1

# Introduction

The purpose of this document is to (i) provide harmonized lexical specifications for the seven languages involved in the MULTEXT-East project — Bulgarian, Czech, Estonian, English, 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 was coordination by PISA. This was followed by a significantly revised and validated version at project milestone M. This final, F version incorporates some more changes to the language specific tables, adds sections on the tagsets used by the languages, and addes MULTEXT-East harmonised data for the English language. The production of the M and F versions was 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 seven languages are given in Chapter 3. They have been contributed respectively by:

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

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

(b) a section providing the allowed combinations of values for the particular language.

Pisa, October 1995
Ljubljana, August 1997
Ljubljana, December 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 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 morpho-syntactic 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 final stage of the project, the report was again revised. Tagsets were developed for some of the languages. 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. Finally, the English morphosyntactic specifications were added to the tables. This Final report incorporates these modificatons and additions.

## 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 of the word-form lexica of the project. These lexica contain one entry per line, where an entry has the following form (for a discussion of the lexica themselves see the MULTEXT-East Deliverable D1.2):

word-form ⟨TAB⟩ lemma ⟨TAB⟩ **morphosyntactic description**

This reports describes the morphosyntactic descriptions used in the lexica and, to some extent, the tags developed by the partners (the tags are further discussed in Section 2.5). It should be noted that the tags are not included in the lexica, partly because it is much more compact to provide the mapping between the morphosyntactic information and the tags in separate tables and partly 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 tagsets.

## 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, the 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*).

Finally, it should be noted that in the lexica trailing hyphens have been omitted, as this looses no information and leads to a more compact encoding. Hence codes like `Ncms-` are written as `Ncms`.

## 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 (essentially a regular expression) describing the combinations is provided, which can subsequently used to generate *all* combinations, possibly including some 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. **En, 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 English as the 'hub' language, then Romance (Romanian), followed by Slavic (Slovene, Czech, Bulgarian), 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 |
|---|---|---|---|---|---|---|---|---|---|---|
| **** | **** | **** | **** | **** | **** | ---- | ---- | ---- | ---- | ---- | ---- |

| P | ATT | VAL | C | EN | RO | SL | CS | BG | ET | HU |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Type | common | c | x | x | x | x | x | x | x |
| | | proper | p | x | x | x | x | x | x | x |
| 2 | Gender | masculine | m | x | x | x | x | x | | |
| | | feminine | f | x | x | x | x | x | | |
| | | neuter | n | x | x | x | x | x | | |
| 3 | Number | singular | s | x | x | x | x | x | x | x |
| | | plural | p | x | 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 |
| - | | | - | | | | | | | | |
| 10 | Owned_Number | singular | s | | | | | | | | x |
| | | plural | p | | | | | | | | x |
| ========== | | | | EN | RO | SL | CS | BG | ET | HU | |

### 2.2.2 Verb (V)

14 Positions

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

| P | ATT | VAL | C | EN | RO | SL | CS | BG | ET | HU |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Type | main | m | x | x | x | x | x | x | x |
| | | auxiliary | a | x | x | x | x | x | x | x |
| | | modal | o | x | x | x | x | | x | |
| | | copula | c | | x | x | x | | | |
| | l.s. | base | b | x | | | | | | |
| 2 | VForm | indicative | i | x | x | x | x | x | x | x |
| | | subjunctive | s | | x | | | | | |
| | | imperative | m | | x | x | x | x | x | x |
| | | conditional | c | x | | x | x | | x | x |
| | | infinitive | n | x | x | x | x | | x | x |
| | | participle | p | x | 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 | x |
| | | imperfect | i | | x | | | x | x | |
| | | future | f | | | x | x | | | |
| | | past | s | x | 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 | x |
| | | second | 2 | x | x | x | x | x | x | x |
| | | third | 3 | x | x | x | x | x | x | x |
| 5 | Number | singular | s | x | x | x | x | x | x | x |
| | | plural | p | x | 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 | |
| 10 | Clitic | no | n | | x | | | | | |
| | | yes | y | | x | | | | | |
| 11 | Case | 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 | |
| 12 | Animate | no | n | | | | x | | | |
| | | yes | y | | | | x | | | |
| 13 | Clitic_s | no | n | | | | x | | | |
| | | yes | y | | | | x | | | |

| | | EN | RO | SL | CS | BG | ET | HU |
|---|---|---|---|---|---|---|---|---|

### 2.2.3 Adjective (A)

13 Positions

| PoS | Type | Degr | Gend | Numb | Case | Def |
|---|---|---|---|---|---|---|
| **** | **** | **** | **** | **** | **** | **** |

| P | ATT | VAL | C | EN | RO | SL | CS | BG | ET | HU |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Type | qualificative | f | x | x | x | x | | | x |
| | | indefinite | i | | | | | | | |
| | | possessive | s | | | x | x | | | |
| | l.s. | ordinal | o | | | x | | | | |
| 2 | Degree | positive | p | x | x | x | x | | x | x |
| | | comparative | c | x | x | x | x | | x | x |
| | | superlative | s | 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 | | | 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 | | | |
| 10 | Owner_Number | singular | s | | | | | | | x |
| | | plural | p | | | | | | | x |
| 11 | Owner_Person | first | 1 | | | | | | | x |
| | | second | 2 | | | | | | | x |
| | | third | 3 | | | | | | | x |
| 12 | Owned_Number | singular | s | | | | | | | x |
| | | plural | p | | | | | | | x |

| | | | EN | RO | SL | CS | BG | ET | HU |
|---|---|---|---|---|---|---|---|---|---|

### 2.2.4 Pronoun (P)

18 Positions

| PoS | Type | Pers | Gend | Numb | Case | OwnN | OwnG | Cltc | RefT | SynT | Def | Anim | Clt2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | PrFr | OwnP | OwdN | WhT | | | | | | | | |

| P | ATT | VAL | C | EN | RO | SL | CS | BG | ET | HU |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Type | personal | p | x | 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 | x |
| | | interrogative | q | x | | x | x | x | x | x |
| | | relative | r | x | | x | x | x | x | x |
| | l.s. | exclamative | e | | | | | | | |
| | | reflexive | x | 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 | x | | |
| | l.s. | ex_there | t | x | | | | | | |
| - | - | - | - | | | | | | | |
| 2 | Person | first | 1 | x | x | x | x | x | x | x |
| | | second | 2 | x | x | x | x | x | x | x |
| | | third | 3 | x | x | x | x | x | x | x |
| - | - | - | - | | | | | | | |
| 3 | Gender | masculine | m | x | x | x | x | x | | |
| | | feminine | f | x | x | x | x | x | | |
| | | neuter | n | x | x | x | x | x | | |
| - | - | - | - | | | | | | | |
| 4 | Number | singular | s | x | x | x | x | x | x | x |
| | | plural | p | x | x | x | x | x | x | x |
| | | dual | d | | | x | x | | | |
| - | - | - | - | | | | | | | |
| 5 | Case | nominative * | n | x | x | x1 | x | x | x | x |
| | | genitive * | g | | | x2 | x | x | | x |
| | | dative * | d | | | x2 | x | x | x | |
| | | accusative * | a | x | x | x1 | 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 | | | x |
| | | plural | p | x | x | x | x | | | x |
| | l.s. | dual | d | | | x | | | | |
| - | - | - | - | | | | | | | |
| 7 | Owner_Gender | masculine | m | x | | | x | x | | |
| | | feminine | f | x | | | 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 | |
| - | - | - | - | | | | | | | |
| 10 | Syntactic_Type | nominal | n | | | | x | x | | |
| | | adjectival | a | | | | x | x | | |
| - | - | - | - | | | | | | | |
| 11 | Definiteness | no | n | | | | | | x | |
| | | yes | y | | | | | | x | |
| | | short_art | s | | | | | | x | |
| | | full_art | f | | | | | | x | |
| - | - | - | - | | | | | | | |
| 12 | Animate | no | n | | | | | x | | |
| | | yes | y | | | | | x | | |
| - | - | - | - | | | | | | | |
| 13 | Clitic_s | yes | y | | | | | x | | |
| | | no | n | | | | | x | | |
| - | - | - | - | | | | | | | |
| 14 | Pronoun_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
- -------------- -------------- -
17Wh_Type        relative       r  x
                 question       q  x
================================  EN  RO  SL  CS  BG  ET  HU
```

**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)

```
11 Positions

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

= ============== ============== =  EN  RO  SL  CS  BG  ET  HU
P ATT            VAL            C  x   x   -   -   -   -   -
= ============== ============== =
1 Type           demonstrative  d  x   x
                 indefinite     i  x   x
                 possessive     s  x   x
                 interrogative  q
                 relative       r
                 exclamative    e
                 article        a
           l.s.  general        g  x
           l.s.  int_rel        w      x
           l.s.  negative       z      x
           l.s.  emphatic       h      x
- -------------- -------------- -
2 Person         first          1  x   x
                 second         2  x   x
                 third          3  x   x
- -------------- -------------- -
3 Gender         masculine      m      x
                 feminine       f      x
                 neuter         n      x
- -------------- -------------- -
4 Number         singular       s  x   x
                 plural         p  x   x
- -------------- -------------- -
5 Case           direct         r      x
                 oblique        o      x
- -------------- -------------- -
6 Owner_Number   singular       s  x   x
                 plural         p  x   x
- -------------- -------------- -
7 Owner_Gender   masculine      m  x
                 feminine       f  x
                 neuter         n  x
**********************************
8 Clitic         no             n      x
                 yes            y      x
- -------------- -------------- -
9 Modific_Type   prenomin       e      x
                 postnomin      o      x
- -------------- -------------- -
10Wh_Type        relative       r  x
                 question       q  x
================================  EN  RO  SL  CS  BG  ET  HU
```

### 2.2.6 Article (T)

6 Positions

| P | ATT | | VAL | C | EN | RO | SL | CS | BG | ET | HU |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 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)

7 Positions

| P | ATT | | VAL | C | EN | RO | SL | CS | BG | ET | HU |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | | | | | x |
| | | l.s. | specifier | s | x | | | | | | |
| | | l.s. | int_rel | w | | x | | | | | |
| | | l.s. | interrogative | q | | | | | | | x |
| 2 | Degree | | positive | p | x | x | x | x | | | |
| | | | comparative | c | x | x | x | x | | | |
| | | | superlative | s | x | 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 |
| 6 | Wh_Type | | relative | r | x | | | | | | |
| | | | question | q | x | | | | | | |

### 2.2.8 Adposition (S)

5 Positions

| PoS | Type | Form | Case | Cltc | C | EN | RO | SL | CS | BG | ET | HU |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | ATT | VAL | | | | x | x | x | x | x | x | x |
| 1 | Type | preposition | | | p | x | x | x | x | x | x | |
| | | postposition | | | t | x | | | | | x | x |
| 2 | Formation | simple | | | s | | x | x | x | | | |
| | | compound | | | c | | x | x | x | | | |
| 3 | Case | nominative | | | n | | | | | | | |
| | (req.by prep.) | 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 | C | EN | RO | SL | CS | BG | ET | HU |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | ATT | VAL | | | | | | | x | x | x | x | x | x | x |
| 1 | Type | coordinating | | | | | | c | x | x | x | x | x | x | x |
| | | subordinating | | | | | | s | x | x | x | x | x | x | x |
| 2 | Formation | simple | | | | | | s | | x | x | | x | | x |
| | | compound | | | | | | c | | x | x | | x | | x |
| 3 | Coord_Type | l.s | simple | | | | | s | | x | | | | | |
| | | l.s. | repetit | | | | | r | | x | | | | | |
| | | l.s. | correlat | | | | | c | | x | | | | | |
| | | l.s. | sentence | | | | | p | | | | | | | x |
| | | l.s. | words | | | | | w | | | | | | | x |
| | | l.s. | initial | | | | | i | x | | | | | | |
| | | l.s. | non_initial | | | | | n | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **** | **** | **** | **** | **** | **** | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- |

| P | ATT | VAL | C | EN | RO | SL | CS | BG | ET | HU |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Type | cardinal | c | x | x | x | x | x | x | x |
| | | ordinal | o | x | 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 | | | |
| - | - | - | - | | | | | | | |
| 10 | Owner_Number | singular | s | | | | | | | x |
| | | plural | p | | | | | | | x |
| - | - | - | - | | | | | | | |
| 11 | Owner_Person | first | 1 | | | | | | | x |
| | | second | 2 | | | | | | | x |
| | | third | 3 | | | | | | | x |
| - | - | - | - | | | | | | | |
| 12 | Owned_Number | singular | s | | | | | | | x |
| | | plural | p | | | | | | | x |

| ========== | ========== | ========== | = | EN | RO | SL | CS | BG | ET | HU |
|---|---|---|---|---|---|---|---|---|---|---|

### 2.2.11 Interjection (I)

3 Positions

| PoS | Type | Form |
|---|---|---|

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

### 2.2.12 Residual (X)

1 Position

| PoS |
|---|

| P | ATT | VAL | C | EN | RO | SL | CS | BG | ET | HU |
|---|---|---|---|---|---|---|---|---|---|---|



### 2.2.13 Abbreviation (Y)

6 Positions

| PoS | SynT | Gend | Numb | Case | Def |
|---|---|---|---|---|---|

| P | ATT | | VAL | C | EN | RO | SL | CS | BG | ET | HU |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 |
|---|---|---|---|
| **** | **** | **** | **** |

| P | ATT | VAL | C | EN | RO | SL | CS | BG | ET | HU |
|---|---|---|---|---|---|---|---|---|---|---|
| 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 |
| base | b | VForm |
| 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 |
| ex_there | t | Type/P |
| 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 |
| initial | i | Coord_Type |
| 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 |
| non-initial | n | Coord_Type |
| 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 |
| question | q | Wh_Type |
| quotative | q | VForm |
| reciprocal | y | Type |
| reflexive | x | Type |
| relative | r | Class, Type, Wh_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/M |
| specifier | s | Type/R |
| 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 |
| Wh_Form | Adv Det Pron |

**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.

## 2.5 Lexical descriptions and corpus tags

This section has been elaborated by Vladimír Petkevič, Faculty of Philosophy, Charles University, Prague.

As in MULTEXT, MULTEXT-East distinguishes the morphosyntactic information contained in the word-form lexica from the corpus tags. Five of the partners out of seven (Bulgarian, English, Estonian, Hungarian, Romanian) developed the set of corpus tags to be used for automatic disambiguation, whereas for Czech and Slovene no special set of corpus tags was developed, i.e. the corpus was annotated directly with the lexical morphosyntactic descriptions.

The tagsets for the four languages are less discriminatory than their morphosyntactic descriptions, i.e. for each language there is a many-to-one mapping between the set of morphosyntactic

descriptions and the set of corpus tags. In other words, a corpus tag is, as in MULTEXT seen as a kind of underspecified lexical morphosyntactic description.

As detailed in (Bel, Calzolari and Monachini, eds. 1995), there are two reasons for distinguishing corpus tags from morphosyntactic descriptions:

(i) The probabilistic taggers used for the disambiguation can only take account of the local context of a word. Thus some morphological distinctions reflected in morphosyntactic descriptions cannot be resolved by such taggers. It would be necessary to use much more complex tools for distinguishing these fine distinctions, which are, however, well beyond the scope of the project.

(ii) The corpora developed within the project are too small for the tagger(s) to be properly trained so that they could distinguish between rare configurations. The much smaller tagsets thus make better use of the limited training material.

The following table gives the "measure of collapsing" of the morphosyntactic descriptions into the corpus tags for all the languages involved:

| | Number of lex. specifications | Number of corpus tags |
|---|---|---|
| English | 131 | 44 |
| Romanian | 661 | 79 |
| Slovene | 2044 | - |
| Czech | 1316 | - |
| Bulgarian | 323 | 119 |
| Estonian | 760 | 76 |
| Hungarian | 618 | 101 |

As the choice of the corpus tagset is fully language-dependent, no attempt at reaching a common tagset for all the languages involved in the project has been made (one has also to consider that among the languages there are representatives of four language families: Germanic, Finno-Ugric, Romance and Slavic). Thus, for each of the four languages there is a distinct tagset. For each language, the mapping of the set of lexical specifications to the corpus tagset is reflected in a separate table (`tbl.tag.corpus.xx`, where `xx` is the country's code).

In addition to corpus tags related to lexical morphosyntactic specifications, there are also corpus tags for punctuation which are described in the subsequent section.

### 2.5.1 Punctuation

In addition to the morphosyntactic specifications (described in detail in further sections) and corpus tags (specified in the MULTEXT-East files `tbl.tag.corpus.xx`, `xx` standing for the two-letter language code), a common set of corpus tags for punctuation marks has been defined for all the languages involved in the project. The table below gives the list of punctuation marks along with the corpus tags assigned. The corpus punctuation tags appear in the cesAna format of the disambiguated parallel multilingual corpus as described in the Deliverable D2.3 F. All 7 components (for each language involved) share this common set of corpus tags for punctuation.



| Orthography | Corpus tag | Definition |
|---|---|---|
| . | PERIOD | period (full-stop) |
| , | COMMA | comma |
| ; | SCOLON | semi-colon |
| : | COLON | colon |
| ? | QUEST | question mark |
| ! | EXCL | exclamation mark |
| ... | HELLIP | ellipsis |
| — | DASH | dash |
| ( | LPAR | left (opening) parenthesis |
| ) | RPAR | right (closing) parenthesis |
| " | ODBLQ | open double-quotes |
| " | CDBLQ | close double-quotes |
| - | HYPHEN | hyphen |
| / | SLASH | slash |
| [ | LSQR | left (opening) square bracket |
| ] | RSQR | right (closing) square bracket |

**Notes**

(i) Orthography column specifies the overt form of a punctuation mark as it appears in the parallel corpus.

(ii) No compound punctuation marks are used.

(iii) Open and close quotes are orthographically identical but they are distinguished by the corpus tag.

# Chapter 3

# Language Specific Applications

## 3.1 Application to English

The application to English has been elaborated by Nancy Ide, Greg Priest-Dorman and Tomaž Erjavec. It is based on the MULTEXT application to English, detailed in MULTEXT Milestone B Deliverable D1.6.1B, March 1995.

1. Noun (N)

1.1. Lexicon

| P | ATT | VAL | C |
|---|---|---|---|
| 1 | Type | common | c |
| | | proper | p |
| 2 | Gender | masculine | m |
| | | feminine | f |
| | | neuter | n |
| 3 | Number | singular | s |
| | | plural | p |
| 4 | Case | | - |
| * | ********** | ********** | * |
| 5 | Definiteness | | - |
| 6 | Clitic | | - |
| 7 | Animate | | - |
| 8 | Owner_Number | | - |
| 9 | Owner_Person | | - |





| 10 | Owned_Number | - |
|---|---|---|

1.2 Combinations

| Lexicon | Definition |
|---|---|
| Nc | Noun common |
| Nc-p | Noun common plural |
| Nc-s | Noun common singular |
| Ncf | Noun common feminine |
| Ncfp | Noun common feminine plural |
| Ncfs | Noun common feminine singular |
| Ncm | Noun common masculine |
| Ncmp | Noun common masculine plural |
| Ncms | Noun common masculine singular |
| Ncn | Noun common neuter |
| Ncnp | Noun common neuter plural |
| Ncns | Noun common neuter singular |
| Np | Noun proper |
| Np-p | Noun proper plural |
| Np-s | Noun proper singular |
| Npfs | Noun proper feminine singular |
| Npms | Noun proper masculine singular |
| Npnp | Noun proper neuter plural |
| Npns | Noun proper neuter singular |

2. Verb (V)

2.1 Lexicon

| P | ATT | VAL | C |
|---|---|---|---|
| 1 | Type | main | m |
| | | auxiliary | a |
| | | modal | o |
| | l.s. | base | b |
| 2 | VForm | indicative | i |
| | | conditional | c |
| | | infinitive | n |
| | | participle | p |
| 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 | | - |
| 10Clitic | | - |
| 11Case | | - |
| 12Animate | | - |
| 13Clitic_s | | - |

Notes:
These tags do not attempt to represent distinctions found in the various compound verb-forms. These are composed of a sequence of auxiliary and non-finite verb as follows:

| | |
|---|---|
| future | will/shall + base |
| conditional | would/should + base |
| passive | be + past participle |
| perfect | have + past participle |
| past perfect | have-past + past participle |
| present continuous | be + present participle |
| infinitive | to + base |

So there is no "aspect" attribute or "future" value, for example.

Examples:

| | |
|---|---|
| go | Vmn, Vmip-p, Vmip1s, Vmip2s |
| goes | Vmip3s |
| going | Vmpp |
| gone | Vmps |
| went | Vmis |
| have | Van, Vmn, Vaip-p, Vaip1s, Vaip2s, Vmip-p, Vmip1s, Vmip2s |
| has | Vaip3s, Vmip3s |
| had | Vais, Vmis, Vmps |
| having | Vapp, Vmpp |
| be | Van, Vmnp |
| am | Vaip1s, Vmip1s |
| are | Vaip-p, Vaip2s, Vmip-p, Vmip2s |
| is | Vaip3s, Vmip3s |
| was | Vais1s, Vais3s, Vmis1s, Vmis3s |
| were | Vacs, Vais-p, Vais2s, Vmis-p, Vmis2s, |
| been | Vais, Vaps |
| being | Vapp |



| | |
|---|---|
| will | Vmn, Vmip-p, Vmip1s, Vmip2s, Voip |
| would | Voip |

## 2.2 Combinations

| Lexicon | Definition |
|---|---|
| Vacs | Verb auxiliary conditional past |
| Vaip-p | Verb auxiliary indicative present plural |
| Vaip1s | Verb auxiliary indicative present first singular |
| Vaip2s | Verb auxiliary indicative present second singular |
| Vaip3s | Verb auxiliary indicative present third singular |
| Vais | Verb auxiliary indicative past |
| Vais-p | Verb auxiliary indicative past plural |
| Vais1s | Verb auxiliary indicative past first singular |
| Vais2s | Verb auxiliary indicative past second singular |
| Vais3s | Verb auxiliary indicative past third singular |
| Van | Verb auxiliary infinitive |
| Vapp | Verb auxiliary participle present |
| Vaps | Verb auxiliary participle past |
| Vmcs | Verb main conditional past |
| Vmip | Verb main indicative present |
| Vmip-p | Verb main indicative present plural |
| Vmip1s | Verb main indicative present first singular |
| Vmip2s | Verb main indicative present second singular |
| Vmip3s | Verb main indicative present third singular |
| Vmis | Verb main indicative past |
| Vmis-p | Verb main indicative past plural |
| Vmis1s | Verb main indicative past first singular |
| Vmis2s | Verb main indicative past second singular |
| Vmis3s | Verb main indicative past third singular |
| Vmn | Verb main infinitive |
| Vmnp | Verb main infinitive present |
| Vmpp | Verb main participle present |
| Vmps | Verb main participle past |
| Voip | Verb modal indicative present |

# 3. Adjective (A)

## 3.1 Lexicon

| | | |
|---|---|---|
| 1 Type | qualificative | f |
| 2 Degree | positive | p |
| | comparative | c |
| | superlative | s |
| 3 Gender | | - |

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

Notes:

Gender, number and case irrelevant for English.

Attributive/predicative distinction reflects positional constraints - some adjectives ('mere', 'utter', etc.) only appear in prenominal position, while others ('awake', 'devoid', etc.) only appear in predicative position. Most can appear in either.

Since many English comparatives & superlatives are formed with more/most, "positive" cannot be interpreted as "neither comparative nor superlative". See "Adverbs".

Examples:

| | |
|---|---|
| big | Af, Afp |
| bigger | Afc |
| biggest | Afs |
| more peculiar | Rsc + Afp |
| most remarkable | Rss + Afp |
| awake | Afp |
| mere | Afp |

3.2 Combinations

| Lexicon | Definition |
|---|---|
| Af | Adjective qualificative |
| Afc | Adjective qualificative comparative |
| Afp | Adjective qualificative positive |
| Afs | Adjective qualificative superlative |



4. Pronoun (P)

4.1 Lexicon

```
= ============== ============== =
P ATT            VAL            C
= ============== ============== =
1 Type           personal       p
                 possessive     s
                 interrogative  q
                 relative       r
                 reflexive      x
                 general        g
           l.s.  ex_there       t
- -------------- -------------- -
2 Person         first          1
                 second         2
                 third          3
- -------------- -------------- -
3 Gender         masculine      m
                 feminine       f
                 neuter         n
- -------------- -------------- -
4 Number         singular       s
                 plural         p
- -------------- -------------- -
5 Case           nominative     n
                 accusative     a
- -------------- -------------- -
6 Owner_Number   singular       s
                 plural         p
- -------------- -------------- -
7 Owner_Gender   masculine      m
                 feminine       f
**********************************
8 Clitic                        -
- -------------- -------------- -
9 Referent_Type                 -
- -------------- -------------- -
10Syntactic_Type                -
- -------------- -------------- -
11Definiteness                  -
- -------------- -------------- -
12Animate                       -
- -------------- -------------- -
13Clitic_s                      -
- -------------- -------------- -
14Pronoun_Form                  -
- -------------- -------------- -
15Owner_Person                  -
- -------------- -------------- -
16Owned_Number                  -
```

| 17Wh_Type | relative | r |
|---|---|---|
| | question | q |

Notes:

"General" pronouns are those which are not personal, possessive, demonstrative or reflexive. The choice of these four categories is based on distributional facts, though at a rather high level of abstraction. They enter into anaphoric dependencies which are signalled morphosyntactically and are therefore (in principle) more amenable to automatic detection. Most general pronouns do not, although they too sometimes encode number information.

"WH" attribute added to allow for combination of possessive and WH in "whose".

Examples:

| | |
|---|---|
| Pg3n | some, all, ... |
| Pg3ns | each, something, nothing, everything, -body, ... |
| Pg3np | both, ... |
| Pg3ns | this, that |
| Pg3np | these, those |
| Ps3---s | mine |
| Ps3 | yours |
| Ps3---sm | his |
| Ps3---sf | hers |
| ? | its |
| Ps3---p | ours, theirs |
| Ps3--------------q Ps3--------------r | whose |
| Pp1-sn | I |
| Pp2 | you |
| Pp3msn | he |
| Pp3fsn | she |
| Pp3ns | it |
| Pp1-pn | we |
| Pp--pn | they |
| Pp--sn | me |
| Pp3msa | him |
| Pp3fsa | her |
| Pp1-pa | us |
| Pp3-pa | them |
| Px1-s | myself |
| Px2-s | yourself |
| Px3ms | himself |
| Px3fs | herself |
| Px3ns | itself |
| Px1-p | ourselves |
| Px2-p | yourselves |
| Px3-p | themselves |
| Pg3--------------q Pg3--------------r | which, whatever |



| | |
|---|---|
| Pg3--------------q | what |

## 4.2 Combinations

| Lexicon | Definition |
|---|---|
| Pg3--------------q | Pronoun general third question |
| Pg3--------------r | Pronoun general third relative |
| Pg3-p | Pronoun general third plural |
| Pg3-s | Pronoun general third singular |
| Pg3fs | Pronoun general third feminine singular |
| Pg3ms | Pronoun general third masculine singular |
| Pg3n | Pronoun general third neuter |
| Pg3np | Pronoun general third neuter plural |
| Pg3ns | Pronoun general third neuter singular |
| Pp---------------q | Pronoun personal question |
| Pp---------------r | Pronoun personal relative |
| Pp---a-----------q | Pronoun personal accusative question |
| Pp---a-----------r | Pronoun personal accusative relative |
| Pp--pn | Pronoun personal plural nominative |
| Pp--sn | Pronoun personal singular nominative |
| Pp1-pa | Pronoun personal first plural accusative |
| Pp1-pn | Pronoun personal first plural nominative |
| Pp1-sn | Pronoun personal first singular nominative |
| Pp2 | Pronoun personal second |
| Pp2-p | Pronoun personal second plural |
| Pp3-pa | Pronoun personal third plural accusative |
| Pp3fs | Pronoun personal third feminine singular |
| Pp3fsa | Pronoun personal third feminine singular accusative |
| Pp3fsn | Pronoun personal third feminine singular nominative |
| Pp3ms | Pronoun personal third masculine singular |
| Pp3msa | Pronoun personal third masculine singular accusative |
| Pp3msn | Pronoun personal third masculine singular nominative |
| Pp3ns | Pronoun personal third neuter singular |
| Ps3 | Pronoun possessive third |
| Ps3--------------q | Pronoun possessive third question |
| Ps3--------------r | Pronoun possessive third relative |
| Ps3---p | Pronoun possessive third plural |
| Ps3---s | Pronoun possessive third singular |
| Ps3---sf | Pronoun possessive third singular feminine |
| Ps3---sm | Pronoun possessive third singular masculine |
| Pt3 | Pronoun ex_there third |
| Px1-p | Pronoun reflexive first plural |
| Px2-p | Pronoun reflexive second plural |
| Px2-s | Pronoun reflexive second singular |
| Px3-p | Pronoun reflexive third plural |
| Px3-s | Pronoun reflexive third singular |
| Px3fs | Pronoun reflexive third feminine singular |
| Px3ms | Pronoun reflexive third masculine singular |
| Px3ns | Pronoun reflexive third neuter singular |

5. Determiner (D)

5.1 Lexicon

| P | ATT | VAL | C |
|---|---|---|---|
| 1 | Type | demonstrative | d |
| | | indefinite | i |
| | | possessive | s |
| | l.s. | general | g |
| 2 | Person | first | 1 |
| | | second | 2 |
| | | third | 3 |
| 3 | Gender | | - |
| 4 | Number | singular | s |
| | | plural | p |
| 5 | Case | | - |
| 6 | Owner_Number | singular | s |
| | | plural | p |
| 7 | Owner_Gender | masculine | m |
| | | feminine | f |
| | | neuter | n |
| 8 | Clitic | | - |
| 9 | Modific_Type | | - |
| 10 | Wh_Type | relative | r |
| | | question | q |

Notes:

Definite and indefinite articles represented as values of "Type".

Examples:

| | |
|---|---|
| Dd | the |
| Di | a/an |
| Dg--s | this, that |
| Dg--p | these, those |
| Ds1---s | my |
| Ds2 | your |
| Ds3---sm | his |
| Ds3---sf | her |
| Ds3---sn | its |



| | |
|---|---|
| Ds1---p | our |
| Ds3---p | their |
| Ds--------q | Ds--------r whose |
| Dg--------q | Dg--------r which |
| Dg--------q | what |
| Dg | each, some, ... |
| Dg--p | all, both, certain, many, ... |

5.2 Combinations

| Lexicon | Definition |
|---|---|
| Dd | Determiner demonstrative |
| Dg | Determiner general |
| Dg--------q | Determiner general question |
| Dg--------r | Determiner general relative |
| Dg--p | Determiner general plural |
| Dg--s | Determiner general singular |
| Di | Determiner indefinite |
| Ds--------q | Determiner possessive question |
| Ds--------r | Determiner possessive relative |
| Ds1---p | Determiner possessive first plural |
| Ds1---s | Determiner possessive first singular |
| Ds2 | Determiner possessive second |
| Ds3---p | Determiner possessive third plural |
| Ds3---sf | Determiner possessive third singular feminine |
| Ds3---sm | Determiner possessive third singular masculine |
| Ds3---sn | Determiner possessive third singular neuter |

6. Article (T)

Not applicable.

7. Adverb (R)

7.1 Lexicon

| P | ATT | VAL | C |
|---|---|---|---|
| 1 | Type | | |
| | | modifier | m |
| | l.s. | specifier | s |
| 2 | Degree | positive | p |
| | | comparative | c |
| | | superlative | s |
| 3 | Clitic | | - |

```
4 Number                        -
- -------------- -------------- -
5 Person                        -
- -------------- -------------- -
6 Wh_Type        relative       r
                 question       q
================================
```

Notes:

No distinction has been made between different types of "modifier" adverbs ("sentence-modifying", "VP-modifying", etc.), since their distributions overlap considerably.

Examples:

```
    Rmp Rsp   so, too, very, as
    R-p---q   how
    Rmp Rsc   more
    Rmp Rss   most
    Rmp       quickly, soon, here, then, now
    Rmc       better, worse
    Rms       best, worst
    Rmp---q Rmp---r where, when,
    R-p---q   how
    Rmp---q   why
```

7.2 Combinations

```
Lexicon   Definition
-----------------------------------
R-p---q   Adverb positive question
Rmc       Adverb modifier comparative
Rmp       Adverb modifier positive
Rmp---q   Adverb modifier positive question
Rmp---r   Adverb modifier positive relative
Rms       Adverb modifier superlative
Rsc       Adverb specifier comparative
Rsp       Adverb specifier positive
Rss       Adverb specifier superlative
```

8. Adposition (S)

8.1 Lexicon

```
= ============== ============== =
P ATT            VAL            C
= ============== ============== =
1 Type           preposition    p
                 postposition   t
```



```
- -------------- -------------- -
2 Formation                     -
********************************
3 Case                          -
- -------------- -------------- -
4 Clitic                        -
================================
```

Notes:

Postpositions are rare in English.

"possessive" 's and ' might be considered postpositions, especially if the alternative is to assign them to the unique membership class (where by definition they would be unrelated).

Examples:

```
    Sp       in, near, behind,...
    St       notwithstanding, ago
```

8.2 Combinations

```
Lexicon   Definition
-------------------------------------
S         Adposition
Sp        Adposition preposition
St        Adposition postposition
```

9. Conjunction (C)

9.1 Lexicon

```
= ============== ============== =
P ATT            VAL            C
= ============== ============== =
1 Type           coordinating   c
                 subordinating  s
********************************
2 Formation                     -
- -------------- -------------- -
3 Coord_Type l.s
            l.s. initial        i
            l.s. non_initial    n
- -------------- -------------- -
4 Sub_Type                      -
- -------------- -------------- -
5 Clitic                        -
- -------------- -------------- -
6 Number                        -
- -------------- -------------- -
```

```
7 Person                        -
================================
```

Notes:

Subordinating conjunctions are often identical to prepositions (before, after, since, ...).

Examples:
    Cc-n  and, or, but
    Cc-i  either, neither, both
    Cs    for, that, because, ...

9.2 Combinations

```
Lexicon   Definition
-------------------------------------
Cc        Conjunction coordinating
Cc-i      Conjunction coordinating initial
Cc-n      Conjunction coordinating non_initial
Cs        Conjunction subordinating
```

10. Numeral (M)

10.1 Lexicon

```
= ============== ============== =
P ATT            VAL            C
= ============== ============== =
1 Type           cardinal       c
                 ordinal        o
- -------------- -------------- -
2 Gender                        -
- -------------- -------------- -
3 Number                        -
- -------------- -------------- -
4 Case                          -
*********************************
5 Form                          -
- -------------- -------------- -
6 Definiteness                  -
- -------------- -------------- -
7 Clitic                        -
- -------------- -------------- -
8 Class                         -
- -------------- -------------- -
9 Animate                       -
- -------------- -------------- -
10Owner_Number                  -
- -------------- -------------- -
```



```
11Owner_Person                  -
- -------------- -------------- -
12Owned_Number                  -
================================
```

Notes:

These have not been subsumed under adjectives, pronouns, determiners, etc. because the internal structure of complex numerals is idiosyncratic.

Examples:
    Mc    six
    Mo    sixth

10.2 Combinations

```
Lexicon   Definition
-------------------------------------
Mc        Numeral cardinal
Mo        Numeral ordinal
```

11. Interjection (I)

11.1 Lexicon

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

11.2 Combinations

```
Lexicon   Definition
-------------------------------------
I         Interjection
```

12. Residual (X)

Not applicable.

13. Abbreviation (Y)

13.1 Lexicon

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

10.2 Combinations

| Lexicon | Definition |
|---|---|
| Y | Abbreviation |

14. Particle (Q)

Not applicable.



## 3.2 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
cliticized 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
cliticized 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 |

## 3.3 Application to Slovene

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

Acknowledgements:
The authors thank Velimir Gjurin, France Žagar, Vladimír Petkevič, Lydia Sinapova and David Stermole for their much appreciated comments and suggestions. All errors of course remain our own.

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 | | - | | |
| 10 | Owned_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 | | - | | |
| 10 | Clitic | | - | | |
| 11 | Case | | - | | |
| 12 | Animate | | - | | |
| 13 | Clitic_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 | 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 | | - | | |



## 3.4 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 oversimplification 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' |
| 10 | Syntactic_Type | nominal | n | on | syntakticke' substantivum |
| | | adjectival | a | ktery' | syntakticke' adjektivum |
| 11 | Definiteness | | - | | |
| 12 | Animate | no | n | ktery' | nez<ivotne' |
| | | yes | y | kter<i', ktere'ho | z<ivotne' |
| 13 | Clitic_s | l.s. yes | y | tys,ses | za'jmeno s kliticky'm -s |
| | | l.s. no | n | ty | za'jmeno bez klitic. -s |
| 14 | Pronoun_Form | | - | | |
| 15 | Owner_Person | | - | | |
| 16 | Owned_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)

10.1 Lexicon

| 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.

10.2 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 | | - | | |



## 3.5 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 | | - | - |
| 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 | - | - | [mfn] | s | - | n | - | - | - | - | - | - | beden, bedna |
| A | - | - | m | s | - | [sf] | - | - | - | - | - | - | bedniya, bedniyat |
| A | - | - | [fn] | s | - | 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 | | | - |
| ********** | | | | |
| 8 | Clitic | no | sebe_si | n |
| | | yes | mi | y |
| 9 | Referent_Type | personal | koj | p |
| | | possessive | tchij | s |
| | | attributive | kakva | a |
| | | quantitative | kolko | q |
| 10 | Syntactic_Type | | | - |
| 11 | Definiteness | no | svoj | n |
| | | yes | svoyata | y |
| | | short_art | svoya | s |
| | | full_art | svoyat | f |
| 12 | Animate | | | - |
| 13 | Clitic_s | | | - |
| 14 | Pronoun_Form | | | - |
| 15 | Owner_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 |

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

## 3.6 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 | | | - | |
| 10 | Owned_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 | | - | |
| 10 | Clitic | | - | |
| 11 | Case | | | |
| | | illative | x | lugema |
| | | inessive | 2 | lugemas |
| | | elative | e | lugemast |
| | | translative | 4 | lugemaks |
| | | abessive | 5 | lugemata |
| 12 | Animate | | - | |
| 13 | Clitic_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)+lähe |
| Vmip2s-ay--- | (ei)+lähe |
| Vmip3s-ay--- | (ei)+lähe |
| Vmip1p-ay--- | (ei)+lähe |
| Vmip2p-ay--- | (ei)+lähe |
| Vmip3p-ay--- | (ei)+lähe |
| 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--- | ära |
| Vamp3s-ay--- | ärgu |
| Vamp1p-ay--- | ärgem |
| Vamp2p-ay--- | ärge |
| Vamp3p-ay--- | ärgu |
| Vamp---py--- | ärgu |
| | |
| 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 | - |
| - | ---------- | ---------- |
| 10 | Owner_Number | - |
| - | ---------- | ---------- |
| 11 | Owner_Person | - |
| ---------- | ---------- | ---------- |
| 12 | Owned_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 | | - | |
| 10 | Syntactic_Type | | - | |
| 11 | Definiteness | | - | |
| 12 | Animate | | - | |
| 13 | Clitic_s | | - | |
| 14 | Pronoun_Form | | - | |
| 15 | Owner_Person | | - | |
| 16 | Owned_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.

## 3.7 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 |



| | | |
|---|---|---|
| 10 | wned_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 |
| - | - | - | - |
| 10 | Clitic | | - |
| - | - | - | - |
| 11 | Case | | - |
| - | - | - | - |
| 12 | Animate | | - |
| - | - | - | - |
| 13 | Clitic_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--- | keresztu: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.

### 3.7.1 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, se'g | bara't+sa'g | friend+ship |

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
```

### 3.7.2 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 mirrorred 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).

# Chapter 4

# References


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