

THE LEXICON-GRAMMAR OF THE SENTENCE ADVERB IN ITALIAN: A PROPOSAL FOR A CLASSIFICATION

FERDINANDO LONGOBARDI
UNIVERSITÀ DEGLI STUDI DI NAPOLI "L'ORIENTALE"

Abstract – Traditionally, the adverb is an ill-defined category (see Elia 1982; Pecoraro, Pisacane 1984), considered to be an additional, unnecessary part of the speech, which is certainly not necessary to produce minimum speech such as a sentence. As a matter of fact, all the elements converging into the class of adverbs determine a far more complex group than the one outlined by traditional grammar. Sentence adverbs are in fact a heterogeneous class of words that can assume different semantic values and syntactic behaviours. Because of this heterogeneity, it is difficult to find a univocal definition. The main perspective adopted in this paper is a clarification of some of Zellig Harris' and Maurice Gross' themes. Starting from the research on sentence and distributional equivalence classes we propose a different interpretation of some classes of unary operators.

Keywords: classification of adverbs in Italian; syntactic constructions; distributional analysis; lexical restrictions.

1. Classes of sentence adverbs

Andorno (2003) defines the sentence modifier adverbs as elements that refer to an aspect of the sentence itself, and that comment the sentence as an assertion, a fact, a linguistic event or a choice of action.

All adverbs, playing the role of predicate adverbs, can also be used as sentence adverbs. The sentence adverb is, in fact, like a predicate whose topic is an entire statement.

The sentence adverbs can be located in a parenthetical or isolated position because they do not refer to a specific constituent but to the whole sentence:

- (1) *Quell'uomo si è comportato seriamente (avverbio di predicato).*
That man behaved seriously (predicate adverb).
- (2) **Quell'uomo si è comportato, seriamente (avverbio di predicato).*
*That man behaved, seriously (predicate adverb).
- (3) *Seriamente, quell'uomo non mi piace (avverbio di frase).*
Seriously, I don't like that man (sentence adverb).

The following adverbs are sentence adverbs (Andorno, 2003):

i) modal adverbs expressing the speaker's attitude in relation to the content of his own statement:

- (4) *I vostri amici non abitano più qui, chiaramente.*
Your friends don't live here anymore, obviously.

- (5) *Gianni andrà a lezione, presumibilmente.*
Gianni will go to the lesson, probably.

ii) Evaluating adverbs commenting on the event, process or state of things presented as a factual datum in the sentence:

- (6) *Purtroppo una minoranza può contare più di una maggioranza.*
Unfortunately, a minority can count more than a majority.
- (7) *Fortunatamente, è andato via.*
Luckily, he went away.

iii) event adverbs qualifying the event which has been denoted by the sentence from the speaker's point of view:

- (8) *Improvvisamente, è partito.*
Suddenly, he left.
- (9) *Inaspettatamente, se ne è andato.*
Unexpectedly, he left.

iv) the framework adverbs defining the range of validity of the sentence:

- (10) *Politicamente, si è comportato bene.*
Politically, he behaved well.
- (11) *Tecnicamente, non è possibile.*
Technically, it's not possible.

v) linguistic act adverbs qualifying the linguistic act made by the speaker. Therefore, sentence adverbs cannot modify the sentence – what one communicates – but the underlying intention one uses it with:

- (12) *Seriatamente (= parlando con serietà), credi che se la caverà?*
Seriously (= talking with seriousness), do you think he'll get by?
- (13) *Francamente (= parlando in tutta franchezza), non saprei rispondere.*
Frankly (= talking with frankness), I wouldn't know how to answer.
- (14) *Personalmente (= parlando da un punto di vista personale), preferirei chiudere il caso.*
Personally (= speaking from a personal point of view), I would prefer to close the case.

vi) the subject adverbs defining the subject's behavior regarding the action that the sentence expresses. These adverbs often coincide with some action adverbs. The difference between these two kinds of adverbs is particularly difficult: subject adverbs underline a way of "acting," that involves the subject's free choice; action adverbs simply underline a way of "doing":

- (15) *Prudentemente, non avevo aderito alla richiesta.*
Prudently, I did not adhere to the request.
- (16) *Intelligentemente, non ha dato risposta.*
Wisely, he didn't answer.

Traditional studies on adverbs have often provided a description and a division in categories mainly on a semantic basis.

The hypothesis of a taxonomy describing all possible forms of sentences in a language, regarding a free simple sentence, is based on the possibility to process verbal uses starting from their occurrence in sentences characterized by the presence of a certain number and a certain kind of relevant complements (Gross 1975).

This hypothesis, expressed differently, is based on the semantic intuition – largely accepted – that operators and topics represent the nuclear structure of the sentence. Some complements state the operator's topic such as an example or a process, while others only provide indications about circumstances of such a process or state, or occur in different nominal positions with a “modifier” function.

Since Jespersen (1948) modern linguistics has focused, instead, essentially on syntactic analysis criteria. Syntactic criteria involve distributional observations about contexts specified in terms of syntactic functions, constructions, or relations between constructions.

2. The limits of classifications

Adverb classifications found in traditional grammars are commonly based on semantic criteria, but they are considerably different (D'Agostino 2000).

Two limits come to light if we re-examine the previously mentioned classification methods. The first one is the excessive attention paid to verb operators. The second one is the imprecise application of the so-called “maximum expansion principle”.

In the first case, we are dealing with an explicit “verbocentrism”, i.e. with an underrating of those noun components acting within predication mechanisms. Maybe this is the reason why, for what concerns Italian, there has been a delay in investigating the nature and the classes of support verbs, and of the classes of equivalence established by them.

On the contrary, in the second case, the application of the principle of maximum expansion has at times produced misrepresentations of the connections existing between classes of elementary operators (both transitive and intransitive), and also between these operators and some particular classes of complete and infinitive verbs.

Actually, the analysis procedure based on “equivalence classes” has been applied in both cases incompletely. This means that it has been incompletely applied also for sets of sentences linked by “systematic correlation” – i.e. transformationally connected – that is to say for sets of sentences connected by morphemic and paraphrastic invariance.

2.1. The notion of “equivalence class”

The term “equivalence” is used to designate the correlation existing between objects having the same “value.” During the XX century, Linguistics also associated the notion of equivalence to the one of “distribution” (equivalent distribution and complementary distribution). In particular, value was the formal basis used to detect the notion of phoneme, which is one of the greatest methodological and epistemological discoveries of XX century Linguistics.

In fact, the notion of the phoneme makes the limits imposed by psychologicistic and substantialistic considerations disappear and lets the pure “relational” or system aspect

prevail. The commutation test essentially detects members of the same class, i.e. having the same value, regardless of any evaluation of major or minor physical identity.

The distributionalism and subsequently transformationalism of Harris' (1970) approach to syntax is actually based on the same relational dimensions. Physical diversity or identity within sequences produced by all possible sentence combinations are in fact not sufficient conditions to detect connections among different sentences and/or among the components of different sentences.

For instance, the equivalent distribution of a relative sentence and of an adjective suggests that these items have the same "value", regardless of any evaluation of concrete diversity.

The same symmetrical consideration may suit sequences which behind an outward formal identity show main structural differences. In this sense, as for syntactic analysis, an "equivalence class" will include sets of sentences being one a variant of the other, and having the same value; and transformations will just be the variation mechanisms leading from one sentence to the other, and vice versa.

2.2. The principle of "maximum expansion"

This principle comes from the work carried out in French by Boons-Guillet-Leclère (1976) and Guillet-Leclère (1992).

It has constantly been applied also to Italian Lexicon-Grammar classifications, even if it has never been explicitly formalized. It is based on the correct intuition of the predicate semantic field, which includes all the fundamental variables linked to such a function. Hence, while defining a lexical entry, it is necessary to start from these variables.

Together with the principle of maximum expansion, the notion of "substructure" has often been used. As a matter of fact, especially with transitive and intransitive sentence forms, it helped solve many classification problems.

3. Lexical-grammar properties of the sentence adverb

The research program called "Lexicon-Grammar of Italian Language" (from now on LGIL) was inspired by Maurice Gross' *Méthodes en syntaxe* (1975).¹

In the last thirty years, as for taxonomic analysis and description, it has focused on the following main topics: simple sentences and verbal operators; support-verb constructions and nominal operators; idioms and compound operators; compound forms; spoken language uses; applications of finite state automata theory; general and specialized frequency vocabularies.

In LGIL we can detect four main contributions: Elia-Martinelli-D'Agostino (1981) on completive, intransitive and transitive sentence forms; Elia (1984b) on completive sentences; D'Agostino (1992) on transitive constructions; Vietri (2004) on a general

¹ This article refers to the lexicon-grammatical theory of Maurice Gross. It retraces the distinctions between elementary and non-elementary operators made by Harris. Moreover it recalls some of Maurice Gross' principals about the so-called "lexically exhaustive grammar". This definition was used to indicate those grammars, which define the application domain of a syntactic mechanism taking over the lexical detail. The lexically exhaustive grammars express, regarding the whole lexicon, the so-called "strict categorization rules". See Elia *et al.* (1981), Elia (1984b), D'Agostino *et al.* (1992) and Vietri (2004) for any reference.

reformulation. In all books, in accordance with Harris, (1976) elementary operators were separated from non-elementary ones in order to achieve verb use analysis and classifications.

An adverb classification was realized in the research LGLI program by D'Agostino (2000) and Mirto (2013; see also Radimský, Mirto (eds) 2013).

Since the work of Greenbaum (1969) on adverbs in English, the use of syntactic tests has become a standard ingredient of typological studies on adverb classification.

Among many formal adverb definitions, we have decided to use the one by Jespersen (1948) because it is more suitable to the research regarding the lexicon-grammar theory.

According to Jespersen the adverb is a tertiary word combination, which can be represented – from a lexical and syntactic point of view – as a large range of structures that can be schematized as follows (if we consider them adapted to Italian):

1. traditional monolithic adverbs: *adesso, mai* (now, never);
2. traditional adverbs derived using the suffix *-mente*;
3. prepositional phrase: *di corsa, in tutta segretezza*;
4. syntagma resulting from sentences to finished verbs or infinitive (comparative *come*, gerund, past participle).

We have referred to Jespersen because he was one of the first to evaluate the possibility of considering the “adverb” as a syntagma or as a sentence as well. Recalling Harris (1976), regarding the insertion in the sentence of these complements as operators of elementary or non elementary (sentences) topics instead of using adverbs in the traditional grammatical way, we are going to state that, in an equal lexicon-syntactic structure, there are two kinds of complements:

- a. essential complements, identified by a verb (direct or phrasal);
- b. adverbial complements, that are not identified by a verb and are not essential to its lexical and syntactic characterization.

From this point of view, some complements (direct or indirect), specific for the verbal use in a semantic way, would be relevant in the definition of the verbal use. We can state that the traditional difference between “nuclear” and “non nuclear” retraces the difference between complements embodying arguments belonging to the predicate and complements that, like adjuncts, are not part of the predicate.

According to this analysis perspective, verbal operators can be defined as “functions” and elements connected to them as “variables,” semantically selected and syntactically modulated. This can be explained because topics are directly proportionate to operators.

This hypothesis has always entailed a distinction between “object complements” (either direct or indirect) and “adverbial complements” or tout court “adverbs;” incorporating adverbs, subordinate circumstantial propositions and the so-called “circumstantial complements” in the distributional category of *Adv*:²

² Since the distributions of adverbs and adverbial expressions are similar, they form the class of adverbials (see “adverbe généralisé” in Gross 1986, p. 11).

Meg gioca Adv

Adv → (*sempre* + *durante tutto il giorno* + *mentre la madre lavora* + *facendo attenzione a non far rumore*)

Meg plays Adv

Adv → (always + all day long + while her mother is working + trying not to make any noise)

The reasons for such a simplification of complement classification can be traced back to Gross (1986). However we can say that in the actual definition of object and circumstantial complements the statement of specificity in the first type and non specificity in the latter is partly unjustified. Hence if direct or indirect object complements are subject to restrictions of selection, the adverbs will be more or less subject to these restrictions too.

Gross (1986) underlines how different verbal forms select different adverbs, for example modal adverbs. Moreover see how “place” and “time” adverbs become acceptable by changing the operator. Their occurrence appears to be inadequate in the following sentence:

? *questo tavolo pesa 30 kg oggi a Roma*
? this table weighs 30 kilos today in Rome

or creates contrasting effects in the following sentence:

Questo disegno piace a Meg oggi a Roma
Meg likes this drawing today in Rome

which presumes that in another moment, or elsewhere, she did not like it. In sentences similar to the following one, it is instead normal:

Meg lavora oggi a Roma
Meg works today in Rome

These cases should not be confused with those that only apparently are examples of relations between the operators and the “place” and “time” adverbs”. See when adverbial complements seem to be necessary in the following sentences:

(17) *Max si comporta (bene + da fesso + ecc.)*
Max behaves (well + badly + etc.)

(17a) **Max si comporta*
*Max behaves

(18) *La storia risale (all'anno scorso + al momento in cui Max partì + ecc.)*
The matter can be traced back (to last year + to the moment in which Max left + etc.)

(18a) **la storia risale*
*the matter can be traced back

In sentences (17) and (18) the operator is represented by the adverbial complement while *comportarsi* (to behave) and *risalire* (to trace back) are an extension of the support verb *essere* (to be).

Examining operator adverbial complements using an approach similar to Harris', we should syntactically justify their introduction into the sentence.³

To do this we should resort to a particular type of *support verb construction*, the so-called *verbi supporto di occorrenza* (support verbs of occurrence) such as *succedere*, *aver luogo*, *prodursi* (to occur, to take place, to arise) allowing the connection of sentence (19) to sentence (20), in which sentence (19) is included in N₀, that is to say in the completive sentence having the structure Ch F V N (That S V N):⁴

- (19) *Max mangiava uova (in salotto + di notte)*
Max ate eggs (in the living room + at night)
- (20) *Il fatto che Max mangiava uova succedeva (in salotto + di notte)*
The fact that Max was eating eggs occurred (in the living room + at night)

For adverbial complements with nominal range we should refer to the support verbs of occurrence such as *essere* and *stare* (to be) which compared to other support verbs behave in an alternative way:

- (21) *Max chiedeva perdono in ginocchio*
Max begged forgiveness on his knees
- (22) *Max (era + stava) in ginocchio*
Max was on his knees
- (23) **Il fatto che Max chiedeva perdono (era + stava) in ginocchio*
*The fact that Max begged forgiveness (was) on his knees
- (24) **Il fatto che Max chiedeva perdono succedeva in ginocchio*
*The fact that Max begged forgiveness occurred on his knees

On one hand the adverbial complement *in ginocchio* (on his knees) cannot be used in sentence (24) in the same way as those shown in sentence (19); on the other hand while sentence (22) is completely valid with the verb *essere* and *stare* (to be), the same procedure (the introduction of the adverbial complement) cannot be used in sentence (23) because it becomes not valid.

The solution is a coreferential introduction allowing the connection of (21) and (22) through (25) which, having established the co-reference between *Max* and *Max*, deletes the support verb leading us to (21):

- (25) *Max chiedeva perdono // Max (era + stava) in ginocchio*
Max begged forgiveness // Max (was) on his knees

The other possible solutions – specifically those making relative (22) in (21) or parenthetical treatment of (22) with the gerundive form as in (26):

- (26) *Max, (E + che stava + stando) in ginocchio, chiedeva perdono*
Max, (E +who was + being) on his knees, begging forgiveness

³ See Gross (1986) for an exhaustive discussion.

⁴ This class is described in Elia (1984a) and (1984b).

also underline the introduction difference of the two kinds of adverb.⁵

4. The definition of sentence adverbs

Regarding the statute definition of Adv, it should be noticed that we have to consider not only the issue of restrictions for operator selection, but also another relevant factor: the influence of adverbs on different operator topics or, alternatively, as mentioned above, on the whole sentence.

See the following sentences:

- (27) Max è caduto in ginocchio
Max fell on his knees
- (28) Meg, in modo involontario, ha visto Luca in ginocchio
Meg, accidentally, saw Luca on his knees
- (29) Meg ha stupidamente annoiato tutti
Meg stupidly bored everybody
- (30) Meg ha sinceramente annoiato tutti
Meg sincerely bored everybody

Different relations can be easily underlined.

In sentence (27) there is a relation between the subject *Max* and the idiomatic adverb *in ginocchio* (on his knees); we can state that a sentence like the following one:

- (27a) **Max è caduto in ginocchio di Luca*
*Max fell kneeling of Luca

is not valid, while the sentence:

- (27b) *È Max che è caduto in ginocchio*
It's Max who fell kneeling

is in a transformational relation with the starting sentence.

Referring to sentence (28), we can notice that the application of the split sentence – regarding the idiomatic adverb *in ginocchio* (kneeling) – works with the direct object Luca and not with the subject Meg.

In fact we have:

- (28a) *È Luca che è in ginocchio (e non Meg)*
It's Luca who fell kneeling (not Meg)

In sentences (29) and (30) instead we have different issues. In fact while in sentence (29) we can notice as a paraphrase:

- (29) *Meg ha annoiato tutti con la propria stupidità*
Meg bored everybody with her stupidity

⁵ *N*₀ forms (*to be*) *Prep W* are dealt with in Vietri (2004) as fix and idiomatic sentences.

È la stupidità di Meg che ha annoiato tutti
It's Meg's stupidity that bored everybody

Tutti sono stati annoiati dalla stupidità di Meg
Everybody was bored by Meg's stupidity

on the contrary in sentence (30) we have the cancellation of the meta-discourse operator *Io* (*dico + suppongo + suggerisco + ecc.*) [I (say + suppose + suggest + etc.)] as follows:

- (30) *(io ((dico + suppongo + suggerisco + ecc.) (con sincerità + sinceramente + in modo sincero)) che Meg ha annoiato tutti*
(I ((say + suppose + suggest + etc.) (with frankness + frankly + in a frank way)) that Meg bored everybody

(è la mia sincerità che fa sì che io dica che) Meg ha annoiato tutti
(it's my frankness saying that) Meg bored everybody

This example shows how the adverb does not refer to the sentence's subject Meg but to the statement's subject I. In sentences similar to (30), after the distinction between "sentence adverbs" and "noun adverbs" we can underline the occurrence of adverbs regarding the "modal sense" of the sentence.

The term modal (Simone 1990) reveals an attitude of the speaking subject (or subject of the statement) regarding what has been told, or regarding the events, or told processes. In this issue the verbal uses usually called "modal operators"⁶ such as *potere*, *dovere* (shall, will, can, must) etc. are included:

- (31) *Meg (può + deve) giocare*
Meg (can + must) play

We can see – thanks once again to Harris (1976) – that the following sentences are equivalent:

- (32) *Che Meg giochi è (possibile + doveroso)*
It's possible that Meg plays (possible + right and proper) [it's possible for Meg to play]

corresponding to a structure in operators like:

Che F Essere (possibile + doveroso)
The fact that F is (possible + right and proper)

as the realization of unary operators O(o), of the Harrisian kind, that is to say operators in a sentence.

Harris (1988) reverses the accepted reasoning on the origin of sentences as in these examples. The infinitive sentence does not represent the starting sentence but operations result on adjectival elements: *possibile*, *probabile*, *chiaro*, *certo*, *vero*, *falso*, *dubbio*, *necessario*, *opportuno* (possible + probable + certain + true + false + doubt + necessary + proper) etc. in sentences like:

⁶ Traditional terminology used the definition "servile verbs" because of the formal compulsoriness of infinitive or completive sentence: *Eva vuole (partire + che tu studi)* [Eva would like (you to leave + you to study)] in contraposition with **Eva vuole* (*Eva wants).

- (33) È (*possibile + probabile + chiaro + certo + vero + falso + necessario + opportuno + ecc.*) *che Meg abbia ragione*
 It's (possible + probable + certain + true + false + doubt + necessary + proper + etc) that Meg is right

which finds equivalence with sentences like:

- (34) *Meg ha ragione* (*possibilmente + probabilmente + chiaramente + veramente + ?falsamente + necessariamente + opportunamente + ecc.*)
 Meg is right (possibly + probably + clearly + truly + ?falsely + necessarily + properly + etc.)

That is to say with sentence adverbs finding other lexical “resources” like other manner adverbs (-ly):

- (35) *Meg ha ragione* ((?*in (modo + maniera) possibile + in (modo + maniera) probabile + ecc.*))
 Meg is right ((? (possibly + probably + etc.))

And with verbal uses like:

- (36) *Meg può avere ragione*
 Meg is probably right

All of the sentences analysed, in this article, show the above-mentioned *modal* principle: the speaker’s opinion. This point of view can be connected to an applied operator after the metadiscourse operator *Io dico* (I say):

Io dico che io (credo + valuto + opino + ecc.) che Meg abbia ragione
 I say that I (think + believe + evaluate etc.) Meg is right

We have the linguistic evidence of the “point of view” especially for *valuto* (evaluate) and *opino* (think):

Io dico che (la mia valutazione + la mia opinione) è che Meg abbia ragione
 I say that (my thought + my opinion) is that Meg is right

which we will call here “operator of modal meta-discourse”.⁷

5. Conclusion

Distributional analysis is an iterative process. Tentative groupings are made on the basis of the behaviour of elements in a context; these classes have to be verified in other contexts; they are frequently reorganized along the way. In a procedure like the one explained above even if the arguments about modal aspects are only sketched here, the traditional category of sentence adverbs are limited to unary operators by Harris – i.e. applied to a single sentence – (Oo).

⁷ The idea of such an operator was stated for the first time by D’Agostino *et al.* (2007).

Moreover, identifying the aspectual foundations of names (and potential connected adjectives) and of adverbs (and possibly prepositions) means that this characteristic is not ascribable only to verbal forms as is commonly stated.

Actually, if the persistence of a traditional distinction between compulsory “objects” and discretionary “adverbs” based only on selection principles made by verbs appears to be inadequate, a new distinction based on the Harrisian consideration that sentence adverbs, regardless of their range, are “reductions of phrases” – belong to the typology of elementary paraphrastic transformations and to the elimination of constants – proves to be possible.

The classification proposed here on the basis of distributional criteria appears to be semantically plausible, and is compatible with other studies using semantic criteria.

Bionote: Ferdinando Longobardi teaches Computational Lexicology at Università degli Studi di Napoli “L’Orientale”. He is interested in syntax, semantics and sectoral languages. He has been a lecturer in several Italian Universities.

Author’s address: flongobardi@unior.it

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