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Very basic
Grammar of Italian

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0. INTRODUCTION

The version of the Italian Grammar we are referring to in this report is the **Italian grammar v. 0.3**, updated to 31/07/2003.
The version of the Matrix used by the italian grammar v. 0.3 is the most recent **Matrix 0.4**.
Types and rules quoted in this report have been partially modified, in order to stress only their relevant elements, accordingly to the context (not relevant ones are simply omitted).

0.1. SPPP

A short preliminary remark is needed about the integration of the LKB system with a shallow pre-processor. From the first week of March, a protocol (SPPP, "*Simple Pre-Processing Protocol*"), developed by Stephan Oepen interfaces the LKB system and some pre-processing modules (tokenizer, morphological analyzer and POS tagger) provided by Celi - Sophia2.1™:

- the Italian grammar point to an external executable that communicates with the LKB through standard in- and output; as part of the grammar loading, that process is created and connected to a Lisp stream.
- *preprocess-sentence-string*() is extended to use the external engine if **sppp-stream** is non-nil.
- all communication is in XML, the LKB sends a string (one sentence at a time, for now) as an XML document and reads the preprocessor output as another XML document from the stream. Doing XML in both directions, if nothing else, has the advantage of declaring which encoding gets used (the default is UTF-8).
- .user-input. in *parse*() now is a list of morphologically analyzed and POS-tagged tokens; modifying *add-morphs-to-morphs*() for that to work was the only change in the parser proper.

An example of the Sophia-LKB interface is the following (for the sentence "*il letto cigola*", "the bed is squeaking"):

```
→(input to Sophia)
<?xml version="1.0" encoding="utf-8"?>
<text>il letto cigola</text>

← (preprocessing result returned to the LKB)
<?xml version="1.0" encoding="utf-8"?>
<segment>
  <token form="il" from="3" path="1" to="5">
    <analysis cat="ARTICOLO" format="" inflection="MASC_SING"
         probability="1.0" stem="det_art" tag="ARTICOLO"/>
  </token>
  <token form="letto" from="6" path="1" to="11">
    <analysis cat="NOME-MASCHILE" format="" inflection="MASC_SING"
         probability="1.0" stem="letto_nm" tag="NOME-MASC-SING"/>
    <analysis cat="VERBO" format="" inflection="PARTIC_PASSATO_MASC_SING"
         probability="0.0" stem="leggere_v" tag="VERBO-PARTPASS"/>
  </token>
  <token form="cigola" from="12" path="1" to="18">
    <analysis cat="VERBO" format="" inflection="INDIC_PRES_THIRD_SING"
         probability="1.0" stem="cigolare_v" tag="VERBO-FIN"/>
  </token></segment>
```

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Generally:

input is a string (terminated by formfeed)
output is a sequence of tokens with

- **id**: token id (optional; irrelevant, but could be returned later);
- **from**: beginning character position (zero-based);
- **to**: ending character position;
- **form**: actual surface form;
- **path**: identifier of path through lattice (optional; not used yet);
- **format**: surface string properties: InitialCapital, AllLower, UpperAndLower, AllUpper.

each **token** has one or more morphological analyses with:

- **stem**[1]: string used for lexical look-up;
- **inflection**[2]: identifier of inflectional rule;
- **tag**: part of speech (optional; could be used for unknown words);
- **probability**: confidence in POS assignment (optional; not used yet).

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[1] E.g. the **stem** value "*cigolare_v*" correspond to (is the name of) a lexical entry (in the lexicon.tdl file)
      cigolare_v := strict-intrans-verb-le & [STEM.FIRST "cigolare_v"]
[2] In the morph-lrules.tdl file (replacing the old "irules.tdl") the inflectional information of a token is supplied, e.g.
      INDIC_PRES_THIRD_SING_irule := finite-verb-word &
            [SYNSEM.LOCAL [AGR.PNG 3sing,
                        CONT.HOOK.INDEX.E [TENSE pres, MOOD indicative]]].

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1. AGREEMENT

In general, the agreement value is carried out by PNG (for referentials) and AGR (for event). According to a more general strategy, which uses multiple inheritance, agreement values are "calculated" by means of a type hierarchy. Values can be also "underspecified" at various degrees.

The pre-processing stream gives as a result an **inflection** value, pointing to a specific **inflectional rules** (in the "morph-lrules.tdl" file).

Any i-rule inherits from a word-type and contains the agreement information, carried by the PNG/TENSE/MOOD feature

>   **MASC_SING_irule** := word &
>   [SYNSEM #synsem & [
>   LOCAL.CONT.HOOK.INDEX.PNG masc-sing-3rd],
>   ARGS < [SYNSEM #synsem] >].
>
>   **INDIC_PRES_THIRD_SING_irule** := finite-verb-word
>   [SYNSEM.LOCAL [AGR.PNG 3sing,
>   CONT.HOOK.INDEX.E [TENSE pres, MOOD indicative]]].

1.1 PNG Agreement: Determiners and nouns

The noun-lxm constrains the SPR (namely a determiner) and the head-daughter to share the PNG values via CONT.INDEX.PNG path :

>   **noun-lxm** := infl-lxm &
>   [SYNSEM.LOCAL [CAT [HEAD noun,
>   VAL [SPR < synsem &
>   [LOCAL [CONT.HOOK.INDEX.PNG #png]] >]],
>   CONT.HOOK.INDEX [PNG #png]]].

1.2 PNG Agreement: Verbs and nouns (subjects and objects)

The *finite-verb-word* constrains the SUBJ and the head-daughter to share the PNG value via AGR.PNG path :

>   **finite-verb-word** := verb-word &
>   [SYNSEM.LOCAL [CAT [HEAD verb,
>   VAL [SUBJ < synsem-min &
>   [LOCAL [CONT.HOOK.INDEX [PNG #agr]] >]],
>   AGR.PNG #agr]].

As for clitics, the PNG agreement is needed also for accusative pronouns in affixal position and the past participle in past compounded tenses, e.g.:

>   "Gli uomini hanno sempre amato le donne"
>   (Men   have always **loved** women)

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"Gli uomini **le** [femm] hanno sempre **amate** [femm]"
(Men   **them**   have always **loved**)

* "Gli uomini **le** [femm] hanno sempre **amato** [masc]"
* (Men   **them**   have always **loved**)

The PNG value of the clitic's host-verb has to match with the (accusative) clitic's one, and that's carried out by the PSTP feature (see section on clitics).

1.3 PNG Agreement: Adjectives and nouns (modified)

The *adj-lxm* constrains the MOD (namely a noun) and the head-daughter to share the INDEX values via CONT.HOOK.INDEX path :

adj-lxm := infl-lxm &
[SYNSEM.LOCAL [CAT.HEAD adj & [MOD < synsem & [
                                                LOCAL.CONT.HOOK.INDEX #index] >]],
                  CONT. HOOK.INDEX #index]].

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2. SELECTION CRITERIA

In this section are commented the criteria for selecting:

- the right auxiliaire type for a given verb and
- the right category for the arguments of a given verb [included predicative structures] (categorial selection);
- the right preposition form for an argument of a given verb and
- the right complementizer for a strongly selected clausal argument (syntactic strong argumental selection);

The mechanism of selection works at the LOCAL.CAT.VAL level (for verb arguments [prepositionals, complementizers, nominal, predicative]; see "letypes.tdl" and "categories.tdl").

2.1 Auxiliaire selection

As far as it concerns the auxiliaire selection in composing "aux+verb" verbal complex, at the VERB level two features are entailed, expressely AUX (distinguishing between auxiliaires and other verbs) and ERG (for distinguishing ergative verbs).

In italian language, while all **passive** forms selects the "essere" auxiliaire, in the **active** form we have to choice between two "tensal" auxiliaire: "essere" or "avere". We have three different cases:

- i)   all verbs with the ERG value "-" select the "avere" auxiliaire (e.g. "mordere" (bite), "lottare" (fight));
- ii)   all verbs with the ERG value "+" select the "essere" auxiliaire (e.g. "morire" (die) or reflexives forms like "muoversi" (move oneself);
- iii)   all verbs with the ERG value underspecified (*bool*) can select both the "essere" and the "avere" auxiliaire (e.g. "bruciare" (burn), "cuocere" (cook))

Consequently, is ungrammatical a sentence like:

   * "Il cane E' morso il postino" (The dog IS bitten the postman)

Unfortunately, this assumpt partially contrasts with the case of "SI" clitic pronoun (see below, in the clitics section). As a consequence, one can not simply prevent a rule from assigning the ESSERE tensal auxiliaire to these kind of verbs, while a sentence like:

   "il cane SI E' morso" (The dog IS bitten HIMSELF)

is absolutely correct.

The same problem concerns the SI impersonal/subject clitic. A sentence like:
   * "Il cane è ucciso" (The dog is killed)

is clearly grammatical only in its passive acception, while a sentence like

   * "Il cane E' ucciso il postino" (The dog IS killed the postman)

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should be rejected as ungrammatical. Nevertheless, a sentence like

"Il cane SI E' ucciso" (The dog IS killed HIMSELF)

is once again correct.

Therefore, the current version of the italian grammar constructs some "aux+verb" phrases apparently ungrammatical, given the clitics treatment (see forward, ch. 8.6).

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2.2 CAT Selection & Predicative Structures

Dealing with the valence of the verbs, the selection between PP and NP or COMPL-PHRASE is simply achieved by using the standard concept of "transitiveness", so that;

> i) "transitive verbs" have a COMPS list containing at least one element (the "trans-verb-cat" in the "categories.tdl" plays this role) and subcategorize for both a noun phrase or a clausal complement, the right selection being operated (with a variable degree of (under)specification, see appendix II) by various subtypes of "strict-trans-synsem" (always in the "categories.tdl"), imposing given constraints on the "head" of the first complement, e.g.

> **trans-np-synsem** := trans-np-or-complement-synsem & trans-np-or-infin-synsem &
>   [LOCAL.CAT.VAL.COMPS < [LOCAL.CAT.HEAD noun] >].

> **trans-np-or-complement-synsem** := strict-trans-synsem & subj-to-subj-binding &
>   [LOCAL.CAT.VAL.COMPS < [LOCAL.CAT.HEAD compl-or-noun] >].

> ii) "intransitive verbs" could have an empty list of COMPS ("strict-intrans-verb-cat" in the "categories.tdl") or a PP element in the list, e.g.

> **intrans-ppall-verb-cat** := intrans-verb-cat &
>   [VAL.COMPS < [LOCAL.CAT.HEAD a-infincompl-or-prep] >].
> **intrans-ppnoun-verb-cat** := intrans-ppall-verb-cat &
>   [VAL.COMPS < [LOCAL.CAT.QVAL.DIROBJ.LOCAL.CAT.HEAD noun] >].

> iii) raising verbs, restructuring verbs and auxiliaires are kept underspecified as far as it concerns the TRANS value. The comps selection, in this case, is managed by specific le-types or synsem-types.

Copulative verbs ("essere" [to be], "sembrare" [to seem]) and "ditrans-predicative" verbs ("considerare" [to consider]) subcategorize for a "predicative" argument (adjectival or prepositional or else "locational adverbial" phrases and "undefined" noun or "defined and modified" noun phrases [see however the "still missing" paragraph...]). E.g.

> **copulative-verb-synsem** := strict-trans-synsem &
>   [LOCAL.CAT [VAL.COMPS < [LOCAL.CAT.HEAD.PRED-ST + >]]].

> **ditrans-predicative-synsem** := ditrans-np-and-var-synsem &
>   [LOCAL.CAT [VAL.COMPS < synsem,
>   [LOCAL.CAT.HEAD.PRED-ST + >]]].

In order to capture this kind of generalisation, the feature PRED-ST has been introduced at the HEAD level

> **pred-st** := head & [PRED-ST bool].

to assign the right (+) "predicative" value to adjectival and prepositional phrases:

> **adj** := pred-st & [PRED-ST +].
> **prep** := pred-st & [PRED-ST +].

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Being the PRED-ST at the HEAD level, his value is simply passed up given the Head Feature Principle.

2.2.1. Still missing...

"Undefined" or "defined and modified" noun phrases are not yet managed by the current version of the italian grammar. By now, all nouns are considered NOT predicative. The same restrictive and simplified approach has been adopted, by now, for adverbial phrases (NOT predicative). As a consequence, sentences like "il telefono è un oggetto" [the telephon is an object] or "il mio amico è fuori" [my friend is outside], though acceptable, are simply not parsed.

2.3 PFORM Selection (for verb arguments)

Prepositions have a PFORM (introduced at the HEAD level) assigned in the lexicon. The PFORM value is assigned at the prepositional phrases by virtue of the Head Feature Principle. The purpose of selecting the right PFORM required for a given argument of a given verb is pursued by means of the synsem-type which a given verb belongs to: e.g., a verb like "appartenere" takes a PP object, governed by the "a" preposition: this verb inherits from the "intrans-a-select" which has a SYNSEM "obl1-a-select-synsem" (see "letypes.tdl" and "categories.tdl"):

> **obl1-a-select-synsem** := intrans-ppnoun-synsem &
> [LOCAL.CAT.VAL.COMPS < [LOCAL.CAT.HEAD.PFORM a-form] >].

2.4 COMPL(ementizer) Selection

As for the case of preposition selection, also the right complementizer selection is pursued by means of synsem-types. E.g. a verb like "imparare" [to learn] take a NP as an argument ("imparare il latino" [to learn Latin] or an infinitive phrase with the preposition/complementizer "a" ("imparare a suonare la tromba" [to learn to play trumpet]. This verb inherits from the "trans-np-or-inchocomplement-synsem":

> **trans-np-or-inchocomplement-synsem** := strict-trans-synsem & subj-to-subj-binding &
> [LOCAL.CAT.VAL.COMPS < [LOCAL.CAT.HEAD inchocompl-or-noun] >].

"inchocompl-or-noun" is a supertype inherited both by nouns and the a-complementizer.

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3. ARGUMENT STRUCTURE

The current version of the italian grammar doesn't make use of an argument-structure list for the linking of syntactic and semantic arguments. Such a list (ARGS-ST) will be presumably adopted in the next version, according to the Matrix redefinition.

3.1. Optionality

The feature OPT bool (introduced in the Matrix at the synsem-min level) is used by lexical entry types (see "letypes.tdl") in the COMPS list.
Subject of a verb is by now always optional (OPT +)

3.2 Free Order (subj inversion or ellipsis, NP-PP and NP-AP inversion)

For the time being, the Italian grammar doesn' t take into account cases of topicalization, although they are quite frequent in the newsgroup messages domain.
However, some case of relative free order are taken into account, namely the subject inversion, the NP-PP and the NP-AP inversion in verbal argument structure. We adopt the strategy of using two lexical rules, which simply deal with the inversion of the elements in the COMPS list:

np-ap-inversion := d-word&
[SYNSEM.LOCAL.CAT.VAL.COMPS < #ap, #np >,
 ARGS < [SYNSEM.LOCAL.CAT.VAL.COMPS
                                    < #np & [LOCAL.CAT.HEAD noun],
                                      #ap & [LOCAL.CAT.HEAD adj] >] >].

np-pp-inversion := d-word&
[SYNSEM.LOCAL.CAT.VAL.COMPS < #pp, #np >,
 ARGS < [SYNSEM.LOCAL.CAT.VAL.COMPS
                                    < #np & [LOCAL.CAT.HEAD noun],
                                      #pp & [LOCAL.CAT.HEAD prep] >] >].

As it concerns the subject inversion, since we could always have (generalizing a little, by now) a posthead subject, two rules inherits from the head-subj-phrase: the first inheriting from head-final (pre-head subject), the second inheriting from the head-initial (post-head subject); both the rules constrain the tense to be "finite" in the head-daughter:

head-pre-subj-phrase := head-subj-phrase & head-final &
        [HEAD-DTR.SYNSEM.LOCAL [CONT.HOOK.INDEX.E.TENSE finite]]..

head-post-subj-phrase := head-subj-phrase & head-initial &
        [HEAD-DTR.SYNSEM.LOCAL [CONT. HOOK.INDEX.E.TENSE finite]].

The same strategy has been adopted for the pre- or post-head modifiers: we have by now underconstrained structures ("spurious ambiguities") as far as it concernes pp MODIFIERS. For instance, in a sentence like "Il cane morde il gatto per gioco" [The dog bites the cat in

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fun] two structures are allowed, in which "per gioco" [in fun] is attached as a modifier of "gatto" and "morde il gatto".

Two rules (post- and pre- modifier-phrase) inherit from the corresponding rules in the Matrix (respectively head-adj-int and adj-head-int).

By now there is no distinction (from a semantic point of view) between "il vecchio amico" [The old friend] and "l'amico vecchio" [The *friend old*].

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4. PASSIVATION

A lexical rule, *passive-lex-to-word*, according to the traditional approach (e.g. Sag & Wasow, "Syntactic Theory"), rearranges the elements of the COMPS list.
The rule applies to transitive & non-ergative verbs [TRANS +, ERG -]. Further information is concerning the semantic role ARG1 (coindexed with the ARG2 of the preposition "da" (by).

        passive-lex-to-word := d-word &
        [SYNSEM [LOCAL [CAT [VAL [
                                SUBJ < #subj & [LOCAL.CONT.HOOK.INDEX.PNG #png] >,
                                COMPS < [OPT +,
                                      LOCAL.CONT.HOOK.INDEX #index,
                                      LOCAL.CAT.HEAD prep & [PFORM da-form],
                                      LOCAL.KEYS.KEY.ARG2 #1] . #rest   >]],
                            AGR.PNG #png,
                            CONT.HOOK.INDEX.E.DIATH passive,
                            KEYS.KEY.ARG1 #1],
                    NON-LOCAL #nonlocal],
          ARGS < pastpart-verb & [
                            SYNSEM.LOCAL.CAT
                                        [HEAD.ERG -,
                                        HEAD.TRANS +,
                                        VAL.COMPS < #subj . #rest >,
                                        VAL.SUBJ <[LOCAL.CONT.HOOK.INDEX #index]>],
                            SYNSEM.NON-LOCAL #nonlocal] >].

In correspondance with the *passive-lex-to-world* another lexical rule is dealing with the past participle, namely the *active-lex-to-word*:

        active-lex-to-word := d-word &
              [SYNSEM [
                    LOCAL [CAT #cat,
                            AGR.PNG #png,
                            CONT #cont & [HOOK.INDEX.E.DIATH active]],
                    NON-LOCAL #nonlocal],
                ARGS < pastpart-verb &
                            [SYNSEM.LOCAL #nonlocal & [
                                              CAT #cat,
                                              AGR.PNG #png,
                                              CONT #cont] >].

All past participles have two alternative interpretations, one as "passive", the other as "active" past participle. Since in our grammar, in order to avoid the overgeneration, all participle verbs have the feature REAL - (whereas all non-participles have the value REAL +) such a "duplication" of lexical rules concering the participles seems to be needed. The overgeneration was due to the "restructuring-verb-rule" (see the next chapter on Restructuring verbs), that applied both before and after the application of the passive-lex-to-word. By now, the situation is more or less the following one:

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past participle (e.g. "morso" [bitten])
        |
     --"pastpart-verb"--
         (REAL -) |
                        |- "passive-lex-to-word" --   [is bitten by the dog]
                        | (AUXTYPE pass-aux) | |- "è morso dal cane"
                        | "d-word" (REAL +)----|
                        | | |- "ha morso il cane"
                        |- "active-pastpart-lex-to-word"   [has bitten the dog]
                            (AUXTYPE nonpass-aux)
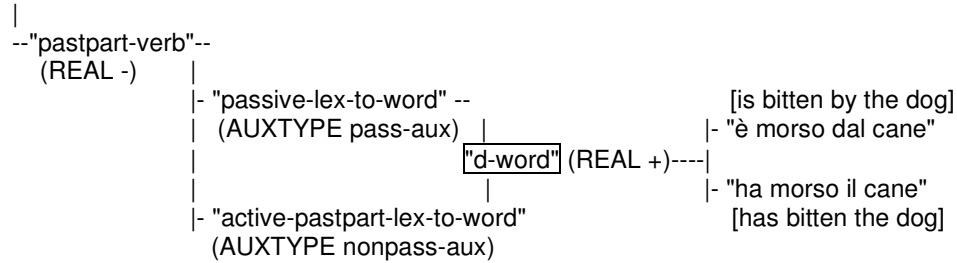
The "*d-word*" projects a verb-headed structure as a word type, since lexical rules don' t work on lexemes. STEM, HEAD, CONT, KEYS, AGR and all NON-LOCAL values are simply passed up, while INFLECTED and REAL become "+".

        d-word := word & [STEM #stem,
                        INFLECTED +,
                        REAL +,
                        SYNSEM.LOCAL [CAT [HEAD verb & #1],
                                            CONT #cont,
                                            KEYS #keys,
                                            AGR #agr],
                        SYNSEM.NON-LOCAL #nonloc
                        ARGS < [STEM #stem,
                                SYNSEM.LOCAL [CAT [HEAD verb & #1],
                                                    CONT #cont,
                                                    KEYS #keys,
                                                    AGR #agr],
                                        SYNSEM.NON-LOCAL #nonloc] >].

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5. RESTRUCTURING VERBS

Partially according to the most argumented approaches to the Italian restructuring verbs (e.g. Monachesi 1999, following Rizzi, 1982), both auxiliaires and restructuring verbs (modals, temporal aspectuals and pure motion verbs) are subjected to the argument composition and give rise to a verbal complex (see also interactions with clitics in the correspondant chapter). The feature RV + [= Restructuring Verb](introduced at the head level) marks all restructuring verbs which inherit, at the lexical level, from the *rv-lxm* where the argument-composition mechanism applies:

> **rv-lxm** := srv-lxm &
> [SYNSEM [LOCAL.CAT [
>   RV +,
>   VAL [COMPS < [LOCAL.CAT [VAL.COMPS #comps] . #comps]]].

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6. RAISING AND CONTROL VERBS

As far as it concerns subject raising structures, generalizing a little in the current version of the Italian grammar ALL auxiliaires, modals, motionals and copulatives are considered **raising verbs** (with structure sharing between the subject of the governed infinitive and the subject of the governor); ALL OTHERS (governing at least one more complement besides the infinitive one) are treated as **equi verbs** (by means of the coindexation, as described e.g. in Pollard & Sag, 1994). Informally:

Raising verbs

Auxiliaries: *essere [be], avere [have]* = srv-lxm [AUX +, RV -]
Copulatives: *sembrare [seem], essere [be]* = srv-lxm [AUX -, RV -]
Modals: *volere [want], potere [can], dovere [must]* = srv-lxm [AUX -, RV +]
Motionals: *andare [go]* = srv-lxm [AUX -, RV +]

↑

srv-lxm := base-verb-lxm &
[SYNSEM.LOCAL.CAT.VAL [SUBJ #1,
                                        COMPS < [LOCAL.CAT.VAL.SUBJ #1] >]].

Equi (control) verbs

Subj-control: *promettere [promise]* = subj-to-subj-binding
Obj-control: *mandare [send], avvisare [inform]* = dirobj-to-subj-binding
Iobj-control: *consigliare [advise], insegnare [teach]* = iobj-to-subj-binding

↑

subj-to-subj-binding := dirobj-arg2 &
        [LOCAL.KEYS.KEY.ARG1 #1,
         LOCAL.CAT.QVAL.DIROBJ.LOCAL.CONT.HOOK.XARG #1].

iobj-to-subj-binding := indirobj-arg3 & dirobj-arg2 &
        [LOCAL.KEYS.KEY.ARG3 #1,
         LOCAL.CAT.QVAL.DIROBJ.LOCAL.CONT.HOOK.XARG #1].

dirobj-to-subj-binding := indirobj-arg3 &
        [LOCAL.KEYS.KEY.ARG2 #1,
         LOCAL.CAT.QVAL.INDIROBJ.LOCAL.CONT.HOOK.XARG #1].

"Equi" verbs inherit (see categories.tdl) from the correspondant "binding" rule (see italian-grammar.tdl) operating the coindexation between the semantic role in KEYS.KEY and the XARG of the controlled argument.

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7. CLAUSAL COMPLEMENTS

Up to now the grammar deals with three kinds of clausal complement:

> i) subordinate finite clauses, introduced by the "che" complementizer;
> ii) subordinate infinitive clauses, introduced by the "di" complementizer;
> iii) subordinate infinitive clauses, introduced by the "a" complementizer

No control on tense or mood is managed yet. No clauses are admitted by now in the subject role. As it regards raising and control, see upwards.

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8. CLITICS

8.1. Preliminary overview

8.1.1. Proclitics vs Enclitics

The italian clitics can appear both in "proclitical" (i) and in "enclitical" (ii) position:

> i) "Giovanni LO dà a Maria"
>   (John gives IT to Mary)
> ii) "DalLO a Maria!"
>   (Give IT to Mary!)

In both cases, clitics exhibit verbal affix behavior (the host is always a verb, clitics have a rigid ordering, don' t have wide scope over a coordination of hosts, nothing can intervene neither between clitcs nor between clitic(s) and host verb; see Monachesi 1999).

8.1.2 Clitics "combining"

Italian clitics can be "combined" (iii) up to 3 elements:

> iii) "TE LO SI dirà domani"
>   (THIS (lo) IT (si) will be said TO-YOU (te) tomorrow)

8.1.3 Clitics "compounding"

In some cases, Italian clitics can be "lexically" merged in one lexical unit (iv):

> iv) "Giovanni GLIELO dà"
>   (John gives IT (-lo) TO-HIM (glie-))

8.1.4. Clitic climbing

Italian clitics can occur in clitic climbing (a clitic - originally a dependent of a complement verb - can "climb" and attach to the trigger verb) (v):

> v) "Giovanni LO vuole dare a Maria"
>   (John wants to give IT to Mary)

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8.1.5 Clitic doubling

Italian language allows (especially in non-literary context) for "clitic-doubling": a complement of a given verb can have contemporary both the cliticized and the normal realization (vi):

> vi) "Giovanni GLIELO dà a Luca
>   (John gives IT (-lo) to Luca (TO-HIM (glie-)))

Frequently the clitic-doubling originates from a topicalization of a complement (e.g. "Giovanni il libro [topic.] LO dà a Maria" (John [the book] gives IT to Mary)), some kind of topicalizations being almost "obligatory" also in written texts, especially in question-answer context (vii):

> vii)   [q] "LO hai letto il libro di Giovanni?"
>   (IT Did you read the John' s book?)
>   [a] "Non LO ho letto il libro di Giovanni ma so che è noioso"
>   (IT I didn' t read the John' s book, but I know that it is boring)

8.1.6 Gender, number, person, case

Italian clitics are distinguished as for gender (masc/femm), number (sing/plur), person (1st, 2nd, 3rd), case (in accusative, dative, reflexive, partitive/thematic and locative clitics), as in the table:

	sing			plur		
	1st	**2nd**	**3rd**	**1st**	**2nd**	**3rd**
ACC	mi	ti	lo (masc) la (femm)	ci	vi	li
DAT	mi	ti	gli	ci	vi	gli
REFL	mi	ti	si	ci	vi	si
PART/THEM	ne					
LOC	ci / vi					

The clitic "SI" is also used as a pseudo-reflexive (in a lexical realization of "inherent" cliticized complement) as in (viii):

> viii) "Giovanni SI sveglia e tu TI addormenti"
>   (John HIMSELF(inherent) wakes-up and you YOURSELF(inherent) go to sleep)

The clitic "SI" can also play the subject role in impersonal/generalized sentences (ix/x):

> ix) "SI dice che Giovanni sia giovane"
>   (ONE(subj) says that John is young)
>
> x) "SI è arrivati a casa"
>   (ALL-OF-US(subj) arrived home)

The clitic "SI" has also, in some cases, the role of a diathetical (passive) marker (xi):

> xi) "SI sono dette molte bugie"
>   (Many lies ("SI" passivizing) have been said)

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In combining each others, clitics can have some phonological variation, e.g.:

- the datives "mi/ti/si/ci/vi" become "me/te/se/ce/ve" ["Giovanni MI dà il libro - "Giovanni ME LO dà" (John gives TO-ME the book - John gives TO-ME IT)],
- the locatives "ci/vi" become "ce/ve" ["Giovanni CI mette il libro - Giovanni CE LO mette" (John puts the book ON-IT - John puts ON-IT IT)],
- the inherent "si" becomes "se" ["Giovanni SI pente della scelta - Giovanni SE NE pente" (John IT regrets the choice - John IT regrets IT)] or "ci" ["CI SI pente" (ALL-OF-US HIMSELF(inherent) regrets)]

8.1.7. Argument vs Modifier role

Italian clitics can be argument/modifier of the host verb, as in (xii) or argument/modifier of a complement of the host verb, as in (xiii)

xii) "TI ucciderò"
   (I will kill YOU)

xiii) "TI ucciderò il cane"
   (I will kill YOUR dog)

As for argument role, clitics are alternative to the normal realization (up to now our grammar doesn't allow for "clitic-doubling", which is anyway forbidden with the "SI"(subj) and the reflexive clitics).
As for the modifier role, it seems that can be cliticized only PPs introduced by a small set of prepositions ("di" (of); locative "a"(to), "su"(on) and "in"(in), "da"(from))

8.2. Lexical information in the Italian grammar (v. 0.3)

8.2.1. Information in "lexicon.tdl" and "italian-grammar" files

At the lexical level, clitics carry on information about PNG and CASE (inheriting from specific subtypes of clt-word), e.g.:

lo_cli := clt-accusative-word &
[STEM.FIRST "lo_cli", SYNSEM.LOCAL.CONT.INDEX.PNG masc-sing].

mi_cli_acc := clt-accusative-png1st-word &
[STEM.FIRST "mi_cli", SYNSEM.LOCAL.CONT.INDEX.PNG 1sing].

Clitics inherit form "clt-word" and his subtypes, e.g.

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clt-word := word &
[WORD -,
 SYNSEM.LOCAL [CAT.HEAD prep-or-noun & [CLT +, MOD <>],
                         CAT.VAL [SPR < >, COMPS < >]]].

clt-accusative-word := clt-word &
[SYNSEM.LOCAL.CAT.HEAD noun & [CASE accusative]].

clt-accusative-png1st-word := clt-accusative-word &
[HOST [AGR.PNG not1st]].

Notes:

a) the feature "HOST avm", introduced at the sign level in the Matrix, contains all useful information about the "host" verb of a clitic: LOCAL is simply copied in the HOST via the "head-comp-phrase"; constraints (e.g. on PNG) are specified by different types of clt-word. The HOST feature allows to have a good level of information at the lexical level.
b) clitics are "WORD -" (clitics, like determiners, prepositions, complementizers and conjunctions, cannot directly satisfy any element in a COMPS list)
c) clitics are CLT + (in order to distinguish clitics from other "prep-or-noun" types)
d) clitics have **empty COMPS, SPR, MOD[3]** lists
f) "si_cli_pass" has the value "CASE nocase" (being the "passivizing" SI just a diathetical marker)
g) "ne_cli_varg" has the value "CASE v_argument" (a generic "verbal argument"), as opposite to the "NE" modifier
h) orthophonetical variants are explicitly distinguished in the lexicon
i) "compounded" clitics are recognised by the tokenizer and the input of the lexicon is constituted by two distinguished entries (e.g. "GLIELO" --> "GLI", "LO")

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[3] By now, we don't deal with some puzzling constructions; we are looking suspiciously at sentences like "Io non amo tutte le donne; LE amo CON I CAPELLI ROSSI" (I don't love every woman; I like THEM WITH RED HAIRS) or "I cellulari LI compro NUOVI" (The mobiles I buy THEM NEW); …

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8.3. A lexical approach to cliticization

The most convincing approach to the Italian cliticization (including the clitic climbing) is the one suggested by Paola Monachesi in several papers. A CLT-COMPS list contains the cliticized complements of a given verb; a lexical rule applies to the "normal" verb and consequently the cliticized complements are removed from the COMPS list and added as members of the CLT-COMPS list. For example, verbs like "amare" (to love) and "dare" (to give) would have two possible realizations:

a1) [**not cliticized** ("Maria ama il marito", [Mary loves the husband])]
          "amare" = [COMPS < #1 [np] >, CLT-COMPS < >] →

   → a2) [**cliticized** ("Maria LO ama", [Mary loves him])]
          "amare" = [COMPS < >, CLT-COMPS < #1 [np] >]

b1) [**not cliticized** ("Maria dà il libro a Giovanni", [Mary gives the book to John])]
          "dare" = [COMPS < #1 [np], #2 [pp] >, CLT-COMPS < >] →

   → b2) [**cliticized** ("Maria LO dà a Giovanni", [Mary gives IT to John])]
          "dare" = [COMPS < [pp] >, CLT-COMPS < #1 [np] >]
   → b3) [**cliticized** ("Maria GLI dà il libro", [Mary gives the book TO-HIM])]
          "dare" = [COMPS < [np] >, CLT-COMPS < #2 [pp] >]
   → b4) [**cliticized** ("Maria GLIELO dà", [Mary gives IT TO-HIM])]
          "dare" = [COMPS < >, CLT-COMPS < #1 [np], #2 [pp] >]

(Note that cases from b2) to b4) should be managed by specific lexical rules, in the lack of a "shuffle" operator).

In order to avoid too many alternative edges in the parsing, it could be possible to use (instead of several lexical rules) different schemata for combining accusative/reflexives and dative/locative/partitive clitics with the host verb: those schemata should play the role of removing the cliticized complement from the COMPS list (and marking in some way the verb as a "cliticized" form).

As for clitic climbing, triggered in Italian by auxiliary, modal, aspectual and motion verbs ("restructuring verbs"), specific lexical rules should deal with the "argument composition" of restructuring verbs: the trigger verb inherits the complements of the embedded verb, including the ones which could be realized as clitics. As an effect of such a lexical rule, a verb like "volere" (to want) should have a COMPS list as in the following:

        "**volere**" = [COMPS < [vp(infin), COMPS #1] >, CLT-COMPS < >] →
           → "**volere**" = [COMPS < [vp(infin), COMPS #1] . #1 >, CLT-COMPS < >]

and then, applying a lexical rule for cliticization,

           → "**volere**" = [COMPS < [vp(infin), COMPS #1] >, CLT-COMPS #1]

The combined action of the "cliticizing" lexical rules and the "argument composition" lexical rules seems to be adequate in several cases, but it seems to be unefficient in the case of "multiple restructuration". Being the auxiliary verb a restructuring one, a "double restructuration" is quite frequent, e.g.:

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xiv) "GLI ha voluto dare il libro"
(TO-HIM he wanted to give the book")

but also a "triple" restructuration is not so rare, especially with motion restructuring verbs, e.g.:

xv) "LO ha voluto andare a comprare"
(IT he wanted to go to buy)

In those case, the cliticized complement could be pushed deeply into the bottom of the COMPS list ([COMPS.REST.REST.REST.FIRST]) and the matching between the clitic and the correspondent complement couldn' t be so easy to perform, even if one would impose an arbitrary/pragmatic limit to the "restructuration" chain.

8.4. The current treatment of cliticization in the Italian grammar

We have tried to overcome the problems connected with the multiple restructuration by adopting an hybrid approach to cliticization and clitic climbing: we saved the argument composition mechanism for restructuring verbs, but we delay the attachment of the clitic until the (possible) restructuration chain has been completed.
The argument composition is performed at the lexeme level for the restructuring verbs (RV +). They inherit from rv-lxm (subtype of srv-lxm for subject raising verbs):

rv-lxm := srv-lxm &
[SYNSEM.LOCAL.CAT [RV +,
                               VAL.COMPS < [LOCAL.CAT.VAL.COMPS #comps] . #comps >]].

Auxiliaires are a subtype of rv-lxm (AUX +):

aux-lxm := rv-lxm &
[SYNSEM.LOCAL .CAT [HEAD.PSTP #png,
                               AUX +,
                               VAL.COMPS < [LOCAL.AGR.PNG #png] , ... >]].

In the aux-lxm, the feature PSTP has the same value of the complement (the past-participle). PSTP and PNG unify (in the head-comp-rule) and produce as unification result some specific subtypes (e.g. masc-sing-3rd, femm-plur-3rd) which are useful for the agreement with composed tenses (e.g. "LA ho amatA [femm-sing]"(I loved HER), "LI ho amatI [masc-plur] (I loved THEM)).

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8.5. The head-comp rules

The clitic attachment is performed by a small set of "comp-rules".

8.5.1 A new comp-rule ("head-final")

Beside the previous "head-comp-rule" (expanding the head-initial), a new comp-rule has been introduced, inheriting from "head-final" (in order to deal with proclitics):

> **head-comp-phrase** := base-head-comp-phrase & head-initial &
>   [NON-HEAD-DTR [SYNSEM.LOCAL.CAT [POSTHEAD -]]].

> **pre-head-comp-phrase** := base-head-comp-phrase & head-final &
>   [HEAD-DTR [SYNSEM.LOCAL.CAT.HEAD verb],
>   NON-HEAD-DTR [SYNSEM.LOCAL.CAT [HEAD.CLT +, POSTHEAD +]]].

The latter rule applies (as for now) only to cliticized complements (the pre-head-comp rule DOES NOT manage the left-dislocated full complements).

The CLT-COMPS bool (in the following rules) is intended to be a marker for cliticized verbs (marked as CLT-COMPS +).

8.5.2 Specific schemata 1

A specific schema is devoted to manage the "SI"(passivizing)

> **base-clt-passive** := head-final &
> [INFLECTED +,
> SYNSEM.LOCAL.CAT [VAL [SUBJ < >,
>   COMPS < >,
>   CLT-COMPS +]],
> NON-HEAD-DTR [SYNSEM [LOCAL.CAT.HEAD noun & [CASE nocase, CLT +]]],
> HEAD-DTR [SYNSEM.LOCAL [CAT [VAL [COMPS < >,
>   CLT-COMPS -,
>   SUBJ < >],
>   QVAL.DIROBJ [LOCAL.CONT.INDEX.PNG #png]],
>   AGR.PNG #png,
>   CONT [INDEX [E.MOOD finite]]]]].

The "SI"(passivizing) can occur only when
- a) the complements in the COMPS list of the host verb have been realized (COMPS <>),
- b) the SUBJ hasn' t been realized (SUBJ <[]>)
- c) the passivizing "SI" can't be combined with other clitics ([HEAD-DTR.CLT-COMPS -])
- d) the host verb must be finite

The mother node of the schema has an empty SUBJ list.

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8.5.3. Specific schemata 2

A specific schema is devoted to manage the impersonal "SI"(subj)

> **base-clt-nominative** := head-final & head-valence-phrase &
>   [INFLECTED +,
>   SYNSEM.LOCAL [CAT [VAL [SUBJ < >,
>   COMPS #comps,
>   CLT-COMPS +]],
>   NON-HEAD-DTR.SYNSEM #1 & [LOCAL [CAT.HEAD noun & [CASE nominative,
>   CLT +],
>   CONT.INDEX.PNG #png]],
>   HEAD-DTR.SYNSEM.LOCAL [CAT [VAL [SUBJ < #1 >,
>   COMPS #comps & olist]],
>   AGR.PNG #png & 3sing,
>   CONT.INDEX [E.MOOD finite, E.DIATH active]]].

The impersonal "SI" plays the role of a subject of the host verb. Nevertheless, the "base-clt-nominative" cannot inherit form the head-subj-phrase in the Matrix because an empty COMPS list cannot be a correct general constraint in this case. Actually, when other clitics are present, the impersonal "SI" is the latter in the clitics chain ("e.g.: "ME LO SI dice spesso" (TO-ME IT ONE says often)), so that when the SI attaches to the host verb, its COMPS list is really not empty.

The COMPS list of the Head-dtr is constrained to be "olist", so that optional not realized complements don' t block the rule application (e.g. "SI ama" (ONE loves)).

The base-clt-nominative removes the element from the SUBJ list, coindexed with the clitic.

The host verb has to be singular, finite, active.

8.5.4 Surface order

As for enclitics, the surface order is inverted in respect of the proclitical situation, so that a lexical rule "np-pp-inversion" (a general lexical rule dealing with the free argument order for ditransitive verbs) is needed (and enough) to deal with such a "clitic-chain order" inversion.

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8.6. Interactions between auxiliary selection, agreement and cliticization

8.6.1 Examples:

a) **reflexives** (accusative and dative)

> (i) "Giovanni ha ucciso il gatto"
>   (John killed the cat)

> (ii) "Giovanni SI è ucciso"
>   (John HIMSELF killed)

> (iii) "Ho regalato un libro a Giovanni"
>   (I gave-as-a-present a book to John)

> (iv) "MI sono regalato un libro"
>   (TO-MYSELF I gave-as-a-present a book)

> (v) "GLI ho regalato un libro"
>   (TO-HIM I gave-as-a-present a book)

b) **"SI"** (impersonal / subject)

> (vi) "Gli amici sono arrivati"
>   (Friends have arrived)

> (vii) "SI è arrivati"
>   (ALL-OF-US have arrived)

> (viii) "Giovanni ha discusso di politica"
>   (John has talked about policy)

> (ix) "SI è discusso di politica"
>   (IT has been talked about policy)

c) **inherent/pseudo-reflexive**

> (x) "MI sono innamorato"
>   (I felt in love)

> (xi) "MI sono voluto innamorare"
>   (I wanted to fall in love)

> (xii) "Ho voluto innamorarMI"
>   (I wanted to fall in love)

_____

8.6.2 Final remarks on auxiliary selection

Cliticization may influence the auxiliary selection. More precisely (as shown in the previous examples, sentences from (i) to (ix)), verbs which normally select, in the active form of composed tenses, the auxiliary "AVERE", modify their behaviour in presence of a reflexive or impersonal clitic, so that their cliticized version select the auxiliary "ESSERE". A different case involves the "inherent/pseudo-reflexive" clitic. It really gives rise to a different entry of the verb: such a "lexically cliticized" verb is always intransitive and selects always the auxiliary "ESSERE". But (once again) some modification can occur: for instance, as shown in sentence (xii), when the inherent clitic get the enclitical position, the selected auxiliary is "AVERE".

Given the fact that in the current approach clitics are attached once the verbal complex is completed, we are enforced to build up some redundant structures (and to leave in some cases the auxiliary selection being underspecified), waiting for a possible clitic attachment.
For instance, we need to construct verbal complex as the following:

>   (a) "è ucciso" [DIATH active]
>   (b) "è regalato" [DIATH active]
>   (c) "è discusso" [DIATH active]
>   (d) "è partiti" [DIATH active, PNG masc-plur]

In the last case (d), a special type "PNG collective-3rd" has been introduced, which unifies only with an impersonal ("SI") subject.

In former cases (a) to (c), transitive and ditransitive verbs are concerned.

8.7. Still missing ...

a) The grammar doesn' t deal with the cliticization of argument of nouns (e.g. "Il presidente NE ha apprezzato la DECISIONE").
b) The grammar doesn' t deal with the cliticization of modifiers (e.g. "Il marito LE ha comprato un regalo").
c) The grammar doesn' t allow for "intersective" clitic positioning (e.g. " non voglio doverLO ammettere")

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9 SEMANTIC ROLES - SYNTACTIC FUNCTIONS LINKING

In the italian-grammar (according to the strategy described and adopted by the Norsk group) we have introduced some functional categories (SUBJECT, DIROBJ, INDIROBJ, OBL1...). The functional categories are attributes of a type qval which is the value of a feature QVAL in qval-cat:

        qval-cat := cat & [QVAL qval].

The linking is done

        i) in *synsem types* between semantic arguments and indices of functional categories
        ii) in *cat types* between functional categories and syntactic arguments

E.g.:
        i) **subj-arg1-verb** := lex-synsem &
          [LOCAL [CAT.QVAL.SUBJECT synsem &
                            [LOCAL.CONT.HOOK.INDEX #1],
                  KEYS.KEY.ARG1 #1]].

        ii) **subj-verb-cat** := verb-cat &
          [VAL.SUBJ < #1 >,
            QVAL.SUBJECT #1].

The functional category OBL1 is used for oblique PPs like "a mio fratello" [to my brother] in "il libro appartiene a mio fratello" [the book belongs to my brother]. For verbs like "appartenere" (intransitive verbs whit PP complement) in italian-grammar we use the subj-arg1-verb above and following linking types:

        obl1-handle := lex-synsem &
        [LOCAL [CAT.QVAL.OBL1 synsem &
                    [LOCAL.CONT.HOOK.LTOP #1],
                KEYS.KEY.LBL #1]].

        intrans-ppnoun-verb-cat := intrans-verb-cat &
              [VAL.COMPS < #1 >,
                QVAL intrans-qval & [OBL1 #1]].

        intrans-verb-cat := subj-verb-cat & [HEAD.TRANS -].

As an example, the composed synsem for the verb "appartenere" [belong] contains the following information (as far as they concern the linking):

        lex-synsem := subj-arg1-verb & obl1-handle &
        [LOCAL [CAT intrans-ppnoun-verb-cat &
                    [HEAD verb,
                      VAL [SUBJ < #1 >,
                           COMPS < #2 >],
                      QVAL [SUBJECT #1 & [LOCAL.CONT.HOOK.INDEX #3],
                              OBL1 #2 & [LOCAL.CONT.HOOK.LTOP #4]]],
                 KEYS.KEY arg1-rel &
                    [LBL #4, PRED "appartenere_rel", ARG1 #3]]].

As for infinitive clauses, see upwards (chapter 6)

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9.1. Still missing...

As for pure ergative verbs (e.g. "bruciare", to burn), the role assignment is not adequate (so that "il bosco brucia" [the wood BURNS] has the ARG1 role assigned to "il bosco" [the wood]).

Note that the current version of the italian grammar doesn't make use of an argument-structure list for the linking of syntactic and semantic arguments. Such a list (ARGS-ST) will be presumably adopted in the next version, according to the Matrix redefinition.

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10 PERCEPTION VERBS IN ITALIAN

Some verbs, which imply a direct sensorial perception (PDS, *Percezione Diretta Sensoriale)*

perceiver	→	perception	→	entity + process/state
subject		*PDS verb*		*complements*
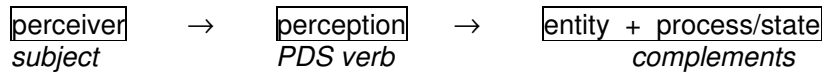
e.g. "vedere" [see] and "sentire" [hear], share some peculiar behaviours.

Ignoring by now the semantics of perception, PDS verbs from a syntactic point of view are distinguished for some connected aspects of **complementation** and **cliticization**.

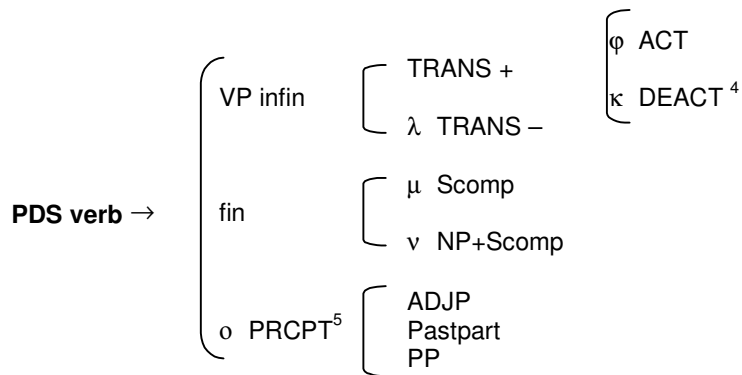### 10.1. PDS verbs complementation

Perception, roughly speaking, can be subdivided in pure *entities* perception (e.g. "to see something") and *entities + process/state* perception.
Limiting us to the latter case, possible subcategorization examples are the following:

1. S vede mangiare G (S sees eating G)
2. S vede G mangiare (S sees G eating)
3. S *lo* vede mangiare (S sees him [lo] eating)
4. S vede G mangiare T (S sees G eating T)
5. S *lo* vede mangiare T (S sees him [lo] eating T)
6. S *gli* vede mangiare T (S sees him [gli] eating T)
7. S *glielo* vede mangiare (S sees him [glie_] eating it [_lo])
8. S vede mangiare G da Z (S sees G eaten by Z)
9. S *lo* vede mangiare da Z (S sees him [lo] eaten by Z)
10. S vede G partire (S sees G leaving)
11. S *lo* vede partire (S sees him [lo] leaving)
12. S vede G che mangia T (S sees G that eats T)
13. S vede che G mangia T (S sees that G eats T)
14. S *lo* vede che mangia T (S sees him [lo] that eats T)
15. S vede G stanco (S sees G tired)
16. S vede G inseguito dai fans (S sees G followed by fans)
17. S vede G nei guai (S sees G in troubles)
18. S *lo* vede stanco (S sees him [lo] tired)
19. S *lo* vede inseguito dai fans (S sees him [lo] followed by fans)
20. S *lo* vede nei guai (S sees him [lo] in troubles)

In this examples, **S** is the subject (perceiver) and **G** the *entity* (perceived) of the PDS verb "*vedere*" [to see] (enough representative to our goals).

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A first analysis of the examples produces a draft synthesis of possible PDS verbs complementation scheme:

$$
\textbf{PDS verb} \rightarrow
\begin{cases}
\text{VP infin} &
\begin{cases}
\text{TRANS +} & \begin{cases} \varphi \ \text{ACT} \\ \kappa \ \text{DEACT}^{4} \end{cases} \\
\lambda \ \text{TRANS} -
\end{cases} \\
\text{fin} &
\begin{cases}
\mu \ \text{Scomp} \\
\nu \ \text{NP+Scomp}
\end{cases} \\
o \ \text{PRCPT}^{5} &
\begin{cases}
\text{ADJP} \\
\text{Pastpart} \\
\text{PP}
\end{cases}
\end{cases}
$$

10.1.1. Infinitive complementation: cases φ - κ - λ

The most complex case is the one regarding the **infinitive** complementation. There is no ambiguity in role assignment when the verb is **INTRANSITIVE:** in the sentence "Vedo Giovanni arrivare" (I see John coming) *Giovanni* is undoubtfully the subject of the infinitive verb, and this is true also when an inversion occurs, e.g. "Vedo arrivare Giovanni" (I see coming John). Cliticization is allowed ("Lo vedo arrivare" (I see him coming)) and the PDS verb is behaved as an "obj_control" verb, e.g. "incaricare", "to charge" (see also chapther 6):

> *"Maria incarica Giovanni(i) di (i) andare dal presidente"*
> (Mary charges John(i) to (i)go to the president)

> *"Maria lo(i) incarica di (i) andare dal presidente"*
> (Mary charges him(i) to (i) go to the president)

_____

[4] The term "deactivation" (DEACT) indicates a "deep" passivation of an infinite verb without a correspondent morphological realization. E.g. the sentence

> *Giovanni lo ha visto uccidere* (John saw him to-kill)

can have a double intepretation, depending on the diathesis of the infinitive"uccidere" (kill). When other complements are expressed, the sentence is disambiguated: e.g. in the sentence

> *Giovanni lo ha visto uccidere sua moglie* (John saw him kill (= killing) his wife)

the only possible interpretation of the infinitive verb is the "active" one and the sentence could be paraphrased as "Giovanni ha visto "lo" mentre uccideva la moglie" (John saw him while he was killing his wife); in the sentence

> *Giovanni lo ha visto uccidere da sua moglie*   (John saw him kill (= being killed) by his wife)

the verb "uccidere" is "deactivated" (not lexicalized passive) and the sentence coul be paraphrased as "Giovanni ha visto "lo" essere ucciso dalla moglie" (John saw him being killed…). An analogous infinitive "deactivation" case could be found in causative verbs complementation (perception and causative verbs seem to share a lot of features), e.g.: "Giovanni lo ha fatto uccidere dalla moglie" (John made him to-be-killed by his wife).

[5] By using the PRCPT acronym here I mean the "perceived" as a whole, that is a perceived "entity" and the "state/process" introduced by a predicative phrase. In the In the previous examples, "G stanco", "G inseguito dai fans", "G nei guai" are all PRCPT instances.

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The lexical entries of the PDS verb λ should be (informally) the following

pds_verb_3 = (COMPS < NP $\boxed{1}$, VPinf [TRANS -, SUBJ $\boxed{1}$] >)

and in the current version of the italian grammar it could inherit from the *ditrans-dirobj-ctrl-synsem* type.

When the VPinf is **TRANSITIVE,** the situation is a little more complex and the "deactivation" (see note 4) phenomenon plays a significant role.
In sentence 1 the role assignment is ambiguous:

S vede mangiare G

G could be the inverted **subject** OR the direct **object** of the PDS verb "mangiare" (eat). If G is (intepreted as) the subject, no direct object can be expressed:

* S vede mangiare G la bistecca (* S sees eating G a beefsteak)
* S vede mangiare la bistecca G (* S sees eating a beefsteak G)

An agent (a PP introduced by "da" [by] preposition) is allowed, playing the role of a deep subject (ARG1), as in the sentence 9:

S vede mangiare G da Z

In this case it seems reasonable to assume that the verb "mangiare" is "deactivated" and exhibits a passive verb valence:

mangiare(act) = (SUBJ $\boxed{1}$, COMPS < NP $\boxed{2}$ >) $\rightarrow$

mangiare(deact) = (SUBJ $\boxed{2}$, COMPS < PP_da $\boxed{1}$ >)

The surface subject of the deactivated verb is allowed, e.g. in the sentence 9:

S *lo* vede mangiare da Z

and also a doubled cliticization is allowed, as in the sentence 7:

S *glielo* vede mangiare

In the latter case, the sentence could be paraphrased as

S *lo* vede essere_mangiato *gli* (S see him [lo] to-be-eaten by-him [gli])

Has to be emphasized that **only** with PDS verbs (and deactivated infinitive complement) the agent could be cliticized, e.g.:

S vede mangiare una bistecca da G (i) (S sees eat a beefsteak by G)
S *gli* (i) vede mangiare una bistecca (S sees by-him [gli] eat a beefsteak)

_____

As a first conclusion, one could say that a **PDS verb governing a deactivated VPinf**

- Is a **monotransitive verb** ("deactivated" infinitive verb **can never be preceded by an NP**);
- Is possible the cliticization (and clitic climbing) of the surface subject, the agent and all other complements (for ditransitive and alternatively in respect of the agent) of the governed infinitive, e.g.

> S glielo vede dare a Maria
> (S sees it [_lo] to-be-given by-him [glie_] to Mary)
>
> S glielo vede dare da Maria
> (S sees it [_lo] to-be-given to-him [glie_] by Mary)
>
> * S gli glielo vede dare
> (* S sees it [_lo] to-be-given to-him [glie_] by-him [gli])

- The **PDS verb** has an ***argument composition***: it inherits, in its COMPS list, both the SUBJ and the COMPS of the governed verb

In its turn, a **PDS verb governing a not-deactivated (active) VPinf**

- Is a **ditransitive verb** (the infinitive verb can be preceded by an NP)
- As for an object-control verb, the SUBJ list of infinitive verb has to be not empy; in the active acception of the sentence

> S vede mangiare Giovanni

Giovanni is NOT the expressed subject of the infinitive verb, but the NP (inverted) governed and controlled by the PDS verb:

> *Vedere = COMPS (NP $\boxed{1}$, VPinf $\boxed{2}$)*
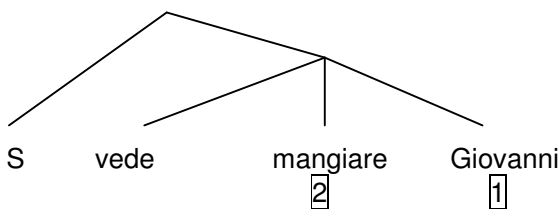
- Only the NO governed by the PDS verb can be **cliticized**
- There is no argument composition

_____

We have to postulate two different lexical entries[6] for the PDSφ (act) and PDSκ (deact) verbs:

pds_verb_1 = (COMPS < NP $\boxed{1}$, VPinf [DEACT -, SUBJ $\boxed{1}$] >)

pds_verb_2 = (COMPS < VPinf [DEACT +, SUBJ $\boxed{1}$, COMPS $\boxed{3}$], $\boxed{1}$, $\boxed{3}$ >)

Analizing the structure of the sample sentences (1 to 9), possible conclusions and generalization are the following:
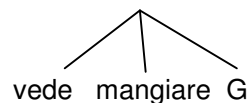
I) sentences **without cliticization**:

a) **sentence 1** "*S vede mangiare G*" has two possible (isomorphic) interpretations:

i) **not deactivated** infinitive verb (**ditransitive** PDS verb)

vede   mangiare   G

[G is the infin Subj = "S vede che G mangia" (S sees that G eats)]

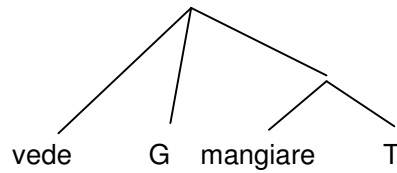ii) **deactivated** infinitive verb (PDS verb **monotransitive**, with argument composition)
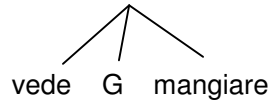
vede   mangiare G

[G is the infin surface Subj = "S vede che G è mangiato" (S sees that G is eaten)]

_____

[6] Two lexical entries (one for a control structure, the other one "flat" with argument composition) are suggested also in Abeillé, Godard, Miller & Sag, *French bounded dependencies* in "Romance in HPSG" (edit. Balari & Dini, 1998, pp. 35 ss.)
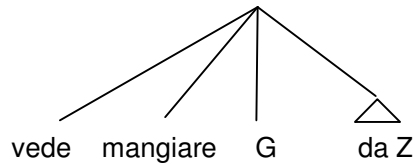
_____

b) **sentence 2** "*S vede G mangiare*" and **sentence 4** "*S vede G mangiare T*": just one interpretation is possible: G is the (deep and surface) subject of "mangiare":

    i) **not deactivated** infinitive verb

<div align="center">
vede   G   mangiare
</div>

<div align="center">
vede   G   mangiare   T
</div>

c) **sentence 8** "*S vede mangiare G da Z*": only one interpretation is possible:

    i) **deactivated** infinitive verb

<div align="center">
vede   mangiare   G   da Z
</div>

II) **Cliticized** sentences**:**

d) **sentence 3** "*S lo vede mangiare*": two possible (isomorphic) interpretations:

    i) **not deactivated** infinitive verb

<div align="center">
lo   vede   mangiare
</div>
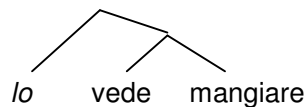
["*lo*" is the subject = "S vede che "*lo*" mangia (q.cosa)"]

    ii) **deactivated** infinitive verb

<div align="center">
lo   vede mangiare
</div>
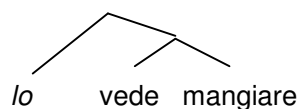
["*lo*" is the surface subject = "S vede che "*lo*" è mangiato (da q.uno)]

_____

e) **sentence 5** "*S lo vede mangiare T*": one interpetation

    i) **not deactivated** infinitive verb

    ["*lo"* is the subject = "S vede che "*lo*" mangia T"]

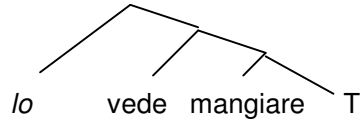f) **sentence 6** "*S gli vede mangiare T*" one interpretation

    i) **deactivated** infinitive verb
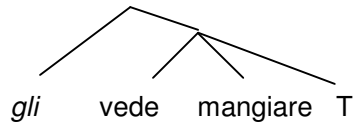
    ["*lo"* is the surface subject = "S vede che T è mangiato da "*gli*""]

g) **sentence 7** "*S glielo vede mangiare*": one intepretation:

    i) **deactivated** infinitive verb
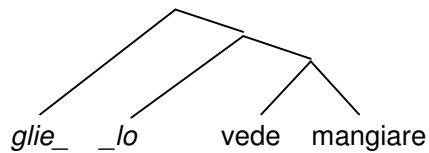
    ["*lo"* is the surface subject and "*gli"* the deep subject = "S vede che "*lo*" è mangiato da "*gli*""]

h) **sentence 9** "*S lo vede mangiare da Z*": one interpretation:

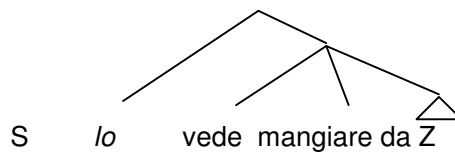   i) **deactivated** infinitive verb

    ["*lo"* is the surface subject = "S vede che "*lo*" è mangiato da Z"]

_____

10.1.2. Finite complementation: cases μ - ν

In the sample sentence 13

> S vede che G mangia T

the PDS verb governs a finite clause (introduced by "che" (that)). As for this kind of complementation, the perception could be either a **direct preception** of a process/state, as in the example, or an **indirect perception** or **cognition**, as in the following sentences:

> "Giovanni ha visto che Maria ha lavato i piatti"
> > [John saw that Mary has washed the plates]

> "Giovanni ha visto che Maria vuole bene al suo gatto"
> > [John saw that Mary loves her cat]

> "Giovanni ha visto che sarebbe meglio andare via"
> > [John saw that it should be better to go away]

In such cases the finite complementation is the only one admitted, so that is not possible to "translate" the sentences in an infinitival form, e.g.:

> *Giovanni ha visto Maria aver lavato i piatti
> > [*John saw Mary to have washed the plates]

> *Giovanni ha visto Maria voler bene al suo gatto
> > [*John saw Mary to love her cat]

> *Giovanni ha visto essere meglio andare via
> > [*John saw to be better to go away]

The perception verb could be paraphrased as a cognition or opinion verb (e.g. "notare", "constatare" or "immaginare") and the the preceived state/process could be not contemporary (that is a quite strong constraint for PDS verbs): it's possible to "perceive" a "concluded event", e.g. "*Vedo che hai lavato i piatti*" (I see that you have washed the plates). It's also possible to "perceive" a "negated event", e.g. "*Ho visto che Maria NON ha lavato i piatti*" (I saw that Mary didn't wash the plates), that is in general not possible for the other cases of PDS verbs complementation ("*Ho visto non arrivare Giovanni*" (*I saw John not coming), but there are some counter-examples).

As a rough conclusion, one could say that a PDS verb governing a finite complement clause is actually a "cognitive/suppositive" verb.
Therefore the lexical entry for the PDS verb μ could be the following:

> **pds_verb_4** = (COMPS < Sfin [compl "che"] ,SUBJ <>, CLT - >)

with an empty SUBJ list, "che" (that) complementizer and no cliticization allowed.

_____

Quite different seems to be the complementation in the sentence 12:

S vede G che mangia T

In this case the process/event perceived has to be contemporary (*S ha visto G che mangia T) and it's possible to "translate" the sentence in an infinitival form ("S vede G mangiare T"); the perceived cannot be negated ("*S vede G che non mangia T").

A possible intepretation is that the "che" introduces a kind of relative clause, as for analogous construction in French (Miller & Lowrey, *La complémentation des verbes de perception en anglais et en francais*)[7].

On the other hand, if we consider the "che" as a normal complementizer introducing a complement finite clause, the sentence 12 could be a surface variant of an infinitival complementation (see the verb PDSφ). "S vede G che mangia T" and "S vede G mangiare T" should be equivalent and the lexical entry of the PDS verbν could be the following one:

pds_verb_5 = (COMPS < NP $\boxed{1}$, Sfin [compl "che" , SUBJ $\boxed{1}$] >)

with a not-empty SUBJ list in the complement clause. As for all the others complement finite clause, cliticization is allowed:

S   *lo*   vede   che mangia q.cosa
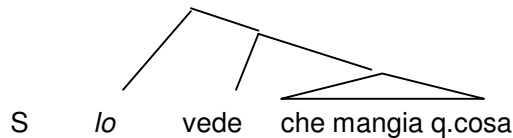
["*lo*" is the subject = "S vede che "*lo*" mangia q.cosa"]

10.1.3. Predicative structure complementation: case ο

The sample sentences (15 to 20) seem to share the same complementation structure, that involves a generic PRCPT ("perceived") constituted by an NP (the entity) and a predicative phrase (state or process). The lexical entry of the PDS verb ο is the following:

_____

[7] Such a relative phrase should have a lot of peculiar behaviours: the relative pronoun cannot be subsituted by "il quale"; the introduced verb has to be contemporary to the PDS verb (A sentence like " S vede G che ha mangiato T" has a different meaning); the NP could be cliticized (S *lo* vede che mangia T)

_____

pds_verb_6 = (COMPS < NP $\boxed{1}$, phrase [PRED-ST +, SUBJ $\boxed{1}$] >)

the feature PRED-ST "+" is used to mark the syntactic structures with a predicative function. PRCPTs are adjectival phrases, e.g.

S vede G stanco
S *lo* vede stanco

participial phrases, e.g.

S vede G inseguito dai fans
S *lo* vede inseguito dai fans

and prepositional phrases, e.g.

S vede G nei guai
S *lo* vede nei guai

PDS verb o is a **ditransitive** verb inheriting, in the italian grammar, from the *ditrans-predicative-synsem* type.

_____

10.2. Implementing perception verbs in the italian grammar (v. 0.3)

All the PDS verbs have been grouped in 4 verb types:

  a) PDS **control** verbs (φ , λ e ν)
  b) PDS verbs with *argument composition* (κ)
  c) PDS **monotransitive** verbs (governing a "che" finite clause)(μ)
  d) PDS **predicative** verbs (o)

As it concerns cases c) and d), lexical entries inherit from existing lexical types, namely:

  pds_verb_3 := trans-fin-complement-verb-le.

  pds_verb_4 := ditrans-predicative-verb-le.

As for cases a) and b), two new lexical types have been introduced:

  (pds_verb)_1 := perceptive-ctrl-verb-le.

  (pds_verb)_2 := perceptive-ac-verb-le.

  perceptive-ctrl-verb-le := verb-lxm &
  [SYNSEM.LOCAL [CAT [
        RV +,
        VAL.COMPS < #1 & [LOCAL.CAT.HEAD noun],
                      [OPT -,
                        LOCAL.CAT.HEAD base-or-fincompl & [DEACT -],
                        LOCAL.CAT.VAL.SUBJ < #1 >] >]]].

  perceptive-ac-verb-le := verb-lxm &
  [SYNSEM.LOCAL [CAT [
        RV +,
        VAL.COMPS < synsem &
                      [OPT -,
                        LOCAL.CAT [HEAD verb & [DEACT +],
                                    VAL.SUBJ < #1 & [LOCAL.CAT.HEAD noun] >,
                                    VAL.COMPS #comps &
                                        < synsem & [LOCAL.CAT.HEAD prep], ... >]]
                    . < #1 . #comps > >]]].

_____

A specific "*inversion rule*" is used for perception verbs:

perceptive-verb-inversion := d-word &
[SYNSEM subj-arg1-verb & dirobj-arg2 & [
                    LOCAL.CAT subj-verb-cat & [
                                    VAL.SUBJ #subj,
                                    VAL.COMPS < [LOCAL #2, OPT -],
                                                    [LOCAL #1, OPT -] >]],
    SYNSEM.NON-LOCAL #nonlocal,
    ARGS < verb-word & [
                    SYNSEM.LOCAL.CAT.VAL [
                            SUBJ #subj,
                            COMPS < [LOCAL #1 & [CAT.HEAD noun & [CLT -]]],
                                        [LOCAL #2 & [CAT.HEAD verb & [DEACT -],
                                                    CAT.VAL.CLT-COMPS -]] >,
                    SYNSEM.NON-LOCAL #nonlocal] >].

A new feature **DEACT bool** (introduced in *pred-st*) is used for the "deactivation" phenomenon: the value "+" is assigned by a lexical rule for infinitive verbs:

passive-infin-lex-to-word := base-passive-lex-to-word &
        [ARGS < infinitive-verb & [SYNSEM.LOCAL.CAT.HEAD.DEACT +] >].

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11 ABSOLUTE PHRASES: PARTICIPIAL AND GERUNDIVE

11.1. Introduction

Absolute phrases (both participial and gerundive phrases) in italian usually occur in a sentence initial position and play the role of (mainly) temporal modifiers.
For examples:

1. Partita Maria, Giovanni pianse
2. Partita, Maria pianse
3. Baciato il marito, Maria è felice
4. Baciato dagli amici, Giovanni è commosso
5. Ucciso Cesare, Roma cadde nella confusione
6. Avendo distrutto la moto, Giovanni va a piedi
7. Partendo per le vacanze, Maria sorrideva

A first distinction can be operated between AAP (*Absolute Aspectual Phrase*) and APP (*Absolute Predicative Phrase*)[8]:

- **AAPs: gerundive phrases** (for all types of verb) and **participials** with an "**active**" diath (for **transitive verbs** with a **direct object** or **intransitive verbs** (with or without subject) [see sentences 1, 2, 3, 5, 6, 7]

- **APPs: participials** with a "**passive**" diath (for **transitive verbs** neither preceded nor followed by an NP (the surface subject cannot be expressed) [see sentence 4]

The main difference between AAPs and APPs (not taking in account semantic or temporal and aspectual problems) is caused by the syntactic role: AAPs are **modifiers** of the governing phrase (matrix phrase); APPs are "predicatives" of the matrix phrase subject, in a kind of subj-control structure.

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[8] See Luca Dini, *Aspectual Constraints on Italian Absolute Phrases*, 1995

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11.2. The treatment of AAPs and APPs in the italian grammar

A possible approach could be to generate AAPs and APPS by using two distinct lexical rules, which could define the matrix phrase structure and deal with the indexation matter[9].

In the italian grammar there are already two lexical rules for past participles (one for the active diathesis, the other for the passive one), so that it seems more efficient to adopt a kind of "mixed" approach, making use of lexical constraints and specific schemata.

a) Lexical constraints

- **gerundive phrases**: a gerundive verb expands the type "*gerund-verb-word*", (*verb-word* subtype). The head of the MOD list is constrained to be a *verb* and its SUBJ list has to be empty:

gerund-verb-word := verb-word &
    [SYNSEM.LOCAL.CAT.HEAD
        [MOD < [LOCAL.CAT.HEAD verb,
          LOCAL.CAT.VAL.SUBJ < >] >]].

- **participial phrases**: a participle verb is the input of three lexical rules (two for the active diathesis, the third for the passive one) variously constraining the MOD list element:

active-lex-to-word := d-word &
    [SYNSEM [LOCAL [CAT [HEAD base-ppv & [
        MOD < [LOCAL.CAT.HEAD verb,
        LOCAL.CAT.VAL.SUBJ < >] >],
        CONT #cont & [HOOK.INDEX.E.DIATH active]],
      NON-LOCAL #nonlocal],
    ARGS < pastpart-verb & [SYNSEM.LOCAL [CONT #cont],
        SYNSEM.NON-LOCAL #nonlocal] >].

    tr-active-lex-to-word := active-lex-to-word &
        [SYNSEM.LOCAL.CAT.VAL.SUBJ < >,
        ARGS < [SYNSEM.LOCAL.CAT.HEAD [TRANS +,
          TRANSACT +] >].

    intr-active-lex-to-word := active-lex-to-word &
        [ARGS < [SYNSEM.LOCAL.CAT.HEAD [TRANS -,
          TRANSACT -] >].

_____

[9] Sentence 5 has an ambiguous interpretation. While in the other sentences the absolute phrase subject is easily detected, in the sentence "Ucciso Cesare, Roma cadde nella confusione" the name "Roma" could or could not be the subject of "ucciso". Anyway, the past participle "ucciso" has an active interpretation.

_____

passive-lex-to-word := d-word &
  [SYNSEM[LOCAL[CAT[HEAD base-ppv & [
                                    TRANS +,
                                    TRANSACT -,
                                    MOD < [LOCAL.CAT.HEAD verb-or-noun,
                                          LOCAL.CAT.VAL.SPR <>,
                                          LOCAL.CAT.VAL.SUBJ < >] >]],
                        VAL [SUBJ < [LOCAL.CAT.POSTHEAD -] >,
                              COMPS < [LOCAL.CAT.VAL.COMPS < >]
                                    . #rest   >]],
                  CONT.HOOK.INDEX.E.DIATH passive],
          NON-LOCAL #nonlocal],
    ARGS < pastpart-verb & [SYNSEM.LOCAL.CAT [HEAD.ERG -,
                                              HEAD.TRANS +,
                                              VAL.COMPS < [ ] . #rest >,
                                              VAL.SUBJ < [ ] >]] >].

More precisely:

- **Transitive verbs** are the input of the two *l-rules* **tr-active-lex-to-word** and **passive-lex-to-word**: as a result, two verb-words are generated with different values of TRANSACT (+ or -) and DIATH (*active* or *passive*).
  - Active transitive participles [TRANSACT +] have an empty SUBJ list as well as their matrix phrase (MOD)
  - Passive transitive participles [TRANSACT -], besides the modifications in the COMPS list caused by the passivation, can have only a POSTHEAD – subject and their matrix phrase needs an empty SUBJ list

- **Intransitive verbs** are the input of the **intr-active-lex-to-word** rule, obtaining the values "TRANSACT –" and "DIATH active"; the SUBJ list of their matrix phrase has to be empty

b) Specific schemata

Participial absolute phrases are treated by two schemata (construction rules):

i) Transitive active verbs (TRANSACT +) (direct object always expressed, subject NOT expressed). This rule doesn't treat sentences (highly stylistically marked) as "Ucciso Cesare dai nemici, Roma piombò nel caos" (Killed Caesar by the enemies, Rome falled into the chaos")

> **pre-head-sent-phrasal-modifier-phrase4** := pre-head-sent-modifier-phrase &
> [ARGS < [SYNSEM.LOCAL.CAT.HEAD verb & [TRANSACT +],
>   SYNSEM.LOCAL.CAT.VAL.SUBJ < [ ] >,
>   SYNSEM.LOCAL.CAT.VAL.COMPS < >,
>   SYNSEM.LOCAL.CONT.HOOK.INDEX.E.MOOD pastpart],
>   [ ] >].

ii) Intransitive or Passive verbs (TRANSACT -) (the subject has to be expressed in the matrix phrase)

> **pre-head-sent-phrasal-modifier-phrase5** := pre-head-sent-modifier-phrase &
> [ARGS < [SYNSEM.LOCAL [CAT.HEAD verb & [TRANSACT -],
>   CONT.HOOK.INDEX.E.MOOD pastpart]],
>   [SYNSEM.LOCAL.CAT.VAL.SUBJ < >] >].

Gerundive absolute phrases have partially different constraints in respect of participial phrases. For example, in an active transitive gerundive phrase the direct object could be unexpressed:

> Sbagliando, Giovanni ha imparato molte cose

And that's impossible in participial phrases:

> *sbagliato, Giovanni pianse*

> Sbagliata strada, Giovanni pianse

In a passive gerundive phrase, the surface subject can be expressed (in opposite to the participial phrase constraint):

> Essendo stato ucciso Cesare dai congiurati, Roma piombò nel caos

> *?? Ucciso Cesare dai congiurati, Roma piombò nel caos*

> Pugnalato dai congiurati, Cesare morì

_____

Three construction rules are needed for gerundive absolute phrases:

iii) Transitive active verbs (subject unexpressed)
(Note: the rule doesn't deal with stylistically marked sentences with expressed subj, as e.g. "Pronunciando il Presidente una sola parola, la situazione si è normalizzata")

> **pre-head-sent-phrasal-modifier-phrase1** := pre-head-sent-modifier-phrase &
> [ARGS < [SYNSEM.LOCAL [CAT [HEAD verb & [TRANS +],
>   VAL.SUBJ <[ ]>]],
>   CONT.HOOK.INDEX.E [DIATH active,
>   MOOD gerund]],
>   [SYNSEM.LOCAL.CAT.VAL.SUBJ < >] >].

iv) Passive verbs (with an optional subject)

> **pre-head-sent-phrasal-modifier-phrase2** := pre-head-sent-modifier-phrase &
> [ARGS < [SYNSEM.LOCAL [CAT [HEAD verb & [TRANS +], AUX +],
>   CONT.HOOK.INDEX.E [DIATH passive,
>   MOOD gerund]]],
>   [SYNSEM.LOCAL.CAT.VAL.SUBJ < >] >].

v) Intransitive verbs (no constraints)
(in this case the subject could be expressed: a sentence like "Essendo arrivato Giovanni, Maria partì" is absolutely grammatical and has no stylistic markers)

> **pre-head-sent-phrasal-modifier-phrase3** := pre-head-sent-modifier-phrase &
> [ARGS < [SYNSEM.LOCAL [CAT.HEAD verb & [TRANS -],
>   CONT.HOOK.INDEX.E.MOOD gerund]],
>   [ ] >].

All the rules above mentioned inherit from the following more general schema:

> **pre-head-sent-modifier-phrase** := head-mod-phrase-simple & head-final &
>   [SYNSEM [MODIFIED lmod,
>   LOCAL.CAT.VAL [SUBJ < >,
>   COMPS < >]],
>   ARGS < [REAL +],
>   [SYNSEM [LOCAL.CAT [VAL [COMPS olist],
>   HEAD verb & [MOD null]],
>   LOCAL.CONT.HOOK.INDEX.E.MOOD finite],
>   REAL +] >,
>   C-CONT.RELS < ! ! >,
>   C-CONT.HCONS < ! ! >].

_____

11.3. The absolute phrase sentence position

Introducing the absolute phrases, has been wrote that "*in italian usually occur in a sentence initial position".* Actually, they can occur as well in a sentenc final position (with a different semantic value). Playing with the sample sentences, we can generate:

> Giovanni pianse, partita Maria
> Maria è felice, abbandonato il marito
> Giovanni è triste, abbandonato dagli amici
> Roma cadde nella confusione, ucciso Cesare
> Giovanni va a piedi, avendo distrutto la moto
> Maria sorrideva, partendo per le vacanze

The only case of a not-grammatical result of such an inversion is for the sentence 2 "Partita, Maria pianse":

> * *Maria pianse, partita*

This sentence could be grammatical only when a verb modifier occurs, e.g.

> Maria pianse, partita per le vacanze

As for now, one generic schema deals with all possible post head modifiers:

```
post-head-modifier-phrase := head-adj -phrase &
     [SYNSEM.MODIFIED rmod,
      ARGS < [REAL +,
              SYNSEM #1 & [ LOCAL.CAT.AUX - ] ],
             [REAL +,
              SYNSEM.LOCAL.CAT [ HEAD [ MOD < #1 >] ] ] >,
      C-CONT.RELS < ! ! >,
      C-CONT.HCONS < ! ! >
                                      ].
```

This rule doesn't impose any constraint. As for participial and gerundive phrases, there are obviously all the constraints imposed at the lexical level (see above, 2.a). A sentence like

> * *Pianse partendo, Maria*

will have no parse result, given the absence of the matrix phrase subject.
data l'assenza di soggetto nella frase matrice. Only one possible grammatical inpterpretation will be given to sentences like:

> Giovanni pianse, baciato l'amico ("baciato" = active)
> Giovanni pianse, baciato dagli amici ("baciato" = passive)

_____

The generic **post-head-modifier-phrase**, anyway, constructs also some sentences grammatically dubious, as:

> *?? Giovanni pianse, baciato*
> *?? Giovanni pianse, baciando*

11.4. Still missing…

The current version of the Italian grammar does not deal with absolute phrases in the middle of a sentence, e.g. "Giovanni, *baciando la moglie*, era felice" or "Il presidente, *criticato da tutti*, diede le dimissioni". The latter case is parsed in its *attributive* acception ("*criticato da tutti*" as a modifier of the NP "Il presidente").

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APPENDIX I: 130 TEST ITEMS (with a rough english version)

1. *il cane abbaia*
   [the dog barks]
2. **il cane divora*
   [the dog devours]
3. *il cane divora i postini*
   [the dog devours the postmen]
4. **la cane divora il postino*
   [the(femm) dog(masc) devours the postmen]
5. **il cane divorano il postino*
   [the dog devour the postman]
6. **i cani divora il postino*
   [the dogs devours the postman]
7. *il cane buono abbaia*
   [the good dog barks]
8. **il cane buona abbaia*
   [the good(femm) dog(masc) barks]
9. *la vacca buona abbaia*
   [the good cow barks]
10. *il cane ha abbaiato*
    [the dog has barked]
11. **il cane ha morto*
    [the dog has dead]
12. *il cane è morto*
    [the dog is dead]
13. **il cane è morta*
    [the dog(masc) is dead(femm)]
14. **il cane è abbaiato*
    [the dog is barked]
15. **il cane ha stato amato*
    [the dog is been loved]
16. *il cane è stato amato*
    [the dog has been loved]
17. *il telefono è bruciato*
    [the phone is burned]
18. *il cane ha bruciato il telefono*
    [the dog has burned the phone]
19. *decidono i cani*
    [the dogs decide]
20. *il negoziante dà il telefono a il cliente*
    [the shopkeeper gives the phone to the customer]
21. *il negoziante dà a il cliente il telefono*
    [the shopkeeper gives to the customer the phone]
22. *il postino considera il cane feroce*
    [the postman considers the dog as ferocious]
23. *il postino considera feroce il cane*
    [the postman considers ferocious the dog]
24. **il postino considera feroci il cane*
    [the postman considers ferocious(plur) the dog(sing)]
25. *il cane sembra buono*
    [the dog seems good]
26. **il cane sembra buoni*
    [the dog seems good(plur)]
27. *il cane teme di abbaiare*
    [the dog is-afraid of barking]

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28. *il postino decide che il cane abbaia*
     [the postman decides that the dog bark]
29. *il cane vuole mordere il postino*
     [the dog wants to bite the postman]
30. *il cane può mordere il postino*
     [the dog can bite the postman]
31. *il cane vuole il postino*
     [the dog wants the postman]
32. *il postino vuole che il cane morda la borsa*
     [the postman wants that the dog bites the bag]
33. *il cane vuole essere amato da il postino*
     [the dog wants to be loved by the postman]
34. *il cane può volere mordere il postino*
     [the dog can want to bite the postman]
35. *il cane promette di mordere il postino*
     [the dog promise to bite the postman]
36. *il cane promette a il postino di mordere la borsa*
     [the dog promise to the postman to bite the bag]
37. *il cane promette di mordere la borsa a il postino*
     [the dog promise to bite the bag to the postman]
38. *il cane teme di morire*
     [the dog is-afraid of dying]
39. *il postino teme che il cane morda*
     [the postman is-afraid that the dog bites]
40. *il postino ordina a il cane di mordere la borsa*
     [the postman orders the dog to bite the bag]
41. *il postino ordina di mordere la borsa a il cane*
     [the postman orders to bite the bag to the dog]
42. *il cane può potere mordere il postino*
     [the dog can be-able to bite the postman]
43. **il postino può la partenza*
     [the postman can the leaving]
44. *il postino decide la partenza*
     [the postman decides on the leaving]
45. *il cane decide di mordere il postino*
     [the dog decides to bite the postman]
46. *il cane decide che morde*
     [the dog decides to bite]
47. *il postino decide che il cane morda la borsa*
     [the postman decides that the dog bites the bag]
48. *il postino ha constatato che il cane morde*
     [the postman noticed that the dog bites]
49. *il postino ha constatato la situazione*
     [the postman noticed the situation]
50. *il cane ha constatato di avere ucciso il postino*
     [the dog noticed to have killed the postman]
51. *il cane continua il postino*
     [the dog continues the postman]
52. *il cane continua a mordere il postino*
     [the dog continues biting the postman]
53. **il cane continua che morde il postino*
     [the dog continues that bites the postman]
54. **il cane continua di mordere il postino*
     [the dog continues of biting the postman]
55. *il cane pensa di mordere il postino*
     [the dog thinks of biting the postman]
56. *il cane va a mordere il postino*
     [the dog goes biting the postman]

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57. *il cane è stato amato da il postino*
    [the dog has been loved by the postman]
58. *il postino può essere amato*
    [the postman can be loved]
59. *il postino può essere amato da il cane*
    [the postman can be loved by the dog]
60. *la borsa può essere data da il postino a il cane*
    [the bag can be given by the postman to the dog]
61. *il cane vuole essere amato da il postino*
    [the dog wants to be loved by the postman]
62. **il cane è amato il postino*
    [the dog is loved the postman]
63. *il cane lo ama*
    [the dog loves him]
64. *il cane pensa di mordere lo*
    [the dog thinks of biting him]
65. *il postino gli ha dato un bacio*
    [the postman has given a kiss to him]
66. *il postino te lo ha dato*
    [the postman has given it to you]
67. *ogni cane si ama*
    [any dog loves himself]
68. *si è deciso che i cani feroci mordono*
    [has been decided that ferocious dogs bite]
69. *spesso i cani feroci mordono ogni postino*
    [frequently ferocious dogs bite any postman]
70. *il cane feroce spesso morde il postino*
    [the ferocious dog often bites the postman]
71. *spesso mentre il telefono vibra lo schermo si accende*
    [frequently while the telephone vibrates the display switches on]
72. *il valore effettivo di molti cellulari è scarso*
    [the effective value of many cellulars is poor]
73. *se restituisci un cellulare, i negozianti chiedono spesso la confezione intatta per il rimborso*
    [if you give a cellular back, the shopkeepers often demand the intact packaging for the repayment]
74. *il cellulare è stato conservato con molta attenzione*
    [the cellular has been kept with care]
75. *quando si vuole acquistare un telefono nuovo, puoi vedere su un buon sito le ultime offerte*
    [when you want to buy a new telephone, you can see in a good web-site the last offers]
76. *il modello precedente sembra essere buono*
    [the previous model seems to be good]
77. *penso che un cellulare nuovo possa piacere a ogni donna*
    [I think that a new cellular could be liked by every woman]
78. *se vuoi attivare la segreteria telefonica, ti consiglio di usare il numero gratuito*
    [If you want to activate the answering service, I advise you to use the free number]
79. *ogni cliente vuole poter verificare che la merce sia buona*
    [any customer wants to be able to check that the merchandise is good]
80. *spesso ho acquistato i cellulari in un negozio specializzato*
    [frequently I have bought the cellulars in a particular shop]
81. *avendo acquistato un telefono, il cliente lo sentiva trillare*
    [having bought a telephone, the customer heard it ringing]
82. *acquistato il telefono, il cliente verificò che era buono*
    [having bought a telephone, the customer heard it ringing]
83. *partito il cliente, il negoziante si è ucciso*
    [left the customer, the shopkeeper killed himself]
84. *amato da ogni negoziante, il cliente straniero acquista spesso molti cellulari nuovi*
    [loved by any shopkeeper, the foreign customer often buys many cellulars]

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85. *amato il cliente straniero acquista molti cellulari*
[loved the foreign customer buys many cellulars]
86. *in molti negozi vedo che i clienti sono scarsi*
[in many shops I see that customers are few]
87. *in molti negozi vedo i clienti amati*
[in many shops I see the customers loved]
88. *in molti negozi vedo amare i clienti*
[in many shops I see to love the customers]
89. *in molti negozi vedo molti clienti*
[in many shops I see many customers]
90. *in molti negozi vedo i cani che mordono i postini*
[in many shops I see dogs that bite the postmen]
91. *il cliente lo ha visto acquistare un telefono*
[the customer saw him buying a telephone]
92. *il cliente lo ha visto uccidere*
[the customer saw him kill]
93. *il cliente ha visto mordere il postino da un cane feroce*
[the customer saw to-bite the postman by a ferocious dog]
94. *il cliente lo ha visto mordere da il postino*
[the customer saw him to-bite by the postman]
95. *il postino vede mordere il cane*
[the postman sees bite the dog]
96. *il postino vede il cane mordere*
[the postman sees the dog bite]
97. *il postino lo vede mordere*
[the postman sees him bite]
98. *il postino lo vede mordere la borsa*
[the postman sees him (*lo*) bite the bag]
99. *il postino vede il cane mordere la borsa*
[the postman sees the dog bite the bag]
100.   *il postino gli vede mordere la borsa*
[the postman sees him (*gli*) bite the bag]
101.   *il postino glie la vede mordere*
[the postman sees him (*glie*) bite her (*la*)]
102.   *il postino vede mordere il cane da un topo*
[the postman sees bite the dog by a mouse]
103.   *il postino lo vede mordere da un topo*
[the postman sees bite him by a mouse]
104.   *il postino sente il cane abbaiare*
[the postman hears the dog bark]
105.   *il postino lo sente abbaiare*
[the postman hears him bark]
106.   *il postino vede il cane che morde la borsa*
[the postman sees the dog "that" (*che*) bite the bag]
107.   *il postino vede che il cane morde la borsa*
[the postman sees "that" (*che*) the dog bite the bag]
108.   *il postino lo vede che morde la borsa*
[the postman sees him "that" (*che*) bite the bag]
109.   *il postino vede il cane feroce*
[the postman sees the dog ferocious]
110.   *il postino vede il cane ucciso da un topo*
[the postman sees the dog killed by a mouse]
111.   *il postino vede il cane sotto il letto*
[the postman sees the dog under the bed]
112.   *il postino lo vede feroce*
[the postman sees him ferocious]
113.   *il postino lo vede ucciso*
[the postman sees him killed]

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114.   *il postino lo vede sotto il letto*
   [the postman sees him under the bed]
115.   *partito il postino abbaiava*
   [left the postman barked]
116.   *partito il postino il cane abbaiava*
   [left the postman the dog barked]
117.   *partendo il postino abbaiava*
   [leaving the postman barked]
118.   *il postino partendo abbaiava*
   [the postman leaving barked]
119.   *il postino partito abbaiava*
   [the postman left barked]
120.   *essendo partito il postino abbaiava*
   [being left the postman barked]
121.   *essendo partito il postino il cane abbaiava*
   [being left the postman the dog barked]
122.   *essendo ucciso il postino muore*
   [being killed the postman dies]
123.   *essendo stato ucciso il cane il postino abbaiava*
   [being killed the dog the postman barked]
124.   *ucciso il postino il cane abbaiava*
   [being killed the postman the dog barked]
125.   *ucciso da il cane il postino abbaia*
   [killed by the dog the postman barked]
126.   *il cane che abbaia morde*
   [the dog who barks bites]
127.   *il cane che morde il postino abbaia*
   [the dog who bites the postman barks]
128.   *l'uomo che le donne pensano che sia buono ama i cani*
   [the man that women think that is good loves dogs]
129.   *l'uomo che pensa che le donne amino i cani è buono*
   [the man that thinks that women love dogs is good]
130.   *il cane che vuole mordere i postini abbaia*
   [the dog who wants to bite postmen barks]