LE-PAROLE

WP3.11

Italian Lexicon Documentation

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1. General Design Information

1.1 Selection of the Parole Lexical Entries

The list of the 20,000 lexical entries to be encoded was extracted from the ILC Italian Reference Corpus, a textual corpus available at the Pisa Institute of Computational linguistics. This corpus consists of 12,750,000 word tokens from newspapers, magazines, novels, short stories, technical reports, handbooks and scientific texts.

The IRC was tagged with the PiTagger, one of the components of the PiSystem[1], which lemmatizes the text and assigns to each word-form morphosyntactic codes of verbal subclassification. For ambiguous word-forms, various hypotheses of lemmatization and PoS membership are proposed, one of which is then automatically selected on statistical grounds by an automatic tagging process. Lemmas were sorted according to the frequency of occurrence of their forms in the corpus. The most frequent ones were then selected in accordance with the minimal quota per morphosyntactic category stated in the Technical Annex. The resulting list consists of:

- verbs (3,090)
- adjectives (2,989)
- nouns (12,981)
- adverbs (563)
- empty / grammatical words[2] (553)

All lemmas belong to general, modern Italian language. In this phase of the project, only simple (one-word) entries are taken into consideration. The most common proper nouns (geographical and person names) included constitute around one per cent of the total number of lemmas.

Once the list of entries was established, the encoding phase started with the handling of verbs, the subcategorization patterns of which were studied in parallel with the lexicon building phase.

The whole lexicon has been split into the following SGML files, on the basis of the syntactic categories of the entries. :

- NOUNS_IT.SGM
- VERBS_IT.SGM
- ADJS_IT.SGM
- ADVS_IT.SGM
- CLOSED_CL_IT.SGM
- CL_CL_MU_IT.SGM

The last two files concern the encoding of closed class words. The last one includes those closed class words which have been encoded at morphological level only.

1.2 Source of the Morphological Lexicon

Most data which, for the time being, constitute the PAROLE Morphological lexicon were converted from pre-existing resources of the Institute of Computational Linguistics in Pisa.

Such data consist in 1) a set of inflection models, 2) a list of lemmas specified for their grammatical category and inflection model.

Each inflection model consists in a set of inflectional endings associated with relevant morphological features. Furthermore, each inflectional ending is associated with a number indicating the number of characters to be deleted on the lemma's RHS before the inflectional ending is trailed after the stem. Here follows an example representing a lemma '*amare*' (to love) and a sketch of the selected model.

1 Developed over the last ten years at the ILC by Eugenio Picchi, a fully modular integrated set of tools for corpus construction, management, annotation and querying as well as dictionary and lexical database acquisition and processing activities.

2 For this category, the whole set of elements present in the corpus was extracted.

AMARE V 294

294 3 O XS1IP
294 3 I XS2IP
294 3 A XS3IP
294 3 IAMO XP1IP
294 3 ATE XP2IP
294 3 ANO XP3IP

AMARE is a verb ('V') which is assigned the inflection model 294. Inflected forms for present indicative ('IP') are calculated by 1) deleting the last three characters of AMARE, 2) adding 'O' for first-singular ('S1'), 'I' for second-singular ('S2'), and so on and so forth. In order to obtain data conformant to the PAROLE lexicon format, ILC lemmas have been converted into a list of simple morphological units.

```
<MuS
    id="MUS_amare"
    gramcat="VERB"
    autonomy="YES"
    synulist="SYNU_amare_V_amare_V_2 SYNU_amare_V_3 SYNU_amare_V_4 SYNU_amare_V_5
                        SYNU_amare_V_6">
    <Gmu
      inp="GINP_294">
      <Spelling>amare</Spelling></Gmu></MuS>
```

Such units, as illustrated in the example above, select their inflectional model (GInP) through the attribute 'inp'.

```
<GInP
    id="GINP_294"
    example="abbacinare">
    <CombMFCif
      combmf="xs1ip">
      <Cif
        stemind="0">
        <Removal>are</Removal>
        <AddedBefore></AddedBefore>
        <AddedAfter>o</AddedAfter></Cif></CombMFCif>
    <CombMFCif
      combmf="xs2ip">
      <Cif
        stemind="0">
        <Removal>are</Removal>
        <AddedBefore></AddedBefore>
        <AddedAfter>i</AddedAfter></Cif></CombMFCif>
    ...
```

Each GInP contains a set of CombMFCif-units, each one associating a rule of removal/addition (Cif) and an index (i.e. the value of the attribute 'combmf'). Such an index selects a relevant combination of morphological features to be associated with the calculated inflected form.

```
<CombMF
   id="xs1ip"
   mood="INDICATIVE"
   tense="PRESENT"
   person="1"
   number="SINGULAR">
<CombMF
   id="xs2ip"
   mood="INDICATIVE"
   tense="PRESENT"
   person="2"
   number="SINGULAR">
```

The example above illustrates CombMF for first-singular and second-singular present-indicative.

2. Current Lexicon Contents

2.1 Morphological layer

Number of simple morphological units	20675
Number of graphical morphological units	20942
Number of simple words inflection modes	291

Category	Subcategory	Number of Units
NOUN	COMMON	12573
NOUN	PROPER	408
VERB	WITHOUSC[3]	3090
ADJECTIVE	QUALI	2930
NUMERAL	CARDINAL	48
NUMERAL	ORDINAL	13
PRONOUN	WITHOUTSC	5
PRONOUN	DEMONSTRATIVE	20
PRONOUN	POSSESSIVE	6
PRONOUN	INTERROGATIVE	2
PRONOUN	EXCLAMATIVE	1
PRONOUN	PERSONAL	32
PRONOUN	RELATIVE	5
PRONOUN	INDEFINITE	39
ADVERB	MODAL	481
ADVERB	NONMODAL	82
ADPOSITION	PREPOSITION	143
CONJUNCTION	COORDINATIVE	26
CONJUNCTION	SUBORDINATIVE	75
DETERMINER	DEMONSTRATIVE	6
DETERMINER	POSSESSIVE	9
DETERMINER	INTERROGATIVE	2
DETERMINER	EXCLAMATIVE	2
DETERMINER	RELATIVE	2
DETERMINER	INDEFINITE	68
ARTICLE	INDEFINITE	2
ARTICLE	DEFINITE	6
INTERJECTION	WITHOUTSC	143

The Italian Morphological layer is conformant to GENELEX and to PAROLE-1 and EAGLES guidelines.
The coverage of the Morphological lexicon is limited to Inflection. Therefore, only three types of entities inside the GENELEX/PAROLE entity-relation model are needed to encode morphological lexical entries: simple morphological units (MuS), inflection paradigms (GInP), and combination of morphological features (CombMF). Simple morphological units are assigned a single graphical form, while inflected forms are calculated through the selected GInP's rules of removal/addition of characters which apply to the graphical form.
Most data which constitute the PAROLE lexicon were converted from pre-existing resources of the Institute of Computational Linguistics in Pisa. Such data were integrated through the manual encoding of about 500 lexical entries which lacked in the ILC Morphological Lexicon. Furthermore, information about readjustments occurring with cliticization was encoded inside inflection paradigms (GInP) through the feature ‘contextvar’. Such an information is thought to be used by any lemmatizer handling

[3] WITHOUTSC = without any subcategory

cliticization in Italian.

```
<GInP
        id="GINP_294"
        example="abbacinare">
         <CombMFCif
        combmf="xxxfx">
        <Cif
                stemind="0">
                <Removal></Removal>
                <AddedBefore></AddedBefore>
                <AddedAfter></AddedAfter></Cif></CombMFCif>
    <CombMFCif
         combmf="xxxfx">
         <Cif
                stemind="0"
                contextvar="before enclitics">
                <Removal>e</Removal>
                <AddedBefore></AddedBefore>
                <AddedAfter></AddedAfter></Cif></CombMFCif>
                ...
```

In the example above, two forms are calculated for Present Infinitive, say 'X-are' and 'X-ar', the latter occurring when a clitic pronoun is trailed after the inflected form (i.e. 'amar+si', to love oneself). The same strategy was adopted in the treatment of readjustments occurring when irregular verbs like 'dire' (to say) 'dare' (to give) 'andare' (to go) 'stare' (to stay) 'fare' (to make) etc. meet enclitics in the second singular present imperative (i.e. 'dimmi = di'+mi', say it to me).

All the morphological data available up to now are already loaded into AlethGD**.**

2.2 Syntactic layer

The encoding of entries at syntactic level has been performed in accordance with the general linguistic guidelines of the PAROLE model as well as their language-specific instantiations. The general guidelines are based on the recommendations expressed by the EAGLES/Lexicon/Syntax group which defined a general scheme for verb encoding and on the extended GENELEX model for the handling of other categories
In order to identify and to represent in a user-friendly way the Italian syntactic structures of the various PoSs, a set of macros was designed which account for all subcategorization patterns studied during a preliminary theoretical phase. Macros for the encoding of verbs, of both deverbal and simple nouns, of adjectives and adverbs were thus written. Since it is the syntactic behaviour of entries which is relevant in the syntactic layer, note that in the 'example' slot predicative entries were generally inserted in a typical context, while non predicative entries were assigned a dictionary definition.

During the first year of the project the overhelming bulk of the work was spent on the encoding of verbs. During the second year, more attention was devoted to nouns, adjectives, adverbs, prepositions, and other grammatical words.

2.2.1 Verbs

Splitting Criteria

Splitting of Syntactic Units
Before starting the encoding phase, decisions about the extent to which lexical entries are to be split into readings are crucially required in order to guarantee coding consistency. As a general rule, both redundancy and too powerful gatherings should be avoided. In each particular situation, however, the final choices are guided, on one hand, by the linguistic description level - in our case, syntactic criteria were taken into consideration - and by the representational model and coding formalism constraints, on the other hand.
In the Italian PAROLE syntactic lexicon, besides the obvious differences in arity and function assignments which were clearly criterial for the splitting of entries, every other difference in the syntactic structure of verbs gave rise to a split, as e.g.:

- optionality of a complement in one reading only:

Splitting was necessary whenever a complement was optional in one of the senses but not in the other, as usually observed in non-literal senses wrt proper ones:

evadere (dal carcere) to escape from prison	/	*evadere dalla realta'* to escape from reality
fuggire (da una casa in fiamme) to escape from a burning house	/	*fuggire dalle cattive compagnie* to avoid bad company
forare (una gomma) to burst a tyre	/	*forare una parete; un biglietto* to drill a wall; to punch a ticket

```
<SynU
id="SYNU_forare_V"
comment="tr"
example="forare una parete"
naming="forare"
description="t-xa"></SynU>
```

```
<SynU
id="SYNU_forare_V_2"
comment="tr"
example="forare una gomma"
naming="forare"
description="t)-xa"></Syn>[4]
```

[4] The round bracket in the description id. indicates the optionality of a complement, in this case the direct object.

- relationship of only one reading with another Syntactic Unit, e.g. link between transitive and reciprocal verbs:

1. Luca affronta il pericolo ⟷ ** L. e il pericolo si affrontano*
[L. faces danger] [L. and the danger face each other]

2.Luca affronta il nemico ⟷ *L. e il nemico si affrontano*
[L. confronts the enemy] [L.and the enemy face each other]

```
<SynU
id="SYNU_affrontare_V"
comment="tr"
example="Affrontare un pericolo"
naming="affrontare"
description="t-xa"></SynU>
```

```
<SynU
id="SYNU_affrontare_V_2"
comment="tr  P1+P2 tr / P1 rec"
example="Affrontare il nemico"
naming="affrontare"
description="t-xa"></SynU>

<SynU
id="SYNU_affrontare_V_3"
comment="rec
example=" I nemici si sono affrontati"
description="rr-xe"></SynU>
```

- alternative realisations for a complement in only one reading:

il conto comprende il servizio
the bill includes service charge

i genitori non comprendono
parents do not understand

→ *che i figli vogliono essere liberi*
that children want to be free

→ *i figli*
their children

→ *di dover lasciar i figli liberi*
that they should leave their children to be free
(infin. clause in Italian)

<SynU
id="SYNU_comprendere_V"
comment="tr"
example="il conto comprende il servizo"
naming="comprendere"
*description="**t-xa**"></SynU>*

<SynU
id="SYNU_comprendere_V_2"
comment="trcl"
example="i genitori non comprendono i figli; - di essere troppo severi; - che non devono essere severi / - che i figli vogliono liberta'"
naming="comprendere"
*description="**t+thind/infdi[s]-xa**"></SynU>*

- Distinct entries were encoded for homographic verbs which behave differently wrt. nominalization:

doppiare un film [to dub a film] **/** *il doppiaggio di un film* [the dubbing of a film]

vs. *doppiare il Capo di Buona Speranza* [to round the Cape of Good Hope]

<SynU
id="SYNU_doppiare_V"
comment="tr"
*example="**doppiare un film**"*
naming="doppiare"
description="t-xa"></SynU>

<SynU
id="SYNU_doppiare_V_2"
comment="tr"
*example="**doppiare il Capo di Buona Speranza; - un avversario**"*
naming="doppiare"
description="t-xa"></SynU>

<SynU
id="SYNU_doppiaggio_N"
*comment="d2event,**doppiare_V**"*
example=" il doppiaggio di un film da parte degli attori"
naming="doppiaggio"
description="nv-ppdi-ppdaparte)-x_m"></SynU>

Semantic criteria, therefore, were accounted for in so far as they had consequences at syntactic level. However, for some verbs which absolute use conveyed a special meaning, distinct Units were encoded, e.g.:

il bambino *parla*
the child speaks (has acquired the faculty of language)
il prigioniero *parlo'*
the prisoner confessed

vs.

quell'uomo *parla* *di politica con il suo amico*
that man is talking politics with his friend

Information in charge of the Grammar

For the Italian verbal class, the following information is assumed to be dealt with by the grammar and is therefore not encoded in the lexical entries:

- passivization (only those exceptions to the general rule which states that direct objects are all passivizable are marked)
- pro-drop (optionality is not documented for the position to which the subject function is associated, which amounts, in a sense, to allow all of them to be optional, since the default value of optionality is 'yes')
- pronominalization phenomena (for both subject and object positions)
- postposed subject
- word order phenomena (only a few lexically governed preferences/constraints are marked in the lexicon)

Complex Syntactic Units and Frameset Strategy

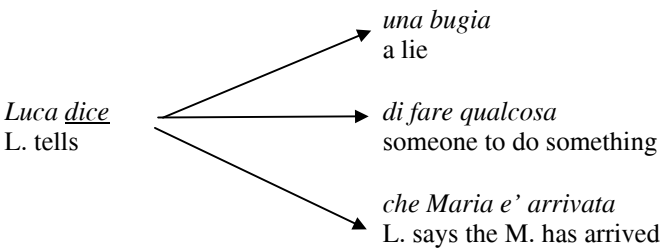
Due to time restrictions, the frameset strategy could not be implemented although all kind of information relevant to build framesets is recorded in the comment field and a few of them - as shown in the example below - were already deviced. As soon as possible, complex Syntactic Units will be created in order to link a base and a transformed description of a same entry. By means of the Frameset device, illustrated below for the causative/inchoative frame alternation, we plan to relate the following alternations:

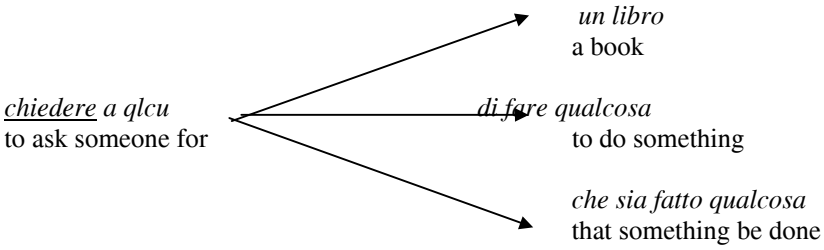
- causative / inchoative readings (e.g.: *'rompere'* to break);
- locative alternations ('spray/load' and 'clear' types) (e.g.: *'caricare'* to load);
- simple reciprocal alternations with transitive and intransitive verbs (e.g.: *'baciare'* to kiss; '*allearsi*' to ally);
- alternation object + for_prepobj / plural object (e.g.: *'scambiare'* to mistake).

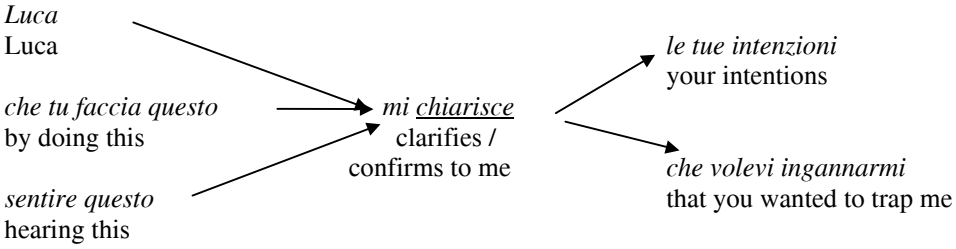
```
<FrameSet
                    id="Frameset_incho_caus"
                    naming="Inchoative/causative alternation"
                    descriptionl="in tr">
                    <Related>
                        <RelElement1
                            description="in">
                            <WayToPosition
                        targetposition="0"></WayToPosition></RelElement1>
                        <RelElement2
                            description="tr">
                            <WayToPosition
                        targetposition="1"></WayToPosition></RelElement2>
                    </Related></FrameSet>
```

Actualization of Positions / Alternatives of Realizations

A frame position may be instantiated by either one or more alternating fillers, each member of the distribution paradigm being a potential syntagmatic realization of the function associated to that position. Splitting of syntactic descriptions in order to encode separately each alternative realization of an argument might be regarded as an advantageous and easy solution for maintaining the syntactic patterns as simple as possible. However this would, on one hand increase dramatically the lexicon size and, on the other hand, prevent from keeping trace of linguistically-relevant distributional equivalences occurring in real language use. The clustering of the different realizations of each position in a single description, insofar as all their combinations produce grammatical sentences, as in the examples below, was therefore adopted as a linguistically sounder solution.







<SynU
id="SYNU_chiarire_V_2"
comment="trsclocl"
example=" chiarire qlco a qlcu; che tu faccia questo / sentire questo mi chiarisce la situazione / che volevi ingannarmi; ti ho gia' chiarito che lo volevo fare"
naming="chiarire"
*description=**"t<thsub/inf0>+thind-ind)-xa"**><</SynU>*

<Description
id="t<thsub/inf0>+thind-ind)-xa"
example="chiarire qlco a qlcu/ che tu faccia questo mi chiarisce la situazione / ti ho gia' chiarito che volevo.."
self="SELF_V_xa"
construction="t<thsub/inf0>+thind-ind)">

<Self
id="SELF_V_xa"
intervconst="I_V_xa">

<IntervConst
id="I_V_xa"
syntagmatl="S_T_V_xa">

<SyntagmaT

```
            id="S_T_V_xa"
            syntlabel="V"
            featurel="T_AUX_avere">
                <SyntFeatureClosed
                    featurename="MORPHSUBCAT"
                    value="MAIN"></SyntagmaT>

<Construction
            id="t<thsub/inf0>+thind-ind)"
            syntlabel="Clause"
            selfinsertion="1">
              <InstantiatedPositionC
                range="0"
                optional="YESO"
                positionc="P_subj<thsub/inf0>">
              <InstantiatedPositionC
                range="1"
                optional="NOO"
                positionc="P_obj+thind">
              <InstantiatedPositionC
                range="2"
                optional="YESO"
                positionc="P_ind"></Construction>


<PositionC
            id="P_subj<thsub/inf0>"
            function="SUBJECT"
            syntagmacl="S_NT_np S_NT_thsub S_NT_inf0">


<PositionC
            id="P_obj+thind"
            function="OBJECT"
            syntagmacl="S_NT_np S_NT_thind">


<PositionC
            id="P_ind"
            function="INDIRECTOBJECT"
            syntagmacl="S_NT_ppa">


<SyntagmaNTC
            id="S_NT_np"
            syntlabel="NP"></SyntagmaNTC>

<SyntagmaNTC
            id="S_NT_thsub"
            syntlabel="Clause">
            <SyntFeatureClosed
              featurename="SYNSUBCAT"
              value="THATCL">
            <SyntFeatureClosed
              featurename="MOOD"
              value="SUBJUNCTIVE"></SyntagmaNTC>

<SyntagmaNTC
```

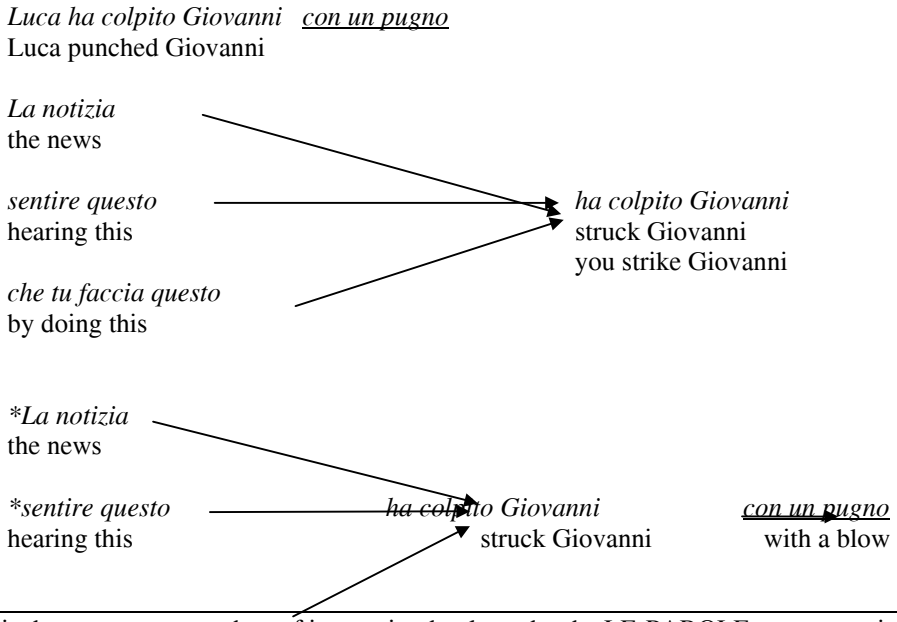
```
                id="S_NT_inf0"
                syntlabel="Clause">
                <SyntFeatureClosed
                    featurename="SYNSUBCAT"
                                value="SSINFINTIVE"></SyntagmaNTC>

        <SyntagmaNTC
                id="S_NT_thind"
                syntlabel="Clause">
                <SyntFeatureClosed
                    featurename="SYNSUBCAT"
                    value="THATCL">
                <SyntFeatureClosed
                    featurename="MOOD"
                    value="INDICATIVE"></SyntagmaNTC>

        <SyntagmaNTC
                id="S_NT_ppa"
                syntlabel="PP"
                featurel="T_a"></SyntagmaNTC>

        <LexFeature
                                id="T_a"
                                featurename="INTROD"
                                value="a"
                                mu="MUS_a">
```

On the contrary, the entry was split into two (at least) different descriptions in case of verbs subcategorizing for a given number of complements, with a certain realization of those complements, but that did not accept the same number of complements if their syntactic realization was different. For example, *'colpire',* in a construction with a phrasal subject allows for an optional prepositional phrase complement while it does not accept it when used in a clausal subject construction:



**che tu faccia questo*
by doing this you

<SynU
id="SYNU_colpire_V_2"
comment="trobl"
example="colpire qlcu con un pugno"
naming="colpire"
*description="**t-ppcon)-xa**"></SynU>*

<SynU
id="SYNU_colpire_V_3"
comment="trscl"
example="la scena lo colpisce; che tu abbia fatto questo -; sentire questo -"
naming="colpire"
*description="**t)<thsub/inf0>-xa**"></SynU>*

Optionality of Complements

In some marked context, even an obligatory complement, such as, say, the object of the verb 'to admire' may be omitted. In order to assess the optionality of verb complements, we therefore considered only 'nuclear' sentences uttered out of any context, i.e. whereas *io canto* [I am singing] can be considered self-explanatory, the sentence *tu compri* [you are buying] was retained as needing either a direct object or a particular context for the completion of information, e.g.:

io vendo e tu compri
I sell and you buy
ti lasci condizionare dalla pubblicità e compri
you are influenced by advertising and you buy

Some complements with adverbial function are marked as non optional. This allows to differentiate idiomatic expressions from the standard meaning of the verb entering in their composition:

La legna si accese / *Luca si accese d'ira*
the wood caught fire / Luca blew up with rage

<SynU
id="SYNU_accendere_V_2"
comment="pin"
example="la legna si accende; la radio non si -"
naming="accendersi"
description="ip-xe_pro"></SynU>

<SynU
id="SYNU_accendere_V_3"
comment="pinadj"
example="Accendersi d'ira"
naming="accendersi"
description="ip-adj_ppdi-xe_pro"></SynU>*

Syntactic Functions

The syntactic functions used for the encoding of Italian verbs are the following:

- Subject
- Object
- Indirectobject
- Subjpred
- Objpred

- Prepobj
- Clauscomp
- Adverbial
- Head

Prepobj vs. Adverbial Function Assignment

Each syntactic constituent subcategorised for by the encoded lexical unit is assigned a syntactic function. In assigning functions to verb complements the major problem we faced was the distinction between oblique/prepositional and adverbial complements, since a clear-cut borderline between those two functions is not always easy to draw. Some criteria for function assignment were thus established in order to ensure coding consistency

The label 'prepobj' was ascribed to PPs which are obviously not indirect objects[5] and which are introduced by prepositions triggered by the verb, as in '*rinunciare **a** qualcosa*' (give something up); prepositional complements of verbs such as '*paragonare*' (compare); Beneficiary and Instrument PPs were all considered as prepobjs.

The syntactic function 'adverbial', on the other hand, was assigned to constituents (adverbs, prepositional phrases or clauses) indicating a Manner '*circolare a piedi*' (go on foot), a Measure '*allungare di un metro*' (lengthen by one metre) or providing a Time information '*iniziare presto/alle otto*' (start early/at 8 o'clock) as well as to those PPs or adverbial phrases which, together with the verb, conferred an idiomatic meaning to the verbal phrase, i.e.: *saltare agli occhi* (jump out at someone), '*accendersi d'ira*' (explode with rage), '*parlare bene*' (speak well)[6]. Location, Direction, Source, Path and Goal PPs which were at first considered as prepobj complements, according to the Italian guidelines, were eventually assigned the 'adverbial' function label, in conformity with the decisions taken at the Barcelona Syntax workshop .

Control Information

Following the PAROLE model, control information was provided by means of two features which operate at a different level: the "controlt" and the "coref" features.

The 'controlt' feature, a frame level feature indicates, by means of the values 'subjectcontrol', 'objectcontrol', 'indirectobjectcontrol' and 'raising', the type of construction at hand while the 'coref' feature, at position filler level, provides information about both controller and controllee. The latter feature was used to encode control on the subject of an infinitive clause complement by either subject, object or indirect object of the main clause. The coref feature was also used with a negative value in those cases where the subject of the completive clause could not be coreferent with the one of the matrix clause, e.g.:*'preferisco la partenza / - partire / - che tu parta /* - che io parta'*

```
<SynU
id="SYNU_preferire_V_2"
comment="trcl"
example="preferisco la partenza; - partire; - che tu parta"
naming="preferire"
description="t+thsub[^s]/inf0[s]-xa"></SynU>[7]

...
        <Construction
                id="t+thsub[^s]/inf0[s]"
```

5 The distinction of indirect objects is not problematic in Italian: dative pronominalization is allowed with indirect objects only.

6 Note that the assignment of the 'adverbial' or 'prepobj' function was sometimes quite problematic. In fact, in many cases, the complement at hand fulfilled the requirements for the assignment of both function labels, i.e. that the complement be introduced by a strongly-bound preposition (for 'prepobj' label) and that the phrase convey a semantic content of Manner, Measure, Time or Location (for 'adverbial' label).

7 [s] and [^s] indicate respectively coreference and non-coreference with the matrix subject

```
                    syntlabel="Clause"
                    selfinsertion="1">
                        <InstantiatedPositionC
                            range="0"
                            optional="YESO"
                            positionc="P_subj[s]">
                        <InstantiatedPositionC
                            range="1"
                            optional="NOO"
                            positionc="P_obj+thsub[^s]/inf0[s]">
                        <SyntFeatureClosed
                            featurename="CONTROLT"
                            value="SUBJECTCONTROL"></Construction>

                <PositionC
                        id="P_obj+thsub[^s]/inf0[s]"
                        function="OBJECT"
                        syntagmacl="S_NT_np S_NT_thsub1nots2 S_NT_inf01s2">

                <SyntagmaNTC
                        id="S_NT_thsub1nots2"
                        syntlabel="Clause">
                        <SyntFeatureClosed
                            featurename="SYNSUBCAT"
                            value="THATCL">
                        <SyntFeatureClosed
                            featurename="MOOD"
                            value="SUBJUNCTIVE">
                        <SyntFeatureClosed
                            featurename="COREF"
                            value="CONOTI"></SyntagmaNTC>


                <SyntagmaNTC
                        id="S_NT_inf01s2"
                        syntlabel="Clause">
                        <SyntFeatureClosed
                            featurename="SYNSUBCAT"
                            value="SSINFINTIVE">
                        <SyntFeatureClosed
                            featurename="COREF"
                            value="COI"></SyntagmaNTC>
            ...
```

2.2.2 Nouns

Splitting Criteria

For nouns, different syntactic units were clearly distinguished for those which behave differently w.r.t. complementation in different readings:

la leggerezza ***di una piuma***	/	*ha commesso una leggerezza*
the lightness of a feather	/	he was really too lenient

```
<SynU                                   <SynU
                                        id="SYNU_leggerezza_N_2"
```

id="SYNU_leggerezza_N"
example="mancanza di serieta'"
naming="leggerezza"
*description="**n-0-x_c**"></SynU>*

example="la leggerezza di una piuma"
naming="leggerezza"
*description="**n-ppdi)-x_m**"></SynU>*

By contrast, no splitting of entries was done for polysemic non frame-bearing nouns. However, information on the existence of different meanings was kept - in the view of a possible extension of encoding at semantic level - by associating to each polysemic entry different examples or partial definitions: e.g. *cimice* [bug (insect); thumbtack; bug (electronics)]

Lexically-Selected Context

In accordance with the language specific instantiations of the project guidelines, only the lexically-selected context of nouns is encoded at lexical level:

- articles are therefore not recorded as position fillers in the construction. A mass/count feature is rather included among the information provided by the SELF of each noun entry. Discriminating criteria for the assignment of this feature were taken from Renzi Italian Grammar for simple nouns and from Grimshaw as for deverbal nouns.
- since noun modification is a general linguistic phenomenon affecting the whole class of nominals, modifiers are not encoded as subcategorized for elements.

Obligatory vs. optional complements

Noun complementation is syntactically realized by Pps, infinitive clauses and that_clauses. Typically, nouns do not take bare Nps complements, except as regards appositions.

Noun complements are often assumed to be all optional. In the Eurotra tradition, however, *some* complements of deverbal nouns were considered obligatory. Jane Grimshaw, as to her, rejects this traditional assertion of the optionality of noun complements. Nouns, she observes, can be divided into classes according to their behaviour: some resemble verbs in their argument-taking capacities, other do not take arguments at all, but many nouns are ambiguous between these two classes.

According to her, *simple event nominals*[8] and *result nominals* have no argument structure. Therefore they cannot have syntactic arguments but only what she calls 'complements', for simple event nominals, e.g.: *'John's murder'* or, for result nouns, mere participants in the situation which are optional 'modifiers', i.e.: *'John's exam'*.

By contrast, *complex event nominals* have an event structure analysis and hence an argument structure which must be satisfied. Their complements are therefore obligatory, "of course, *obligatory* must mean the same for nouns as for verbs: capable in principle of being obligatory but perhaps subject to lexical variation"[9]. For the author, the object complement of complex event nominals is obligatory since its

8 "Even nouns that denote events behave like result nominals unless they have an event structure which provides them with an internal event analysis" [Grimshaw, 1990, p.49].

9 [Grimshaw, 1990, p.49].

presence is required by the a-structure; its appearant optionality is only due to the confusion between the two possible readings of those ambiguous nominals. On the contrary the possessive NP (subject-like *by*-phrase in Italian) is optional because it is not considered as an argument but rather as an a-adjunct.

In the PAROLE Italian lexicon, we distinguish between what Grimshaw calls *complex event* nominals and *simple event* and *result* nominals, i.e.:

- nouns that reflect their verbal base argument structure, e.g.: *'la lemmatizzazione del testo da parte del linguista'* (the lemmatization of the text by the linguist);
- non-argument-bearing nouns, e.g.: *'ordinanza'* (law);
- nouns ambiguous between the two classes, e.g.: *'l'acquisto di una casa da parte di Luca / gli acquisti'* (Luca's purchase of the house / the purchases).

However, as stressed in the PAROLE language-specific guidelines for verb subcategorization, our definition of verb frame is rather liberal and no a priori distinction is drawn between arguments and adjuncts but rather between lexically-governed and lexically-independent syntactic context. In a frame, slot fillers are "syntactically strongly-bound since they are lexically governed by the verb", i.e. since they are "a lexical property specific of"[10] a certain verb.

Hence, *by*-phrases in nominal structures are indeed considered as part of the noun frame and encoded as optional arguments, even though they are not often lexically realized. On the other hand, as in English, Italian *of*-phrase objects are encoded as obligatory arguments in (complex) event denoting deverbal nouns:

l'espressione di sentimenti aggressivi da parte dei pazienti
the expression of aggressive feelings by the patients

The following sentence with only a *by*-phrase complement sounds in fact ungrammatical:

**l'espressione da parte dei pazienti*
the expression by the patients

```
<SynU
id="SYNU_espressione_N"
comment="esprimere"
example="L'espressione dei sentimenti aggressivi da parte dei pazienti"
naming="espressione"
description="nv-ppdi-ppdapartedi)-x_m"></SynU>

<Description
        id="nv-ppdi-ppdapartedi)-x_m"
        example="L'espressione dei sentimenti
                                aggressivi da parte dei pazienti "
        self="SELF_N_x_m"
        construction="nv-ppdi-ppdapartedi)">
```

10 Blueprint of PAROLE guidelines: verb subcategorization in Italian.

```
<Construction
        id=" nv-ppdi-ppdapartedi)"
        syntlabel="NP">
          <InstantiatedPositionC
            range="0"
            optional="NOO"
            positionc="P_ppdi">
          <InstantiatedPositionC
            range="1"
            optional="YESO"
            positionc="P_ppdapartedi">
              </Construction>

<PositionC
      id="P_ppdi"
      function="NCOMP"
      syntagmacl="S_NT_ppdi">

<PositionC
        id="P_ppdapartedi"
        function="NCOMP"
        syntagmacl="S_NT_ppdapartedi">

<SyntagmaNTC
        id="S_NT_ppdi"
        syntlabel="NCOMP"
        featurel="T_di"></SyntagmaNTC>

<SyntagmaNTC
        id="S_NT_ppdapartedi"
        syntlabel="NCOMP"
        featurel="T_dapartedi"></SyntagmaNTC>
```

Similarly, as far as simple event nominals are concerned, we consider as optional arguments what Grimshaw classifies as optional modifiers.
On the other hand, nouns such as *'acquisto'* which are ambiguous between two interpretations are split into two syntactic units, one encoding the complex event reading and the other one the result reading which denotes a concrete entity, the output of a process and has no argument.

l'acquisto e' sul tavolo / la scoperta e' interessante
the buy is on the table / the discovery is interesting

```
<SynU
id="SYNU_acquisto_N"
comment="acquistare "
example="l'acquisto di una casa da parte di Luca"
naming="acquisto"
description="nv-ppdi-ppdaparte)-x_m"></SynU>
```

```
<SynU
id="SYNU_acquisto_N_2"
comment="acquistare "
example="la cosa acquistata"
naming="acquisto"
description="nv-0-x_c"></SynU>
```

As to simple nouns, different classes were identified:

- those which do not bear any argument;
- some which seem to require an obligatory complement in one of their reading, e.g.: *'un bicchiere di vino'* [a glass of wine];
- those which resemble deverbals, as to the complexity of their argument structure, e.g.:*'la probabilita' che Luca vinca ; - di Luca di vincere ; - di vincita di Luca / da parte di Luca'* (the probabillity that Luca wins; Luca's probability to win: Luca's probability of winning).

Functions for nouns

Following the language specific guidelines for the encoding of non-verb PoSs, no function was assigned to simple noun complements. However, since function *must* be encoded in order to fulfil the DTD requirements, the generic labels 'Ncomp' and 'Napposition' are used.
By contrast, deverbals nouns complements are implicitely assigned syntactic functions, through the linking of their description to the one of their verbal base.

la lettura del verdetto da parte del giudice / il giudice legge il verdetto
[the reading of the verdict by the judge] / [the judge reads the verdict]

For a better understanding, we show below a macro format entry and the linking of the deverbal noun positions with its verbal base ones.

*lex:**lettura***
macro: d2event
Description:
la lettura del verdetto da parte del giudice
[Construction:
syntlabel:NP
P1 [opt:no] :[cat:pp] [introd: di]
[cat:ap] [type: possessive]
P2 [opt:yes] :[cat:pp] [introd:da_parte]
[introduced_syncat:pp] [introd:di]
[introduced_syncat:ap] [type:possessive]]
[SELF: N[func:head] [masscount:mass]].

*[TransfUsyn (Usyn:**lettura**, Usyn:**leggere**)*
[Related:
Description1: 1
Description2: 1
Chemin_position: P1
Chemin_position: P2]
[Related:
Description1: 1
Description2: 1
Chemin_position: P2
Chemin_position: P1]].

Deverbal nouns

The whole set of deverbal noun frames was studied. So far, the following structures were encoded:

- ♦ deverbal nouns derived from intransitive and pronominal verbs:
  - ◊ predicate nominalization:
    - the intransitive verb subject is the unique argument of the deverbal noun, e.g.: *l'abdicazione del re' (⇦ il re abdica)* (the King's abdication). Same construction is encountered with

nouns deriving from pronominal verbs, e.g.: *la liquefazione del ghiaccio (⇦ il ghiaccio si liquefa')* (the liquefaction of the ice);

- nominalization of intransitive and pronominal predicates which subcategorize for an oblique argument. The deverbal noun has a two-argument frame, one complement introduced by preposition *di* and corresponding to the verb subject and the other one which corresponds to the verb oblique argument and is introduced by the same preposition as the verb complement, e.g.: *la partecipazione di Luca **al** progetto (⇦ Luca partecipa al progetto)* (Luca's participation in the project), *l'esitazione di Luca **a** partire (⇦ Luca esita a partire)* (Luca's hesitation in leaving);
- nominalization of psy verbs; a two-slot argument structure with the verb subject realized either by an *of*-PP or a *by*-phrase and an PP corresponding to the verb oblique e.g.: *l'interesse di Luca per la pittura (⇦ Luca s'interessa alla pittura)* (Luca's interest for painting);

◊ argument nominalization:

- nominalization of both the predicate and its subject, e.g. *viaggiatore* (traveller), hence an empty construction for the deverbal noun entry;
- subject nominalisation when the intransitive verbal base has an oblique complement, in this case the deverbal noun has a complement which corresponds to the oblique complement of the verb and is introduced by the same preposition, e.g.: *un aspirante al successo (⇦ Luca aspira al successo)* (someone aspiring to being famous). Same construction with a pronominal verbal base taking an oblique argument: *un intenditore di vini (⇦ Luca s'intende di vini)* (a connoisseur of wines).

♦ deverbal nouns derived from bivalent transitive verbs:

◊ predicate nominalization

- nominalization of a predicate denoting an event: the arity remains unchanged, hence a two-position frame, with one argument corresponding to the verb object and realized as a *di*_PP and an optional argument, a PP introduced by *da parte* (by) linked to the verb subject. Both arguments can also be realized by a possessive adjective. The object complement of the deverbal can be syntactically realized as a clause whenever the verbal base admits a clausal complement, e.g.: *la constatazione da parte di Luca della propria ignoranza / - di aver sbagliato / - che tutto era finito* (Luca's awareness of his own ignorance / - to be wrong / - that everything was over).
- nominalization of psy verbs; a two-slot argument structure with a PP corresponding to the verb object and the verb subject realized either by an *of*-PP or a *by*-phrase e.g.: *l'ammirazione per Maria da parte di Luca (⇦ Maria ammira Luca)* (Luca's admiration for Maria);

◊ argument nominalization

- nominalization of both predicate and subject: the arity of the deverbal noun, which denotes a *nomina agentis,* is reduced wrt the one of its verbal base, i.e. a one-position construction with a prepositional phrase corresponding to the verb object, e.g.: *venditore di libri* (books seller);
- nominalization of both the predicate and its object, e.g. *accusato* (accused), hence an empty construction for the deverbal noun entry;
- nominalization of both predicate and object: the deverbal noun denotes the result entity with no argument, e.g.: *ho dimenticato l'acquisto di Luca a casa (<- Luca acquista qualcosa)* (I forgot Luca's purchase at home).

♦ deverbal nouns derived from transitive trivalent verbs:

◊ predicate nominalization

- nominalization of a predicate denoting an event: the arity remains unchanged, hence a three-position frame, with one argument corresponding to the verb object and realized as a *di*_PP, an optional argument corresponding to the verb oblique and an optional argument, a PP introduced by *da parte* (by) linked to the verb subject. e.g.: *l'educazione dei bambini al rispetto dell'ambiente da parte dei genitori (<- i genitori educano i bambini al rispetto dell'ambiente)* (the parents'education of children about the respect of environment). Arguments may be also realized by clauses.
- nominalization of a verb in object predicate construction, e.g.: *l'elezione di Luca a sindaco da parte dei cittadini* (Luca's election as mayor by the citizens)

◊ argument nominalization

- nominalization of both the predicate and its indirect object: the deverbal noun has a unique argument which corresponds to the verb object e.g.: *il destinatario di un regalo (<- Luca. destina un regalo a Maria)* (the addressee of a gift).

♦ deverbal nouns derived from transitive tetravalent verbs:
◊ predicate nominalization
- nominalization of a a transfer verb: the arity remains unchanged, hence a four-position frame, with one argument corresponding to the verb object and realized as a *di*_PP, two optional arguments corresponding to the verb obliques and an optional argument, a PP introduced by *da parte* (by) linked to the verb subject. e.g.: *l'importazione di caffe' dal Brasile in Italia da parte della Lavazza (<- La Lavazza importa caffe' dal Brasile in Italia)* (the import of coffee from Brasil to Italy by Lavazza company).

Summarizing, for the encoding of deverbal nouns, the structures illustrated in tables 1 and 2 were taken into account:

	predicate nominalization		*argument nominalization*	
Verb arity	*Noun arity*	*examples*	*Noun arity*	*examples*
1	***1***	• *l'abdicazione del re* [the king's abdication] • *la liquefazione del ghiaccio* [the liquification of the ice]	***0***	◊ subject nominalization: nomina agentis *un viaggiatore* [traveller]
2	*2*	• *la partecipazione di Luca al progetto* [Luca's participation in the project] • *l'esitazione di Luca a partire* [Luca's hesitation in leaving]	***1***	◊ subject nominalization: nomina agentis • *un aspirante al successo* [so. aspiring to being famous] • *un intenditore di vini* [a connoisseur of wines]

Tab. 1: deverbal nouns derived from intransitive and pronominal verbs

	Predicate nominalization		*argument nominalization*	
Verb arity	*Noun arity*	*examples*	*Noun arity*	*examples*
2	*2*	*la constatazione da parte di Luca della propria ignoranza / - di aver sbagliato / - che tutto era finito* [Luca's awareness of his own ignorance / - to be wrong / - that everything was over]	*0*	◊ object nominalization *l'accusato* [accused] ◊ object nominalization: results *l'acquisto* [a purchase]
		◊ nominalization of psy verbs *l'ammirazione di Luca per Maria* [Luca's admiration for Maria]	*1*	◊ subject nominalization: nomina agentis *un venditore di libri* [book seller]
3	*3*	*l'educazione dei bambini al rispetto dell'ambiente da parte dei genitori* [the parents' education of children about the respect of environment] ◊ object predicate structures *l'elezione di Luca a sindaco da parte dei cittadini* [Luca's election as mayor by the citizens]	*1*	◊ indirect object nominalization *il destinatario di un regalo* [addressee of a gift]
4	*4*	*il trasferimento di denaro da Pisa a Roma da parte della banca* [the transfer of money from Pisa to Rome by the bank]		

Tab. 2: deverbal nouns derived from transitive verbs

Simple nouns

The general principle is that 'concrete' nouns are generally not frame-bearing while abstract nouns may take a frame.
Lexical entries denoting:

- inherent/abstract property: *la grandezza / bellezza della casa*
  the largeness / beauty of the house
- relation: l'*amico / zio / capo di*
  the friend / uncle / boss of
- dimension, measure: *una distanza / lunghezza di / un metro di*
  a distance / length of / a metre of
- interval: *una pausa / intervallo di*
  a pause / interval of
- group: una *combriccola / assemblea di*
  a gang / gathering of
- collection: *un campionario / carnet di*
  a sample / booklet of

or requiring:

- a PP specifying the lemma: *il centenario di / l'abbondanza di*
  one hundred years of / the abundance of
- a PP 'content of': *un sacco di farina / un pacco di sigarette*
  a bag of flour / a packet of cigarettes
- a PP 'topic': *un libro di geografia*
  a geography book
- an apposition (NP or PP): *il fiume Po' / la città' di Roma*
  the river Po' / the city of Rome

as well as:

- (some) metaphorical use: *la chiave del problema*
  the key of the problem

are considered as subcategorizing for a complement.

Whereas Pps denoting:

- possession: *il libro di Leo*
  Leo's book
- free relation: *la scuola di Leo*
  Leo's school
- kind of constituency: *tavolo di legno*
  wooden table

are not be considered as subcategorized for by the lexical entry.

2.2.3 Adjectives

In conceiving the encoding of adjectives, special attention has been devoted to harmonizing their treatment with the one of the parts of speech previously handled, in particulary with regard to the wider context being encoded only in a few specific cases.

2.2.3.1 Non-valent Adjectives

i) Non-predicative adjectives

Most adjectives which are only used attributively belong to the class of Relational Adjectives. Relational adjectives constitute a subclass of denominal adjectives and convey the meaning of both a preposition and a noun, e.g. *'cardiaco'* = *'del cuore'* (cardiac = of the heart), establishing a relationship between the noun head of the syntagma and the noun they are derived from.

- Relational adjectives, which define a subclass of the class defined by the noun head of the syntagma, have a restrictive function and are thus usually found in postnominal position only, e.g.: '*arresto cardiaco' '*cardiaco arresto' '*elettrico impianto' '*statale impiegato'* . It is worth noting, however, that some of them may be used with a connotative function in prenominal position, e.g.: '*paterna dolcezza; burocratica lentezza';*
- a second characteristic of relational adjectives is that they cannot be used in comparative or superlative forms: *'*questa centrale e' nuclearissima', '*questa corsa e' piu' automobilistica di quell'altra'*.
- relational adjectives do not subcategorize for complements.
- as previously observed, they are generally non-predicative. Some of them, however, may have also a predicative use. The set of adjectives derived from names of countries and cities, in particular, is very frequently used predicatively: e.g.: *'un palazzo fiorentino'* (a Florentine palace = a palace *of Florence*) vs. *'Luca e' fiorentino'* (Luca is Florentine = Luca's *property*). Hence we took the decision not to encode them as relational adjectives but rather to include them among those which can be both predicative and attributive.

To sum up, the description of non-predicative adjectives (be they relational or not) consists of an empty construction and a SELF including features which indicate the attributive function of the adjective, its position and its (non-)gradability[11], as can be observed from the following SGML format syntactic units.

```
<SynU
id="SYNU_addominale_A"
comment="gradable:no"
example="muscoli addominali"
naming="addominale"
description="a-0-x_npred_post_ng"></SynU>


<Description
id=" a-0-x_npred_post_ng"
comment="anonpred"
example="Energia nucleare"
representativemu="nucleare"
self=" SELF_A_x_npred_post_ng ">



 <SynU
 id="SYNU_quindici_A_2"
 naming="quindici"
 example="pagina quindici"
```

[11] Note that we refer here to the property of the adjective at hand to be modified by means of intensifier adverbs. Hence, organic comparative and superlative adjectives, such as 'migliore', ottimo', etc. are not marked as gradable.

```
comment="anonpred"
description="a-0-x_npred_ng"></SynU>


<SynU
id="SYNU_agrario_A"
naming="agrario"
example="pianificazione agraria"
comment="anonpred"
description="a-0-x_npred_post_ng"></SynU>
```

ii) Predicative adjectives

In Italian, most adjectives can be used both predicatively and attributively, e.g.: *'il muro bianco' / 'il muro e' bianco'* (the white wall). So, the encoding in different syntactic units of both syntactic behaviours for each adjective would be time-consuming and redundant. Those adjectives are thus encoded as non frame-bearing ones, i.e., with an empty construction. In the SELF, same features as for relational adjectives, but the value of 'funct' attribute is this time 'predicative', which is to be intended as 'predicative **and** attributive'. As for the feature marking the position of the self with respect to the noun, it is assumed that the default value (viz. 2nd example) is pre **and** post-nominal.

```
<SynU
id="SYNU_affaticato_A"
example="uomo affaticato"
comment="gradable:yes"
naming="affaticato"
description="a-0-x_pred_post_g"></SynU>

<SynU
id="SYNU_allarmante_A"
example="notizia allarmante"
comment="gradable:yes"
naming="allarmante"
description="a-0-x_pred_g"></SynU>
```

2.2.3.2 Valent Adjectives

i) Prepositional complements

Some predicative adjectives take a phrasal complement which is realized as a prepositional phrase (function label: 'Aprepcomp'). As far as encoding is concerned, this argument is represented as an optional position only in case its presence or absence does not modify the meaning of the adjective, e.g. *'un lettore abbonato (ad una rivista)'* (lit. a reader subscribed to a magazine). On the contrary, when the presence of the complement confers a different meaning to the adjective, two different syntactic units have been encoded, e.g.: *'un'abile politico'* (a clever politician) vs. *'una persona abile al lavoro'* (a person able to work).

```
<SynU
id="SYNU_abbonato_A"
comment="gradable:no"
example="abbonato a una rivista"
naming="abbonato"
description="a-ppa)-x_pred_post_ng "></SynU>
```

<SynU
id="SYNU_abile_A"
example="abile politico"
naming="abile"
description="a-0-x_pred_g"></SynU>

<SynU
id="SYNU_abile_A_3"
example="abile al lavoro"
naming="abile"
description="a-ppa-x_pred_post_g"></SynU>

ii) Clausal complements

In the encoding of adjectives subcategorizing for an infinitive complement (function label: 'Aclauscomp'), on the other hand, the wider context has to be expressed in the lexical entry in order to mark the coreference in the infinitive clause. To be consistent with the treatment adopted for the verbal class, in case of coreference with the non-finite clause subject, we did not rewrite the complement sentence, as the following fragment of the entry for *'degno di fare qualcosa'*, in the macro format show:

...
P1: [func:subject]
[cat:np] [coref:COI]
P2: [opt:no] [func:aclauscomp]
[cat:cl] [introd:di] [mood:inf] [coref:COI]

Coreference with the non-finite clause object, however, forced us to rewrite the whole infinitive clause, e.g. *'un lavoro difficile da fare' / 'questo lavoro e' difficile da fare'* :

...
P1: [func:subject]
[cat:np] [coref:COI]
P2: [opt:no] [func:aclauscomp]
[cat:cl] [introd:da] [mood:inf]
P1: [func:subject]
[cat:np]
P2: [func:object]
[cat:np] [coref:COI]
...

<SynU
id="SYNU_difficile_A_3"
naming="difficile"
example="un compito difficile da fare"
comment="ainfda"
*description="**a-np-infdaobj[s]-x_pred_post_g**"></SynU>*

<Description
*id="**a-np-infdaobj[s]-x_pred_post**_g"*
comment="ainfda"
example="lavoro agevole da compiere"
representativemu="agevole"
*self="**SELF_A_x_pred_post_g**"*
*construction**="a-np-infdaobj[s]"**>*

<Construction
*id**="a-np-infdaobj[s]"***

syntlabel="AP"
selfinsertion="1">
<InstantiatedPositionC
range="0"
optional="YESO"
positionc="P_subj[s]">
<InstantiatedPositionC
range="1"
optional="NOO"
positionc="P_aclcomp_infdaobj[s]">
<SyntFeatureClosed
featurename="CONTROLT"
value="SUBJECTCONTROL"></Construction>

Other adjectives subcategorize for a That-clause. Here again, for expressing the fact that the subject of the complement clause cannot be coreferent with the one of the main clause, we encoded the following positions, e.g.: *'Giovanni e' lieto che tu parta'* (G. is pleased that you go)

...

P1: [func:subject]
*[cat:np] [coref:**COI**]*
P2:[opt:yes] [func:aclauscomp]
*[cat:cl] [syn_sbcat:that_cl] [mood:sub][coref:**COJ**]*

...

<SynU
id="SYNU_felice_A_3"
naming="felice"
example="Luca e' felice che tu parta"
comment="athat"
*description="**a-np-thsub[^s]-x_pred_post_g**"></SynU>*

<Description
*id="**a-np-thsub[^s]-x_pred_post_g**"*
comment="athat"
example="Luca e' contento che tu parta"
representativemu="contento"
*self="**SELF_A_x_pred_post_g**"*
*construction="**a-np-thsub[^s]**">*

<Construction
*id="**a-np-thsub[^s]**"*
syntlabel="AP">
<InstantiatedPositionC
range="0"
optional="YESO"
positionc="P_subj[s]">
<InstantiatedPositionC
range="1"
optional="NOO"
positionc="P_aclcomp_thsub[^s]">
<SyntFeatureClosed
featurename="CONTROLT"
value="SUBJECTCONTROL"></Construction>

In order to mark the different function of pp_*a* complements in constructions such as: *'adatto alla situazione'* (adequate to the situation) and *'grato a qualcuno'* (grateful to someone), we assigned to the latter case, where the complement is an indirect object which can undergo a dative pronominalization,

i.e.: *'**gli** sono grato'* vs. *'*gli sono adatto'*, the function label 'Acomp' instead of the usual 'Aprepcomp'.

```
<Description
id="a-ind-x_pred"
comment="aind"
example=" grato ai propri genitori "
representativemu="grato"
self="SELF_A_x_pred"
construction="a-ind">

<Construction
id="a-ind)"
syntlabel="AP">
<InstantiatedPositionC
        range="0"
        positionc="P_acomp_ppa"></Construction>

<Description
id="a-ppa-x_pred_post"
comment="app"
example=" abile al lavoro "
representativemu="abile"
self="SELF_A_x_pred_post"
construction="a-ppa">


<Construction
id="a-ppa"
syntlabel="AP">
<InstantiatedPositionC
        range="0"
        optional="NOO"
        positionc="P_appcomp_ppa"></Construction>
```

iii) Impersonal constructions

In impersonal constructions, there is no overt controller of the clause subject. Adjectives entering in structures such as: '*e' opportuno partire'* or *'e' opportuno che tu parta'* are thus described by means of a construction with a unique position occupied either by a bare infinitive clause or a that_clause. In the SELF, a feature indicates that the construction is impersonal, thus implying morphological constraints on the copula.

```
<SynU
id="SYNU_preferibile_A_3"
comment="gradable:no"
example="E' preferibile partire"
naming="preferibile"
description="a-inf0_aclcomp-x_imp"></SynU>


<Description
id="a-inf0_aclcomp-x_imp"
comment="aimpinf"
example="E' preferibile partire"
representativemu="preferibile"
self="SELF_A_x_imp"
```

*construction="**a-inf0_aclcomp**">*

<Construction
*id="**a-inf0_aclcomp**"*
syntlabel="AP">
<InstantiatedPositionC
range="0"
optional="NOO"
positionc="P_aclcomp_inf0"></Construction>

2.2.4 Numerals

The cardinal and ordinal numerals which were extracted from the ILC Italian Reference Corpus on a frequency basis are encoded at syntactic level. Ordinal numerals are described by a unique syntactic description while cardinals have two syntactic descriptions, one accounting for their prototypical syntactic construction, i.e.: *ha diciotto anni' (he is eighteen years old)* and one for the cases in which they acquire somehow a value of ordinal number, e.g.: *'pagina diciotto' (page eighteen).*
All descriptions account for the position of the numeral wrt. the noun, as well as the plural number of the modified noun, in the first construction above.

2.2.5 Adverbs

As for the other PoSs, only the immediate governed context was encoded in the lexical entries of adverbs.
Hence, adverbs which do not subcategorize for any argument have an empty construction while those which require a PP complement will have a one-slot frame. The position encodes the usual information about optionality, function – a generic *advcomp* label – and syntactic realization with the lexical specification of the prepositional phrase intoducer.
In order to encode adverbs, we took into account the following main classes of elements[12] which emerge from a study of Italian adverbs[13], and which differentiate from each other as to their syntactic distribution**:**

- as modifier of adjectives and adverbs, ***intensifier*** adverbs, i.e. *degree*, e.g.: *'molto bello'* and *quantity 'leggermente grande'* are premodifying elements; while they are postposed when used as verb modifiers, e.g.: *'camminare molto', 'pungere leggermente';*
- as modifier of the verbal phrase, and sharing similar syntactic properties wrt. topicalisation and negation, i.e. allowing both, are ***place***, e.g.: *'dentro'* and ***time*** *'domani'* adverbs, as well as ***manner,*** i.e. *resultative 'facilmente'* and *agentive 'timidamente'* and ***will*** *adverbs 'deliberatamente'*. The first two subclasses seem to have more freedom as to the position their elements may occupy in the sentence. However, it should be noted that their position is relevant for the whole sentence meaning.
- as modifier of the sentence, and disallowing both topicalization and negation, are ***epistemic*** *'probabilmente',* ***attitudinal*** *'fortunatamente',* ***event*** *'improvvisamente'* and ***agent-oriented*** '*gentilmente' adverbs* which may occur in any position.
- also as modifier of the sentence, and disallowing both topicalization and negation, are ***speech act***, e.g.: *'francamente'* and ***connective*** *'tuttavia'* and ***modal connective*** *'analogamente'* adverbs which usually occur at the beginning of the sentence. At last, ***viewpoint*** adverbs, e.g. '*politicamente',* modifying sentences and usually occurring at the beginning of the sentence seem to allow topicalization.
- as to ***focus*** adverbs such as *'soltanto',* they modify any constituent.

---

12 It is worth noting that, sometimes, adverbs may be classified two different classes, e.g. in: *'finire completamente; interamente',* the adverb may be seen both as a manner or as an intensifier one.

13 Corazzari, O., Italian Adverbs, MSc thesis, Centre for Computational Linguistics, University of Manchester (UMIST), Manchester, 1996

In the lexical entries of adverbs, features in the SELF encode both the subclass the adverb belongs to and the modified element:

.

```
<SynU
id="SYNU_accuratamente_ADV"
comment="adv0 "
example="lavorare accuratamente"
naming="accuratamente"
description="adv-0-x_man_vp"></SynU>


<Description
id="adv-0-x_man_vp"
comment="adv0"
example="lavorare accuratamente"
representativemu="accuratamente"
self="SELF_ADV_x_man_vp">


<Self
id="SELF_ADV_x_man_vp"
intervconst="I_ADV_x_man_vp">

<IntervConst
id="I_ADV_x_man_vp"
syntagmatl="S_T_ADV_x_man_vp">

<SyntagmaT
id="S_T_ ADV_x_man_vp"
syntlabel="ADV">
<SyntFeatureClosed
        featurename="FUNCT"
        value="MOD">
<SyntFeatureOpen
        featurename="SEMSUBCAT"
        value="MANNER">
<SyntFeatureOpen
        featurename="MODIFYING"
        value="VP"></SyntagmaT>


<SynU
id="SYNU_relativamente_ADV"
comment="adv1 "
example="relativamente a quanto detto ieri..."
naming="relativamente"
description="adv-ppa-x_con_s "></SynU>

<Description
id="adv-ppa-x_con_s"
comment="adv1"
example=" relativamente a quanto detto ieri.."
representativemu="relativamente"
self="SELF_ADV_ x_con_s "
construction="adv-ppa">
```

```
<Self
id="SELF_ADV_ x_con_s"
intervconst="I_ ADV_ x_con_s">

<IntervConst
id=" I_ ADV_ x_con_s "
syntagmatl="S_T_ADV_ x_con_s">

<Construction
id="adv-ppa "
syntlabel="ADV">
<InstantiatedPositionC
        range="0"
        optional="NOO"
        positionc="P_advcomp_ppa"></Construction>


<PositionC
        id="P_advcomp_ppa"
        function="ADVCOMP"
        syntagmacl="S_NT_ppa">

<SyntagmaT
id=" S_T_ADV_ x_con_s"
syntlabel="ADV">
<SyntFeatureClosed
        featurename="FUNCT"
        value="MOD">
<SyntFeatureOpen
        featurename="SEMSUBCAT"
        value="CONNECTIVE">
<SyntFeatureOpen
        featurename="MODIFYING"
        value="S"></SyntagmaT>
```

2.2.6 Grammatical Words

Among the grammatical words which were encoded at morphological level, only those which displayed features syntactically relevant were encoded at syntactic level. For their syntactic encoding, we distinguished a total number of 16 stuctures, 5 for prepositions and 11 for conjunctions. The generic functions 'prepdependent' and 'conjdependent' were used for the complements of prepositions and conjunctions respectively. For prepositions, we took into account both phrasal and clausal complements. As regards subordinative conjunctions, information concerning the mood of the subordinate sentence was provided.

2.3 Integrity Checker

Pending the delivery of the tool, at the beginning of the project, the PAROLE Lexicon Pisa team started to encode lexical entries using a set of Macros designed in such a way as to account for all possible syntactic structures for Italian verbal and non-verbal PoSs. A Conversion procedure was then worked out in order to convert the macro format into an SGML file one, fulfilling the PAROLE DTD requirements. The SGML file was then loaded into AlethGD.

In order to validate the PAROLE lexicon - task which initially was to be performed by the tool - a set of Integrity Checking procedures were worked out in Pisa since the need to control the encoded data bit by bit was strongly felt. Such procedures take as input the SGML file output by AlethGD when running the standard mapper. They are pieces of C code, and work in a UNIX-SUN environment.

A first group of Integrity Checking procedures is intended to check the formal consistency of data with respect to the constraints imposed by the Entity-Relation Model. When performing this task, message errors are given whenever an entity:

- is instantiated twice;
- exists but is never invoked by another entity;
- which does not exist is invoked by another entity;
- is invoked twice from within another entity;

Such 'brute model' procedures are language-independent although they obviously do not apply**,** for the time being**,** to *all* entities which are declared in the PAROLE DTD, but only to those which have been actually used in the encoding of the Italian PAROLE lexicon.

A second group of procedures is intended to check the linguistic consistency of estabilished relations between entities. Such procedures output message errors whenever:

- a morphological unit invokes an inflectional paradigm incompatible with its grammatical category
- a morphological unit invokes a syntactic unit incompatible with its grammatical category
- a syntactic unit invokes a description incompatible with its grammatical category

Such procedures are mainly *ad-hoc* procedures, since they are based on the encoding strategies which have been adopted by the Pisa team. However, a generalization should be feasible.

A third group of Integrity-Checking procedures performs low-level checks in order to verify the consistency of manual encoding. Message errors are given, for instance whenever:

- within a construction, the value of a feature, say the 'optional' one, is wrong compared to what indicated in the construction id.
- in a given sequence of features, one or more of them are omitted

For the sake of reusability of data, on the other hand, a set of procedures is now being set up in order to convert for future use the PAROLE lexicon SGML output, in its final revised version, into the initial, more friendly, macro-format set of entries.

The macro name which is specified in the comment area of each syntactic unit allows the selection of an abstract template of lexical syntactic entry (a macro) which is left unspecified for certain feature values.

Such values are then filled in by automatically acquiring the relevant information about both the subcategorization frame and the entry specific properties which is contained in the description name.

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Appendix - state of validation by the AlethGD tool

N.B.: since the AlethGD tool has not been working in the last 15 days due to a problem with ObjectStore, no new figures can be provided as for syntax. For morphology, figures are unchanged.

General counting array

Nb of Morphological Units	20374
Nb of Simple Morphological Units	20374
Nb of Graphical Morphological Units	20374
Number of simple words inflexion modes	342
Nb of Morphological Units linked with Syntax	9062
Nb of Simple Morphological Units linked with Syntax	9132
Nb of Graphical Morphological Units linked with Syntax	9132
Number of simple words inflexion modes	233
Number of syntactic Units	14932
Number of constructions	935

Grammatical categories for Morphology

Category	**Subcategory**	**Simple Morphological Units**	**Compound Morphological Units**	**Total**	**Example**
ADJECTIVE	QUALI	2930	0	2930	bello
NUMERAL	CARDINAL	48	0	48	due
NUMERAL	ORDINAL	13	0	13	secondo
ADPOSITION	PREPOSITION	143	0	143	a
ADVERB	MODAL	481	0	481	abbondantemente
ADVERB	NONMODAL	82	0	82	abbastanza
ARTICLE	INDEFINITE	2	0	2	uno
ARTICLE	DEFINITE	6	0	6	gli
CONJUNCTION	COORDINATIVE	26	0	26	quindi
CONJUNCTION	SUBORDINATIVE	75	0	75	affinche'
DETERMINER	DEMONSTRATIVE	6	0	6	codesto
DETERMINER	POSSESSIVE	9	0	9	altrui
DETERMINER	INTERROGATIVE	2	0	2	che
DETERMINER	EXCLAMATIVE	2	0	2	che
DETERMINER	RELATIVE	2	0	2	quale
DETERMINER	INDEFINITE	68	0	68	alcuno
INTERJECTION	WITHOUTSC	142	0	142	accidenti
NOUN	COMMON	12573	0	12573	abate
NOUN	PROPER	408	0	408	roma

Category	Subcategory	Simple Morphological Units	Compound Morphological Units	Total	Example
PRONOUN	DEMONSTRATIVE	19	0	19	cio'
PRONOUN	POSSESSIVE	6	0	6	loro
PRONOUN	INTERROGATIVE	2	0	2	che
PRONOUN	EXCLAMATIVE	1	0	1	quanto
PRONOUN	PERSONAL	32	0	32	ce
PRONOUN	RELATIVE	5	0	5	che
PRONOUN	INDEFINITE	39	0	39	alcunche'
VERB	WITHOUTSC	3090	0	3090	abbagliare

Grammatical categories for Syntax

Category	Subcategory
NOUN	COMMON
NOUN	PROPER
VERB	MAIN
VERB	AUX
VERB	COPULA
VERB	MODAL
VERB	REFLEXIVE
VERB	RECIPROCAL
VERB	PRONOMINAL
VERB	IMPERSONAL
ADJECTIVE	QUALI
NUMERAL	CARDINAL
NUMERAL	ORDINAL
ADPOSITION	PREPOSITION
ADVERB	WITHOUTSC
CONJUNCTION	COORDINATIVE
CONJUNCTION	SUBORDINATIVE

Full counting array

Morphological layer

Object type	Number of occurences
Simple Morphological Units	20374
Graphical Morphological Units	20374
Simple Inflection Modes	342
Comb MF	84
dico_Trait_M	179
categories	13
Subcategories.	19
dico_Statut	5
dico_Separg.	10
dico_Separp	7
typeshort	4

Syntactic layer

(Figures in the tables below were derived from the SGML file)

Verbs

Object type	Number of occurences
Syntactic Units	7457
Descriptions	776
Selfs	24
IntervConsts	24
Constructions	671
Positionc	298
Syntagma_T	24
Syntagma_NT_C	69
Lex Features	18
Closed Synt. Features	11
Open Synt. Features	2
Aux Features	2
Functions	8

Nouns

Object type	Number of occurences
Syntactic Units	16738
Descriptions	214
Selfs	9
IntervConsts	6
Constructions	163
Positionc	83
Syntagma_T	6
Syntagma_NT_C	40
Lex Features	17
Closed Synt. Features	7
Open Synt. Features	1
Functions	2

Adjectives

Object type	Number of occurences
Syntactic Units	4227
Descriptions	84
Selfs	12
IntervConsts	12
Constructions	37
Positionc	25
Syntagma_T	12
Syntagma_NT_C	24
Lex Features	10
Closed Synt. Features	8
Open Synt. Features	2
Functions	4

Adverbs

Object type	Number of occurences
Syntactic Units	686
Descriptions	22
Selfs	16
IntervConsts	16
Constructions	3
Positionc	3
Syntagma_T	16
Syntagma_NT_C	3
Lex Features	3
Closed Synt. Features	1
Open Synt. Features	18
Functions	1

Prepositions and conjunctions

Object type	Number of occurences
Syntactic Units	162
Descriptions	19
Selfs	2
IntervConsts	3
Constructions	16
Positionc	16
Syntagma_T	3
Syntagma_NT_C	10
Lex Features	1
Closed Synt. Features	7
Functions	2

Numerals

Object type	Number of occurences
Syntactic Units	109
Descriptions	3
Selfs	2
IntervConsts	2
Constructions	0
Functions	1

List of labels of syntactic constructions for verbs

i-clauscomp_infa[s]{r}-xa_asp
i-clauscomp_infa[s]{r}-xe_asp
i-clauscomp_infcon[s]{r}-xa_asp
i-clauscomp_infdi[s]{r}-xa_asp
i-clauscomp_infper[s]{r}-xa_asp
i-clauscomp_infper[s]{r}-xe_asp
i<thsub/inf0>-ind)-atts_ap-xe_cop
i<thsub/inf0>-ind-atts_ap/np-xe_cop
i-ind)-atts_ap/np-xe_cop
i-ind)-atts_ppcome,da-xe_cop
i-ind-atts_ppda-xa_cop
t<thsub/inf0>-atto_ap-xa
t-atto_ap/np*/ppdi-xa
t-atto_ap/np*-xa
t-atto_ap/np/ppcome-xa
t-atto_ap/np/ppin-xa
t-atto_ap/np-xa
t-atto_ap/ppcome-xa
t-atto_ap/ppin-xa
t-atto_ap-xa
t-atto_np*)-xa
t-atto_np*/ppcome*-xa
t-atto_np*/ppper-xa
t-atto_np*-xa
t-atto_np-xa
t-atto_ppa*)-xa
t-atto_ppa*,in*-xa
t-atto_ppa*-xa
t-atto_ppcome*,per*-xa
t-atto_ppcome,in-xa
t-atto_ppcome,per-xa
t-atto_ppcome-xa

t-atto_ppda-xa
t-atto_ppin*-xa
t-atto_ppin-xa
t-atto_ppper-xa
t-atto_np/ppcome-xa
t-atto_ppcome,da-xa
t-atto_ppper*-xa
t-atto_infdaobj[o]-xa
[t]+inf0/thsub[^s]-atto_ap-xa
t)-atto_inf0[o]-xa
t-atto_inf0[o]-xa
i-atts_ap/ppcome-xe_cop
i-atts_ap/ppda*-xa_cop
i-atts_ap/ppdi-xe_cop
i-atts_ppa,in-xe_cop
i-atts_ppcome,da*-xa
i-atts_ppda*,per-xe_cop
i-atts_ppda*-xa_cop
i<inf0>-atts_np-xe_cop
i<thsub/inf0>-atts_ap/np-xe_cop
i<thsub/inf0>-atts_np-xe_cop
i-atts_ap/inf0[s]-xe_cop
i-atts_ap/np/thind/inf0,di-xe_cop
i-atts_infa[s]-xe_cop
i-atts_infda-xe_cop
i-atts_np/thind/inf0-xa_cop
i-atts_advp/ap/np-xe_cop
i-atts_advp/ap-xe_cop
i-atts_ap/np*-xe_cop
i-atts_ap-xa/xe_cop
i-atts_ap-xe_cop
i-atts_np*-xe_cop
i-atts_np-xe_cop
V_AUX_avere
V_AUX_essere
i0<clauscomp_np/thsub/inf0>-x0_imp
i0<clauscomp_thsub/inf0>-x0_imp
i0<clauscomp_thsub/inf0>-xe_imp
i0-ind)-ppdi,per/thsub[^i]/infdi[i] -xe_imp
i0-ind)-thsub[^i]/inf0[i]-xe_imp
i0-ind)-thsub[^i]/infdi[i]-xe_imp
i0-ind-thsub[^i]/infdi[i]-xe_imp
i0<clauscomp_inf0>-x0_imp
i0<clauscomp_inf0>-xe_imp
i0-clauscomp_infa-xa_imp
i0-clauscomp_infcon-xa_imp
i0-clauscomp_infdi-xa_imp

i0-clauscomp_infper-xa_imp
i0<clauscomp_thsub>-xe_imp
i0<thind>-ppda-xe_imp
i-x0
i0-xa/xe_imp
i-xa
i-xa/xe
i-xe
i_pl-x0
i_pl-xa
i_pl-xe
i-adj_ppda)-adj_ppa,verso-xe
i-adj_ppda)-adj_ppa-x0
i-adj_ppda)-adj_ppper)-xe
i-adj_ppda-adj_ppa,verso)-xe
i-adj_ppda-adj_ppa-xe
i-ind)-ppdi-xa
i-ppa-ppcon-xe
i-ppcon)-ppcontro-xa
i-ppcon)-ppdi-xa
i-ppcon-ppper)-xa
i-ppcon-ppsu)-xa
i-ppper)-adj_ppdi*-xa
i-ppa-ppcon)-xa
i-ppa)-ppcon-xa
i-ppcon)-ppsu)-xa
i-ppcon-ppdi)-xa
i-adj_ppda)-adj_ppa-ppcon,in)-xe
i-adj_advp)-xa
i-adj_advp)-xa/xe
i-adj_advp)-xe
i-adj_advp/np-x0
i-adj_advp/np-xe
i-adj_advp/ppa)-xa
i-adj_advp/ppa)-xa/xe
i-adj_advp/ppa)-xe
i-adj_advp/ppa,di,in-xe
i-adj_advp/ppa,in-xe
i-adj_advp/ppcon-xa
i-adj_advp/ppin)-xe
i-adj_advp/ppin-xe
i-adj_advp/ppper)-xa/xe
i-adj_advp/ppsu-xe
i-adj_advp-x0
i-adj_advp-xa
i-adj_advp-xe
i-adj_infper-xe

i-adj_np-xa
i-adj_np-xe
i-adj_ppa)-xa
i-adj_ppa)-xe
i-adj_ppa*,con,in*)-xe
i-adj_ppa*,in*)-xa
i-adj_ppa*,in*,su-xe
i-adj_ppa*,in,su-xe
i-adj_ppa*,verso-xa
i-adj_ppa*-xa
i-adj_ppa,con,in-xe
i-adj_ppa,da-xe
i-adj_ppa,di)-xa/xe
i-adj_ppa,in)-xa
i-adj_ppa,in)-xe
i-adj_ppa,in*)-xa
i-adj_ppa,in,su-xe
i-adj_ppa,in-xa
i-adj_ppa,in-xe
i-adj_ppa,verso)-xa
i-adj_ppa,verso)-xe
i-adj_ppa,verso-xa
i-adj_ppa-x0
i-adj_ppa-xa/xe
i-adj_ppa-xe
i-adj_ppcontro)-xa
i-adj_ppcon-xa
i-adj_ppcon-xe
i-adj_ppda)-xa
i-adj_ppda)-xa/xe
i-adj_ppda)-xe
i-adj_ppda,di*)-xe
i-adj_ppda,di*,per)-xa
i-adj_ppda,di*,per)-xe
i-adj_ppda,di*-xe
i-adj_ppda-xa
i-adj_ppda-xe
i-adj_ppdi)-xa
i-adj_ppdi*)-xe
i-adj_ppdi*,in*-xe
i-adj_ppdi*-x0
i-adj_ppdi*-xa
i-adj_ppdi*-xe
i-adj_ppdi-xa
i-adj_ppin)-x0
i-adj_ppin)-xa
i-adj_ppin)-xe

i-adj_ppin*)-xa
i-adj_ppin*)-xe
i-adj_ppin*-xa
i-adj_ppin,su)-xa
i-adj_ppin,su)-xe
i-adj_ppin,su-xa
i-adj_ppin,su-xe
i-adj_ppin,tra-xa
i-adj_ppin,tra-xa/xe
i-adj_ppintornoa)-xa
i-adj_ppintornoa-xa
i-adj_ppin-x0
i-adj_ppin-xa
i-adj_ppin-xa/xe
i-adj_ppin-xe
i-adj_ppper)-xa
i-adj_ppper)-xe
i-adj_ppper*-xa
i-adj_ppper-x0
i-adj_ppper-xa
i-adj_ppper-xe
i-adj_ppsotto-xa
i-adj_ppsu)-xa
i-adj_ppsu)-xa/xe
i-adj_ppsu)-xe
i-adj_ppsu-xa
i-adj_ppsu-xa/xe
i-adj_ppsu-xe
i-adj_pptra)-xa
i-adj_ppverso)-xa
i-adj_ppverso)-xe
i-adj_ppverso-xa
i-adj_ppcontro,per,su-xa
i-adj_ppin*-xe
i-adj_ppa*,verso)-x0
i-adj_ppda-x0
i-adj_ppsu)-x0
i-adj_ppa*-xe
i-adj_ppa,verso-xe
i-adj_ppin)-xa/xe
i-clauscomp_ger[s]-x0
i-ind)-xa
i-ind)-xe
i-ind-x0
i-ind-xa
i-ind-xa/xe
i-ind-xe

i-ind-adj_advp-xe
i-ind-adj_ppdi*-xe
i-ind-adj_ppin-xe
i-ind-adj_ppper)-xa
i-ind-adj_ppsu-xa/xe
i-ind)-ppdi*-xa
i-adj_ppa-xa
i-ppa)-xa
i-ppa,in-xa
i-ppafavoredi,contro-xa
i-ppa-x0
i-ppa-xa
i-ppa-xa/xe
i-ppa-xe
i-ppcon)-xa
i-ppcon,contro)-xa
i-ppcontro)-xa
i-ppcontro)-xe
i-ppcontro,per)-xa
i-ppcontro-xa
i-ppcon-xe
i-ppda)-xa
i-ppda)-xe
i-ppda,di*,per)-xa
i-ppda-x0
i-ppda-xa
i-ppda-xe
i-ppdi*)-xa
i-ppdi*-xa
i-ppdi,su)-xa
i-ppdi-x0
i-ppdi-xe
i-ppin)-xa
i-ppin)-xe
i-ppin*-xa
i-ppin-xa
i-ppin-xa/xe
i-ppin-xe
i-ppper)-xa
i-ppper-xa
i-ppper-xa/xe
i-ppsu)-xa
i-ppsu-x0
i-ppsu-xa
i-ppsu-xa/xe
i-ppsu-xe
i-pptra-x0

i-pptra-xa
i-pptra-xe
i-ppdi-xa
i-ppcon-xa
i-ppcon-xa/xe
i-ppa)-xe
i-ppin)-xa/xe
i-ppcon)-adj_infper[s]/ppper)-xa
i-ppcon)-adj_infper[s]/ppper-xa
i-ppcon-adj_advp-xe
i-ppcon-adj_infper[s]/ppper)-x0
i-ppcon-adj_infper[s]/ppper)-xa
i-ppcon-adj_ppin*)-xa
i-ppdi-adj_advp-xa
i-ppsu)-adj_infper[s]-xa
i-ppsu-adj_advp-xa
i-ppcontro)-adj_infper[s]/ppper)-xa
i<inf0[i]>-ind-xa
i<inf0[i]>-ind-xe
i<infda[i]>-ind-xe
i<thsub/inf0[i]>-ind-x0
i<thsub/inf0[i]>-ind-xa
i<thsub/inf0[i]>-ind-xe
i<infdi[i]>-ind-xe
i-inf0[s]-xa
i-infa[s])-xa
i-infa[s]-xa
i-infa[s]-xe
i-infdi[s]-x0
i-infdi[s]-xa
i-infin[s]-xe
i-infper[s]-xa
i<thsub/inf0[s]>-infa[s]-xa
i-ind)-ppdi/infdi[s]-xa
i-ppcon)-ppsu/infa)-xa
i-ind)-ppdi/infdi)-xa
i-ppcon-ppdi/infdi)-xa
m-clauscomp_infda[s]-x_mod
m-clauscomp_infdi[s]-x_mod
m-clauscomp_inf0[s]{r}-x_mod
ip-clauscomp_infa[s]{r}-x0_asp_pro
ip-xe_pro
ip-adj_ppda)-adj_ppa)-xe_pro
ip-adj_ppda-adj_ppa-xe_pro
ip-adj_ppdi*)-ppper)-xe_pro
ip-ind-adj_ppin-xe_pro
ip-ppa-adj_ppper)-xe_pro

ip-ppcon)-adj_ppper/infper[s]-xe_pro
ip-ppcon)-adj_ppper/infper-xe_pro
ip-ppcon)-adj_ppper-xe_pro
ip-ppcon,contro)-adj_ppper)-xe_pro
ip-ppcon-adj_ppin*)-xe_pro
ip-ppcon-adj_ppper/infper)-xe_pro
ip-ppin)-adj_ppsu)-xe_pro
ip-adj_ppda)-adj_ppa-ppcon,in)-xe
ip-adj_advp)-xe_pro
ip-adj_advp/ppa)-xe_pro
ip-adj_advp/ppa,in-xe_pro
ip-adj_advp/ppa,per)-xe_pro
ip-adj_advp/ppcon-xe_pro
ip-adj_advp/ppda-xe_pro
ip-adj_advp/ppin)-xe_pro
ip-adj_advp/ppin-xe_pro
ip-adj_advp/ppper)-xe_pro
ip-adj_advp/pptra)-xe_pro
ip-adj_advp/ppverso)-xe_pro
ip-adj_advp-xe_pro
ip-adj_ppa)-xe_pro
ip-adj_ppa*,in-xe_pro
ip-adj_ppa*,verso*-xe_pro
ip-adj_ppa*-xe_pro
ip-adj_ppa,in)-xe_pro
ip-adj_ppa,in,su-xe_pro
ip-adj_ppa,in-xe_pro
ip-adj_ppa,verso)-xe_pro
ip-adj_ppa,verso-xe_pro
ip-adj_ppa-xe_pro
ip-adj_ppcontro-xe_pro
ip-adj_ppcon-xe_pro
ip-adj_ppda)-xe_pro
ip-adj_ppda*,in*-xe_pro
ip-adj_ppda-xe_pro
ip-adj_ppdi*)-xe_pro
ip-adj_ppdi*-xe_pro
ip-adj_ppdietro)-xe_pro
ip-adj_ppdietro-xe_pro
ip-adj_ppin)-xe_pro
ip-adj_ppin*-xe_pro
ip-adj_ppin,a-xe_pro
ip-adj_ppin,intornoa-xe_pro
ip-adj_ppin,sotto-xe_pro
ip-adj_ppin,su)-xe_pro
ip-adj_ppin,su-xe_pro
ip-adj_ppin,tra)-xe_pro

ip-adj_ppin-xe_pro
ip-adj_ppper)-xe_pro
ip-adj_ppper-xe_pro
ip-adj_ppsu)-xe_pro
ip-adj_ppsu,verso)-xe_pro
ip-adj_ppsu-xe_pro
ip-adj_pptra-xe_pro
ip-adj_ppverso)-xe_pro
ip-adj_ppverso-xe_pro
ip-adj_ppa,in,verso-xe_pro
ip-adj_ppin,per,su-xe_pro
ip-adj_ppcon)-xe_pro
ip-atts_ppa*-xe_pro
ip-atts_ppcome*-xe_pro
ip-atts_ppcome,da*-xe_pro
ip-atts_ppcome-xe_pro
ip<inf0>-atts_ap/np-xe_pro
ip-atts_ap/np*-xe_pro
ip-atts_ap/np-xe_pro
ip-atts_ap-xe_pro
ip-atts_np*-xe_pro
ip-ind)-xe_pro
ip-ind-xe_pro
ip-ppa)-xe_pro
ip-ppa,contro-xe_pro
ip-ppa-xe_pro
ip-ppcon)-xe_pro
ip-ppcon,tra-xe_pro
ip-ppcontro)-xe_pro
ip-ppcontro-xe_pro
ip-ppda)-xe_pro
ip-ppda-xe_pro
ip-ppdi)-xe_pro
ip-ppdi*)-xe_pro
ip-ppdi*-xe_pro
ip-ppdi,per)-xe_pro
ip-ppdi-xe_pro
ip-ppin)-xe_pro
ip-ppin*)-xe_pro
ip-ppin*-xe_pro
ip-ppin,su)-xe_pro
ip-ppin,su-xe_pro
ip-ppin-xe_pro
ip-ppsu)-xe_pro
ip-ppsu-xe_pro
ip-pptra-xe_pro
ip-ppverso-xe_pro

t-ppsu)-xe_pro
ip-ppcon,contro)-xe_pro
ip-ppcon-xe_pro
ip-ppa,con-xe_pro
ip-ppdi/thind[^s]/infdi[s]-xe_pro
ip-ppdi/thsub[^s]/infdi[s])-xe_pro
ip-ppdi/thsub[^s]/infdi[s]-xe_pro
ip-ppsu/thsub[^s]/infdi[s]-xe_pro
ip<thsub/inf0>-ind-xe_pro
ip<thsub/inf0>-ppcon-xe_pro
ip-adj_infa,per[s])-xe_pro
ip-adj_ppa/infa[s])-xe_pro
ip-adj_ppdi,per/infa[s]-xe_pro
ip-adj_ppdi,per/infdi,per[s])-xe_pro
ip-adj_ppper/infa,per[s]-xe_pro
ip-adj_ppper/infa[s]-xe_pro
ip-adj_ppper/infdi,per[s]-xe_pro
ip-adj_ppper/infper[s]-xe_pro
ip-infa[s])-xe_pro
ip-infa[s]-xe_pro
ip-infdi[s])-xe_pro
ip-infdi[s]-xe_pro
ip-infper[s]-xe_pro
ip-ppa/infa[s])-xe_pro
ip-ppa/infa[s]-xe_pro
ip-ppda/infda[s])-xe_pro
ip-ppdi/infa,di[s])-xe_pro
ip-ppdi/infa[s]-xe_pro
ip-ppdi/infdi[s]-xe_pro
ip-ppdi/thind/infdi[s]-xe_pro
ip-ppdi-adj_ppper/infper[s])-xe_pro
ip-ppin,per/infa[s]-xe_pro
ip-ppin/infa[s]-xe_pro
ip-ppper/infa[s]-xe_pro
tp+infda[s]-xe_pro
tp+infdi[s]/thcond-xe_pro
tp+infdi[s]-xe_pro
tp-xe_pro
i-ind)-clauscomp_inf0[s]{r}-xe
i-clauscomp_inf0[s]{r}-xe
rr-xe_rec
rr-adj_advp/ppa,in-xe_rec
rr-adj_advp-xe_rec
rr-adj_ppdi*-xe_rec
rr-adj_ppin-xe_rec
rr-atts_ppcome,in-xe-rec
rr-np-xe_rec

rr-ppsu)-xe_rec
rr-ppsu)-xe_rec
<r>+infdi[i]/thsub[^i]-xe
<r>+infdi[i]-xe
r-xa
r-xe
r-ind)-xe
r-ind-xe
r-adj_advp/ppin)-xe
r-adj_advp/ppin-xe
r-adj_advp-xe
r-adj_ppa, in)-xe
r-adj_ppa,in)-xe
r-adj_ppa,in-xe
r-adj_ppa-xe
r-adj_ppcontro-xe
r-adj_ppda)-xe
r-adj_ppda,di*-xe
r-adj_ppda,in)-xe
r-adj_ppda-xe
r-adj_ppdietro,in)-xe
r-adj_ppin)-xe
r-adj_ppin*-xe
r-adj_ppin,su-xe
r-adj_ppin,tra-xe
r-adj_ppin-xe
r-adj_ppper)-xe
r-adj_ppsu)-xe
r-adj_ppsu-xe
r-adj_ppverso-xe
r-adj_ppa,con)-xe
<r>-xe
<r>-adj_ppda)-xe
<r>-adj_ppdi*-xe
<r>-adj_ppsu)-xe
<r>-ppcon)-xe
<r>-ppdi*)-xe
<r>-ppdi*-xe
r-ppa)-xe_ref
r-ppa,con-xe_ref
r-ppa,di*-xe_ref
r-ppa-xe_ref
r-ppcon)-xe_ref
r-ppcon,di*)-xe_ref
r-ppcon,in-xe_ref
r-ppcontro)-xe_ref
r-ppcontro,da)-xe_ref

r-ppcon-xe_ref
r-ppda)-xe_ref
r-ppda)-xe_ref
r-ppda)-xe_ref
r-ppda*)-xe_ref
r-ppda-xe_ref
r-ppdi)-xe_ref
r-ppdi*)-xe_ref
r-ppdi*-xe_ref
r-ppdi-xe_ref
r-ppin)-xe_ref
r-ppin*)-xe_ref
r-ppin-xe_ref
r-ppper)-xe_ref
r-ppsu)-xe_ref
r-ppsu-xe_ref
r-infa[o]-xe_ref
r-ppa,in/infa[o]-xe_ref
r-ppa,per/infa,per[o]-xe_ref
r-ppa/infa[o]-xe_ref
r-ppdi,per/infdi,per[o]-xe_ref
r-ppdi/infa[o]-xe_ref
r-ppdi/infdi[o]-xe_ref
r-ppin/infa[o])-xe_ref
r-ppa/infa[s]-xe_ref
t)-xa
t)-xa_pasno
t*)-xa_pasno
t*-xa
t*-xa_pasno
t-xa
t-xa_pasno
t*_pl-xa
t_pl-xa
t)-adj_ppda)-adj_ppa)-xa
t-adj_ppda)-adj_ppa)-xa
t-ind)-adj_ppa*,per*)-xa
t-ind)-adj_ppsu)-xa
t-ind-adj_ppda)-xa
t-ind-adj_ppdi*-xa
t-ind-adj_ppin-xa
t-ind-adj_ppsu)-xa
t-ind-atto_ap/np-xa
t-ind-adj_ppcon,di*-xa
t-ind)-adj_ppdi*-xa
t-ppdi-ppin-xa
t-ind-adj_ppda)-xe

t-ind-adj_ppin)-xa
t-ppdi)-adj_ppcon-xa
r-adj_ppper)-xa
t)-adj_ppa*,in*-xa
t)-adj_ppattraverso-xa
t)-adj_ppa-xa
t)-adj_ppcon-xa
t)-adj_ppda-xa
t)-adj_ppsu-xa
t-adj_advp)-xa
t-adj_advp/ppa*)-xa
t-adj_advp/ppa*,in*)-xa
t-adj_advp/ppa-xa
t-adj_advp/ppin)-xa
t-adj_advp/ppin,su)-xa
t-adj_advp/ppin-xa
t-adj_advp/ppper)-xa
t-adj_advp-xa
t-adj_ppa)-xa
t-adj_ppa*,ad*)-xa
t-adj_ppa*,in)-xa
t-adj_ppa*,in*)-xa
t-adj_ppa*,in*,verso*)-xa
t-adj_ppa*,in*-xa
t-adj_ppa*,su)-xa
t-adj_ppa*,su-xa
t-adj_ppa*-xa
t-adj_ppa,da-xa
t-adj_ppa,in)-xa
t-adj_ppa,in*-xa
t-adj_ppa,in,su)-xa
t-adj_ppa,in,su-xa
t-adj_ppa,in-xa
t-adj_ppa,presso-xa
t-adj_ppa,su)-xa
t-adj_ppa,verso-xa
t-adj_ppa-xa
t-adj_ppcon)-xa
t-adj_ppcontro, verso)-xa
t-adj_ppcontro,in-xa
t-adj_ppcontro,su)-xa
t-adj_ppcontro,verso-xa
t-adj_ppcon-xa
t-adj_ppda)-xa
t-adj_ppda,di)-xa
t-adj_ppda,in)-xa
t-adj_ppdavanti,in)-xa

t-adj_ppdavanti,in,su-xa
t-adj_ppda-xa
t-adj_ppdi)-xa
t-adj_ppdi*-xa
t-adj_ppin)-xa
t-adj_ppin*)-xa
t-adj_ppin*,per*-xa
t-adj_ppin*,su)-xa
t-adj_ppin*,verso*)-xa
t-adj_ppin*-xa
t-adj_ppin,per)-xa
t-adj_ppin,per,su-xa
t-adj_ppin,per-xa
t-adj_ppin,presso-xa
t-adj_ppin,presso-xa_pasno
t-adj_ppin,sotto)-xa
t-adj_ppin,sotto,su)-xa
t-adj_ppin,su)-xa
t-adj_ppin,su-xa
t-adj_ppin,su-xa_pasno
t-adj_ppin,su-xe
t-adj_ppin,tra-xa
t-adj_ppintornoa)-xa
t-adj_ppin-xa
t-adj_ppper)-xa
t-adj_ppper-xa
t-adj_ppsu)-xa
t-adj_ppsu,verso)-xa
t-adj_ppverso)-xa
t-adj_ppverso-xa
t-adj_ppsu-xa
t-adj_ppper,su)-xa
t-adj_ppa,con-xa
t-adj_ppin,tra)-xa
t-clauscomp_inf0-ind)-xa_caus
t-clauscomp_inf0[^s]-xa_caus
[t]+infda[s]-xa
[t]+infdi[s]-xa
[t]+thind,sub[^s]/infdi[s]-xa
t)+thind/infdi[s]-xa
t)+thsub/infdi[s]-xa
t)+thsub[^s]/infdi[s]-xa
t+thind/infa,di[s]-xa
t+thind/infdi[s]-xa
t+thsub/infdi[s]-xa
t+thind/infdi[s]-ppcon)-xa
t+thind/infdi[s]-ppsu)-xa

t+thsub/infdi[s]-ppda)-xa
t)-ind)-xa
t)-ind-xa
t*-ind-xa
t*-ind-xa_pasno
t-ind)-xa
t-ind-xa
t-ind-xa_pasno
t)+inf0[s]-xa
t)+infa[s]-xa
t)+infdi[s]-xa
t+inf0[s]-xa
t+infa[s]-xa
t+infdi[s]-xa
t)+thind[^i]/infa[i]-ind)-xa
t+infdi[i]-ind)-xa
t+infdi[i]-ind-xa
t+thind/infdi[i]-ind)-xa
t+thind/infdi[i]-ind-xa
t+thsub/infdi[i]-ind)-xa
t+thsub/infdi[i]-ind-xa
t+thsub[^i]/infdi[i]-ind)-xa
t)-ppa-xa
t)-ppcontro-xa
t)-ppcon-xa
t)-ppsu)-xa
t)-pptra-xa
t*-ppper-xa_pasno
t*-ppsu)-xa
t-ppa)-xa
t-ppa*)-xa
t-ppa*-xa
t-ppa,contro-xa
t-ppa,di*-xa
t-ppa,in)-xa
t-ppa,in-xa
t-ppa,per-xa
t-ppa-xa
t-ppcon)-xa
t-ppcon,di)-xa
t-ppcon,di*)-xa
t-ppcon,in)-xa
t-ppcontro)-xa
t-ppcontro-xa
t-ppcon-xa
t-ppda)-xa
t-ppda)-xa_pasno

t-ppda*)-xa
t-ppda-xa
t-ppdi -xa
t-ppdi)-xa
t-ppdi*)-xa
t-ppdi*-xa
t-ppdi-xa
t-ppin)-xa
t-ppin*)-xa
t-ppin*-xa
t-ppin,su)-xa
t-ppin,su-xa
t-ppin-xa
t-ppin-xa_pasno
t-ppper)-xa
t-ppper,su)-xa
t-ppper-xa
t-ppper-xa_pasno
t-ppsu)-xa
t-ppsu,con-xa
t-pptra)-xa
t-pptra-xa
t-ppa,con-xa
t-ppcon,di-xa
t-ppsu-xa
t-ppa,con-xe
t-ppcon,di*-xa
t-infa[o])-xa
t-infa[o]-xa
t-infda[o]-xa
t-infdi[o]-xa
t-ppdi/thind/infdi[o])-xa
t-ppdi/thind-xa
t-ppdi/thsub/infdi[o])-xa
t-ppper/infa[o]-xa
t-ppa/infa[o]-xa
t-ppdi/infdi[s])-xa
t-ppdi/infdi[s]-xa
t-ppdi/thind)-xa
[t]+thind-xa
t)+thind-xa
t+thind-xa
t)-ppa/infa[o]-xa
t-ppa,in/infa[o]-xa
t-ppa/infa[o])-xa
t-ppda/infa[o]-xa
t-ppda/infda[o]-xa

t-ppdi/infa[o]-xa
t-ppdi/infdi[o])-xa
t-ppdi/infdi[o]-xa
t)<thsub/inf0>-xa
t<thsub/inf0>-x0_pasno
t<thsub/inf0>-xa
t<thsub>-xa
t<thsub/inf0> -xa
t<thsub/inf0>+infdi[i]-ind-xa
t<thsub/inf0>+thind/infdi[i]-ind)-xa
t<thsub/inf0>+thind-ind)-xa
t<thsub/inf0>-ind-xa
t<thsub/inf0>-ppa-xa
t<thsub/inf0>-ppdi-xa
t<thsub/inf0>-ppin-xa
t+infdi[s]-ind)-xa
t+thind/infdi[s]-ind)-xa
t+thind/infdi[s]-ppda)-xa

List of labels of syntactic constructions for nouns

n-0-x_c
n-0-x_c_pl
n-0-x_m
n-0-x_pr
n-0-x_pr_pl
n-app_ap)-x_c
n-app_ap/np)-x_c
n-app_ap/ppdi)-x_c
n-app_np)-x_c
n-app_np/ap/ppdi)-x_c
n-app_np/ppdi)-x_c
n-app_np/ppdi*)-x_c
n-app_ppdi)-x_c
n-ppdi)-infdi[s])-x_c
n-ppdi)-infdi[s])-x_m
n-ppdi)-ppa)-x_c
n-ppdi)-ppa)-x_m
n-ppdi)-ppa/infa[s])-x_m
n-ppdi)-ppa/infdi[s])-x_m
n-ppdi)-ppcontro)-x_c
n-ppdi)-ppdi/infdi[s]-x_m
n-ppdi)-ppdi/thind,sub/infdi[s])-x_m
n-ppdi)-ppdi/thsub/infdi[s])-x_m
n-ppdi)-ppin)-x_m
n-ppdi)-ppper)-x_m
n-ppdi)-ppsu)-x_m
n-ppdi)-ppverso)-x_c
n-ppdi)-ppverso)-x_m
n-ppdi)-x_c
n-ppdi)-x_c_pl
n-ppdi)-x_m

n-ppdi*)-x_c
n-ppdi*)-x_m
n-ppdi*-x_c
n-ppdi*-x_c_pl
n-ppdi*-x_m
n-ppdi*_pl)-x_c
n-ppdi*_pl-x_c
n-ppdi-x_c
n-ppdi-x_c_pl
n-ppdi-x_m
n-ppdi_pl)-x_c
n-ppdi_pl)-x_m
n-ppdi_pl-x_c
n-ppdi_pl-x_m
n-ppin-x_m
n-pptra_pl)-x_c
n-pptra_pl)-x_m
nv-0-x_c
nv-0-x_c_pl
nv-0-x_m
nv-0-xnag_c
nv-0-xnobj_c
nv-ppa)-infdi[i]-ppdadi)-x_m
nv-ppa)-ppdadi_subj)-x_m
nv-ppa)-ppdi_subj)-x_m
nv-ppcome)-ppdi_subj)-x_m
nv-ppcon)-ppdi_subj)-x_m
nv-ppda)-ppdi_subj)-x_m
nv-ppdi)-ppdadi_subj)-x_m
nv-ppdi)-ppdi_subj)-x_m
nv-ppdi)-x_c
nv-ppdi)-xnag_c
nv-ppdi,tra_subj_pl)-x_m
nv-ppdi-ppa)-ppdaparte)-x_m
nv-ppdi-ppa-ppdaparte)-x_m
nv-ppdi-ppacausa)-x_m
nv-ppdi-ppcon-ppdaparte)-x_m
nv-ppdi-ppda)-ppacausa)-x_m
nv-ppdi-ppda)-ppdaparte)-x_m
nv-ppdi-ppdaparte)-x_c
nv-ppdi-ppdaparte)-x_m
nv-ppdi-ppin)-ppdaparte)-x_m
nv-ppdi-ppin)-ppdaparte-x_m
nv-ppdi-x_m
nv-ppdi_pl)-x_c
nv-ppdi_pl-ppdaparte)-x_m
nv-ppdi_subj)-x_c
nv-ppdi_subj)-x_m
nv-ppdi_subj-x_m
nv-ppin)-ppdadi_subj)-x_m
nv-ppin)-ppdi_subj)-x_m
nv-ppin)-ppdi_subj-x_m
nv-ppin,su,verso)-ppdi_subj)-x_c
nv-ppin,su-ppdi_subj)-x_m
nv-ppintorno)-ppdi_subj)-x_c
nv-ppsu)-ppdi_subj)-x_m

List of labels of syntactic constructions for adjectives

a-0_pl-x_npred_ng
a-0_pl-x_npred_pre_ng
a-0_pl-x_pred_g
a-0_pl-x_pred_ng
a-0_pl-x_pred_post_g
a-0_pl-x_pred_post_ng
a-0-x_npred_g
a-0-x_npred_ng
a-0-x_npred_post_g
a-0-x_npred_post_ng
a-0-x_npred_pre_g
a-0-x_npred_pre_ng
a-0-x_pred_g
a-0-x_pred_ng
a-0-x_pred_post_g
a-0-x_pred_post_ng
a-0-x_pred_pre_ng
a-ind)-x_pred_g
a-ind)-x_pred_post_g
a-ind-x_pred_post_g
a-ind-x_pred_post_ng
a-inf0_aclcomp-x_imp_g
a-inf0_aclcomp-x_imp_ng
a-infper-x_pred_post_g
a-infper-x_pred_post_ng
a-np-infa[s]-x_pred_post_g
a-np-infa[s]-x_pred_post_ng
a-np-infdaobj[s]-x_pred_post_g
a-np-infdi[s]-x_pred_post_g
a-np-infdi[s]-x_pred_post_ng
a-np-infper[s]-x_pred_post_g
a-np-infper[s]-x_pred_post_ng
a-np-thind[^s]-x_pred_post_ng
a-ppa)-x_pred_post_g
a-ppa)-x_pred_post_ng
a-ppa-x_pred_post_g
a-ppa-x_pred_post_ng
a-ppcon)-x_pred_post_g
a-ppcon)-x_pred_post_ng
a-ppcontro)-x_pred_post_g
a-ppcontro-x_pred_post_g
a-ppcon-x_pred_post_ng
a-ppda)-x_pred_post_g

a-ppda)-x_pred_post_ng
a-ppda-x_pred_post_g
a-ppda-x_pred_post_ng
a-ppdi)-x_pred_post_g
a-ppdi)-x_pred_post_ng
a-ppdi*)-x_pred_post_g
a-ppdi*-x_pred_post_g
a-ppdi*-x_pred_post_ng
a-ppdi-x_pred_post_g
a-ppdi-x_pred_post_ng
a-ppin)-x_pred_post_g
a-ppin)-x_pred_post_ng
a-ppin*)-x_pred_post_ng
a-ppin*-x_pred_post_g
a-ppin-x_pred_post_g
a-ppin-x_pred_post_ng
a-ppper)-x_pred_post_g
a-ppper-x_pred_post_g
a-ppper-x_pred_post_ng
a-ppsu-x_pred_post_g
a-ppsu-x_pred_post_ng
a-ppverso)-x_pred_post_g
a-thind_aclcomp-x_imp_g
a-thsub_aclcomp-x_imp_g
a-thsub_aclcomp-x_imp_ng

List of labels of syntactic constructions for adverbs

adv-0-x_age_s
adv-0-x_att_s
adv-0-x_con_s
adv-ppa-x_con_s
adv-ppda-x_con_s
adv-0-x_epi_s
adv-0-x_eve_s
adv-0-x_foc
adv-0-x_int_adjadv
adv-0-x_int_adj
adv-0-x_int_vp
adv-0-x_man_vp
adv-0-x_neg_s
adv-0-x_plac_vp
adv-0-x_spe_s
adv-0-x_tim_vp
adv-0-x_vie_s
adv-0-x_wil_vp

List of labels of syntactic constructions for cardinal and ordinal numerals

num-0-x_mod_pre_ng
num-0-x_mod_post_ng
num-0_pl-x_mod_pre_ng

List of labels of syntactic constructions for prepositions and conjunctions

adp-inf0/np-x
adp-inf0-x
adp-np*-x
adp-np_pl-x
adp-np-x
conj-inf0,di-xsc
conj-inf0past-xsc
conj-inf0-xcc
conj-inf0-xsc
conj-infa/ger-xsc
conj-thind,sub/inf0-xsc
conj-thind,sub/pastpart-xsc
conj-thind,sub-xsc
conj-thind-xcc
conj-thind-xsc
conj-thsub/ger-xsc
conj-thsub/inf0-xsc
conj-thsub-xsc
conj-thsub-xsc