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Italian Audition Verbs: A Corpus– and Frame–based Analysis

Abstract

The study described in this paper was carried out within the framework of the LRE–DELIS project, which proposes a corpus–based lexicographical approach and frame–based semantic theory in dictionary construction. In particular, this method is applied here to a subset of the Italian perception verbs *sentire, udire*, and *ascoltare* representing the lexical field of audition. Frame semantics and a particular descriptive strategy are used to structure the data and to correlate syntactic/morphological and semantic properties. This has allowed us to consistently describe differences and similarities in meaning between the three verbs and to integrate the lexical information already contained in dictionaries, in order to contribute to the design of more complete and detailed lexical entries, for both human–oriented dictionaries and computational lexicons.

1. Introduction

From a methodological point of view, this paper adopts the DELIS approach (DELIS Technical Annex 1992),[1] which proposes an integration between lexicographical work and theoretical assumptions in corpus data exploration. Lexicographer intuition is theoretically supported by hypotheses, according to which it is possible to discover and to structure in a consistent way the mine of data contained in a corpus (Alonge et al. 1993). Fillmore's Frame semantics (Fillmore 1982; Fillmore and Atkins 1992) is taken as 'fil–rouge' to structure the complexity of elements involved in meaning distinction and to describe in detail the semantic aspects of a word. Furthermore, a meticulous analysis of corpus lines makes it possible to correlate syntactic and semantic properties, i.e. to link semantic distinctions to particular syntactic realizations (Monachini et al. 1994).

In what follows, this method is applied to a subset of Italian perception verbs expressing the semantic field of audition, *sentire, ascoltare* and *udire*: their occurrences within the Italian Reference Corpus are analysed with the aim of discovering differences and/or similarities in behaviour, trying to outline their meanings in a more precise way, in order to integrate, when possible, the lexical information contained in dictionaries.

In native speaker intuition, the three verbs can be represented at opposing corners of a triangle: *ascoltare* (to listen to), on the one hand, is used to express audition when the will of the perceiving subject is involved; *udire* (to hear), on the other hand, expresses non–voluntary perception. Things are more complicated with *sentire*, which either covers all the perception fields except vision or, as far as audition is concerned, corresponds in meaning to both *ascoltare* and *udire*. Of the three verbs, *sentire* appears as the most general and the most frequent, often acting, it would seem, as a stand–in for the other two more specific verbs. For these reasons it is important to provide criteria which can help to distinguish the two primary meanings, in particular for both Italian learners and translators.

The most commonly used Italian dictionaries, Zingarelli and Garzanti, provide no consistent information about the actual usage of these verbs, and contribute even less to explaining the different contexts and situations in which each verb is employed. A rapid look at their definitions is sufficient to demonstrate both inconsistency and typical circularity.
The first definition of *ascoltare* in Garzanti is:

– *'udire con attenzione'* (to hear with attention);

in Zingarelli:

– *'stare a sentire'* (to be listening).

Garzanti presents two word senses of *sentire* in its audition sense, which are formulated as follows:

– *'udire, ascoltare, prestare attenzione'* (to hear, to listen, to pay attention),
– *'informarsi, venire a sapere'* (to inquire, to learn).

In the Zingarelli entry, which is the most complete and better structured, all the meanings associated with the audition modality are listed under the first word sense.

No other explicit clue is provided concerning the different meanings, i.e. *ascoltare* or *udire* relative to the passive or active actitude of the experiencer, or with regard to the admitted (or non–admissible) syntactic structures, or even less the connection between meaning and syntactic and/or morphologic realization.

For this type of information, corpus data provides the necessary evidence.

2. Linguistic analysis of corpus evidence

The annotation phase of corpus lines has been carried out using the F.A.T. tool implemented in Pisa (Federici 1993) and following the DELIS encoding scheme (Krüger and Heid 1993) which allows a detailed description of each

analysed context, as shown in Figure 1. The focus of the linguistic analysis is the correlation between the syntactic and the semantic properties of these verbs. Hence, the clues identifying what distinguishes the passive vs. active attitude, as well as the various shifts of meaning and contact points between *sentire–ascoltare* and *sentire–udire*, are evidenced in terms of syntactic patterns (subcategorization structure, clause complementation) and in terms of semantic features (selectional restrictions, semantic class of typical objects and typical modifiers, frame elements).

2.1 Syntax

2.1.1 Meaning and syntactic structures

Since *sentire* is the richest in meaning and syntactic configurations, it will be taken as reference point on typical patterns; the two other verbs will be described as regards their similarities or differences.

The transitive form of the verb shows the following argument structure:

```
(a)     NP  +  V  +  NP  (+  PP-complements)
(b)     NP  +  V  +  (NP) + VP  (bare infinitive) / + VP (bare infinitive) + NP
(c)     NP  +  V  +  NP  +  che (pseudo-relative)
(d)     NP  +  V  +  that clause
```

The intransitive and reflexive forms are also attested, but with peculiar meanings: the first, often accompanied by the pleonastic clitic particle *ci*, expresses the bare physical capacity of hearing: *Egli non sente/non ci sente* (He can't hear). The reflexive form *sentirsi* is used as reciprocal, with the meaning of 'to speak to someone on the phone'.

Ascoltare and *udire* only present the transitive form and both share with *sentire* pattern (a), but differentiate as regards (b), (c) and (d).

Patterns (b) and (c) constitute the so–called perceptive construction, extensively studied in the literature (Renzi 1991; Burzio 1986). The two typical syntactic patterns which alternate in this construction are the bare infinitive (with subject controlled by the object of the governing verb) and the pseudo–relative clause (Cinque 1992).

At the intuitive level, this construction is allowed with the three audition verbs, but the systematic observation of the actual usage of the perceptive construction in the corpus has shown idiosyncrasies connected with their semantic similarities and differences. The construction appears to be frequently used with *udire* (about 50% of corpus lines contain it), and *sentire*, while it is scarcely used with *ascoltare* (only 26 instances: 1%); this suggests a strong correlation with passive perception.

The same behaviour has been observed as regards construction (d): no instances appear within the subset of *ascoltare*, while the construction shows a high frequency in *sentire* and some occurrences in *udire*.

Ascoltare typically presents pattern (a), in the following variants in which the object can be expressed (or not):

```
NP + V + Adj. or Past Part.      + NP    ascoltava attento        he listened careful(ly)
NP + V + PP-con / in / a / per   + NP    ascolta con interesse    he listens with interest
NP + V + modal Adverb            + NP    ascoltava distrattamente he listened carelessly
NP + V + Gerundive sentences     + NP    ascolta approvando       he listens approvingly
NP + V + Sub.Clause subj.control + NP    ascolta senza aprire bocca ' ' without opening his mouth
```

These constructions act as manner complements in the context, specifying the mental and/or physical attitudes of the experiencer with respect to perception and reinforcing the active sense contained in *ascoltare*. These types of patterns are absent within the subset of *udire* and are rarely attested with *sentire*, except in those contexts where it is the carrier of an active value (see 2.1.3), as for example in *Mario stava a sentire a bocca aperta* (M. was listening with his mouth open).

A further proof of the double valence of *sentire* and of the sharp opposition between *ascoltare* and *udire* is the fact that, unlike *ascoltare* and *sentire*, *udire* does not allow the causative construction: *Mario fece sentire/ascoltare il disco a Maria* (M. made M. listen to the record) and not **Mario fece udire il disco a Maria* (*M. made M. hear the record).

2.1.2 Meaning and morphologic features

As regards cases in which particular meanings are strictly correlated to some morphological inflections, a similar behaviour was found concerning *sentire* and *ascoltare*, in connection with the exhortative/imperative construction. All the syntactic variants of this pattern are restricted to specific inflected forms, (2nd sing./pl. Imperative and 3rd sing. present Subjunctive used as polite form). The construction is peculiar to the colloquial register and the sense of audition sharply moves towards an active way of perceiving. In this case the verbs are used to establish a contact between speakers and recall the attention of the listener to something: as can be seen from the examples below *sentire* exactly corresponds to *ascoltare*:

```
sentire / ascoltare       +   punctuation marks (+ proper noun/noun denoting person)
Ex:      Ascolta.  Senti,   Senta, avvocato   Ascolta, Maggie   Sentite, disse Henry
         Listen.   Listen.  Listen, layer     Listen, M.        Listen, H. said
```

Another construction shared by *sentire* and *ascoltare* with a shift of meaning towards the speech act sense was found to be preferably associated with past participles in the passive voice used in particular in the future and in the present perfect form, as in

```
Domani sara' ascoltato/sentito il boss M.G.
The boss M.G. will be listened to tomorrow
```

These forms are used in quite a euphemistic way instead of *interrogare* (to interrogate) when the listener is a magistrate, and they are typical of the judicial language.

2.1.3 Complex verbal forms

Another useful point aimed at identifying the connections between *ascoltare* and *sentire* is concerned with complex verbal forms constituted by modal and movement verbs as governing predicates plus the infinitive of the perception verbs as governed with controlled subject. A few examples are:

```
andare a sentire        stare a sentire         mettersi a sentire
to go to listen         to be listening         to start listening

fermarsi ad ascoltare   affacciarsi ad ascoltare  chinarsi ad ascoltare
to stop to listen       to lean out to listen     to bend down to listen
```

From a semantic point of view, the governing verbs transfer their active character onto *sentire*, which in these contexts implies a conscious subject in the perception. Such governing predicates were not found with *udire*.

2.2 Semantics

In the following, the argument structure and the sentential complementation described in the preceding sections will be discussed in terms of Frame Elements and relevant semantic classes. In this way, further features will be added to the analysis of *sentire* with respect to the other two verbs of the field. The audition Frame is constituted by two major Frame Elements, corresponding to subject and object of perception.

2.2.1 Experiencer

The subject represents the Experiencer that can be subdivided into (i) active, whose mental attitude is actively involved in the process of audition (proper to *ascoltare*), and (ii) passive, who bears audition independent of his will (proper to *udire*). *Sentire*, depending on the context, admits both types: in most cases, the subject (as in *udire*) is represented by the impersonal *si*, which can be interpreted as a generic, indefinite Experiencer, seen in a passive attitude; in other cases, *sentire* shares with *ascoltare* the active Experiencer, i.e. in complex verbal forms, in the juridical domain and in allocutive constructions (expressed with a vocative). The semantic class to which the Experiencer belongs is 'human' and, in some cases, 'animal'.

2.2.2 Percept

The object of the perception, i.e. what is heard, is defined as Percept. This Frame Element, given the rich argument structure of these verbs, is divided into subtypes, as described below.

The NP–object can represent either the Percept–Source or the Percept–Stimulus. An immediate criterion for disambiguation between the two is represented by the semantic class: 'human', 'animal', 'artifact' and 'natural phenomena' are typical as Source, while 'sound' and 'speech', 'gestures', usually express Stimuli. If the NP–object is a Stimulus, the Source, when expressed, is found in a PP–*di*:

```
sentire la mamma-SRC/la voce-STM   udire il leone-SRC/il ruggito-STM   ascoltare l'amico-SRC/il discorso-STM
to listen to mother/the voice      to hear the lion/the roar           to listen to the friend/the speech

la voce-STM della mamma-SRC        il ruggito-STM del leone-SRC         il discorso-STM dell'amico-STM
the voice of the mother            the roar of the lion                 the speech of the friend
```

The three verbs show some differences concerning the selectional preferences for the typical objects as Stimuli:

– *Sentire*, as the most frequent and general, presents the widest range of semantic classes: 'sound' goes from *suono*, the hypernym of the class passing through the synonyms or hyponyms *rumore* (the most frequent, 67 instances), *fruscio, richiamo, rombo, ronzio, scalpitio, ticchettio* (noise, rustle, call, rumble, buzz, pawing, ticking) etc., down to the extreme of onomatopeia, *clic, tic–tic, plop*, etc. The subclass of 'animal sounds' is also frequently attested as clearly linked to animal Sources. In the class of 'speech acts', *voce* (voice) represents the most used object, together with a few instances of *discorso, parole, opinione, parere* (speech, words, opinion), etc. All these Stimuli are connected to a human Source type. With Sources expressed by nouns denoting technical experts, *tecnico, dottore, avvocato* (engineer, doctor, lawyer), the sense of the verb is *consultare, interpellare* (to consult) someone in order to know his opinion or follow his advice, in the field of voluntary audition.

– *Udire* operates selectional preferences on the class of 'sound', which is the most frequent and attested in all its range, including onomatopeia; the class of 'speech acts' (*voce*, in particular) is also attested.

– *Ascoltare* prefers 'speech acts' such as *voce* (voice) and *discorso, parole, storie, racconti, letture, commenti* (speech, words, tales, stories, readings, comment), i.e. a particular subclass which implies the attention of the Experiencer and human Source type. The class of 'music' *musica, dischi, concerto, rock* (music, records, concert, rock) (with *musica* as the most frequent) is frequently selected. The class of 'sound' is also attested with

ascoltare, but this verb does not present the same rich 'nuance' of sounds as the other two.

Voice appears to be indifferently used with the two attitudes: as a matter of fact it can be seen at the opposite ends of the two sets, as the intersection between the two semantic classes 'speech acts' and 'sound', which are preferred by the active and passive attitude respectively.

The perceptive construction, from a frame semantic point of view, expresses an Interpretation. In this construction the semantic classes preferred are those of 'speech acts' and 'sound/noise production' verbs.

```
(a) sentii aprire/chiudere la porta
    I heard the door open/close

(b) immediatamente si senti' il rumore di una porta che si apriva/che si chiudeva
    immediately the noise of a door opening/closing was heard
```

In (a) perception and interpretation of the opening and/or the closing of the door are immediate, i.e. +direct. In (b) the Experiencer perceives the Stimulus by ear and then interprets the perception: in this case, the interpretation seems to be mediated by the subject, i.e. of –direct type.

The *that*–clause is used with *sentire* and *udire*, while it is absent with *ascoltare*.

```
(c) Senti' che nell'altra stanza c'era gente
    He heard that there were people in the other room

(d) dalla voce senti' che era suo padre
    from the voice he heard that it/he was his father
```

In the above examples, the Experiencer deduces something from an auditive perception: he makes an Inference. The sense is *dedurre* (to deduce), *accorgersi* (to realize). The sentence (d) attests an example of Stimulus rendered by a PP–*da*, a rare syntactic realization which is only found in connection to the Inference.

The *that*–clause can also semantically express a reported fact, as in:

```
Senti' che M. era stato licenziato
He heard M. had been sacked

... udire che mio padre era stato ferito
... to hear that my father had been injured
```

Here *sentire* and *udire* share the sense of *sentir dire* (to hear), *venire a sapere* (to learn) with a shift towards the cognition verb class.

In frame semantic terms the modifiers of the verbs constitute the Adjuncts to the Frame and are crucial for the clarification of the verb sense. The adjuncts which typically accompany *sentire* and *udire* belong to the 'time' semantic classes and mainly express the immediacy of the perception, *all'improvviso, ad un tratto, immediatamente, in quel momento, subito* (suddenly, all of a sudden, immediately, in a moment, at once). The adjuncts of *ascoltare* are of 'manner' type and semantically hint at an active attitude of the Experiencer, *attento, divertito, incuriosito, rapito, speranzoso* (careful, amused, curious, ravished, hopeful).

3. Final remarks: what should be added to dictionaries?

The results of this theory–guided lexicographical analysis of the audition field have shown that some aspects of meaning, not fully accounted for in many general language dictionaries, can instead be explained by relating the semantic and syntactic features emerging from corpus evidence. Figure 2 synthetically describes this kind of work and what should be added or made explicit within the entries, especially in learners' and bilingual dictionaries and in computational lexicons.

First of all, a clear statement should indicate the passive vs. active semantic value of the Experiencer: this semantic feature has particular implications for *sentire*, which has a high degree of polysemy, different basic word–senses *ascoltare* and *udire* and different syntactic constructions depending on this Frame Element.

Furthermore, the following information should be integrated in the entries:

– the perceptive construction and the *that*–clause are linked to the immediacy of the audition and a passive way of perceiving. Within the passive attitude, either *udire* or *sentire* acquire different senses, in the presence of the former or the latter, as seen above.
– the entry for *ascoltare* should inform the user that the perceptive construction is rarely attested and that the *that*–clause is not allowed.
– the active sense of *sentire*, connected with complex verbal groups and the exhortative/imperative construction, should be made explicit.
– selectional preferences operated by the verb on the object (Percept–Stimulus in frame semantic terms) should be specified. *Il colpo di un fucile* or *il rombo di un temporale* (the shot of a gun or the thunder of a storm) are heard and not listened, while *un disco* or *le parole* (a record or the words) and their synonyms and/or hyponyms are listened to. The difference between the types of objects selected by the two senses of *sentire* is that the former are noises, suddenly produced by a source, which hit the auditive means of the experiencer without involving his will; the latter are things or situations which the experiencer can enjoy or evaluate.

– the semantic domain in which a verb is used may help distinguish a particular sense: no dictionaries specify that *sentire* and *ascoltare*, if used in juridical language, mean 'to interrogate' with an active Experiencer.
– the information concerning the Adjuncts, which are usually of the 'manner' type for the active attitude and of the 'temporal' type for the passive one, should be integrated.

Regarding the correspondence *sentire–ascoltare* and *sentire–udire*, another problem which should be dealt with in dictionaries is the preference for *sentire* compared with *udire* or *ascoltare*: this seems to be linked to stylistic reasons or to a particular linguistic register, written vs. spoken, regional vs. national or familiar vs. official language. In this respect it must be said that, in contemporary Italian, *udire* sounds rather obsolete and literary, and corpus data confirms this intuition, showing that it has the lowest frequency. This means that the semantic field of audition is indeed mostly expressed by *sentire* and *ascoltare*, which represent the two opposite modalities of passive and active audition.

Notes

1   DELIS (Descriptive Linguistic Specification and Tools for Corpus–based Lexicon Building) is a project sponsored by the EEC, in action line of LRE. The project fits into a consolidated trend as regards linguistic researches dealing with the study and creation of reusable linguistic resources (Calzolari and Zampolli 1990) and falls within the framework of electronic corpora and dictionaries interaction (Bindi et al. forthcoming).

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Figure 1. Output of the FAT tool: example of coding with CEES

```
improvvisamente cominciai a
sentire
gli animali agitarsi tra gli alberi intorno a me

KW    KeyWord              : sentire
TF    Text Form            : sentire
MI    Morphol.Info.        : V/f

SD    Semantic Domain      : Perc: A
ST    Sense Tag            : normal
LD    Language Domain      : GL

GP    Governing Predic.: cominciare
XP    Expression           : cominciai a

VO    Voice                : active
CT    Clause Type          : declarative
PO    Polarity             : positive
IN    Inversion            : no
LC    Local Context        : VP
ET    Embedding Type       : VPinf

SR    Semantic Role        : E:pas
GF    Grammat. Function: subj
PT    Phrase Type          :  --
GA1   Sem/Synt. Attrib.: human
GA2   Sem/Synt. Attrib.: +control
GA2   Sem/Synt. Attrib.: +definite

SR    Semantic Role        : P:int
GF    Grammat. Function: bare-inf
PT    Phrase Type          : VPinf
XP    Expression           : agitarsi
GA2   Sem/Synt. Attrib.: +direct

SR    Semantic Role        : P:src
GF    Grammat. Function: obj
PT    Phrase Type          : NP
XP    Expression           : gli animali
GA1   Sem/Synt. Attrib.: animal
GA3   Sem/Synt. Attrib.: +overt
GA4   Sem/Synt. Attrib.: +definite

SR    Semantic Role        : A:time
GF    Grammat. Function: adv
PT    Phrase Type          : AdvP
XP    Expression           : improvvisamente
GA1   Sem/Synt. Attrib.: time
```

Figure 2. Table of correspondence between Frame Elements and syntactic realizations

	Exp.act.	Exp.pass.	Perc.Stim.	Perc.Src.	Perc.Int.	Perc.Inf.
Sentire	Subj(*) NP	Subj NP	Obj NP	Obj NP di-compl PP-di	bare-inf VP-inf pseudo-rel che-cl	that-cl che-cl
Ascoltare	Subj NP	—	Obj NP	Obj NP di-compl PP-di	bare-inf(*) VP-inf pseudo-rel(*) che-cl	—
Udire	—	Subj NP	Obj NP	Obj NP di-compl PP-di	bare-inf VP-inf pseudo-rel che-cl	that-cl che-cl

(*) rare