

Inferential connectives: the example of Italian *come si vede*

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Résumé

Les origines lexicales diverses des marqueurs discursifs signalant une connexion inférentielle laissent entrevoir la grande richesse sémantique de ce type de connecteur. La présente contribution traite un marqueur italien basé sur un verbe de perception, come si vede ('comme on le voit'), qui, parmi d'autres fonctions, peut signaler une connexion inférentielle. L'analyse, basée sur un corpus écrit, décrit la polyfonctionnalité de ce marqueur, sa spécialisation pour certains loci et le rapport entre ces fonctions et le signifié compositionnel. L'approche choisie met en valeur la relation conceptuelle entre les connexions inférentielles dans le discours argumentatif et la catégorie de l'évidentialité.

Mots clés : marqueur discursif, discours argumentatif, évidentialité, étude de corpus

1. Introduction

Connectives relate segments of discourse, contributing to text cohesion by explicitly marking discourse/rhetorical relations (Mann & Thompson 1988, Ferrari 1995, Asher & Lascarides 2003) that in their absence would have to be inferred on other grounds and, at least in some cases, remain more vague. The relations signaled by *inferential* connectives hold between propositions and imply mental operations by the speaker (S) and/or the addressee (A); they can therefore be classified as discourse markers, i.e. expressions that are external to propositional content and relate discourse segments to aspects of co-text and situational context (Bazzanella 2006).

The semantic core of an inferential relation can be described as a relative necessity relation between a set of premises assumed as true (with varying degrees of certainty) and a conclusion that necessarily follows from that set. Inferential connectives share this basic meaning with modal operators of necessity (cf. Kratzer 1981) and with evidential markers indicating inference as an information source¹.

¹ Evidential operators specify the way the speaker has acquired an information he or she is asserting or hypothesizing and thus the type of evidence that justifies the performed (weak or strong) assertive speech act. Willett (1988) distinguishes three main types of information source: direct experience and two types of indirect knowledge,

What distinguishes inferential connectives from modal and evidential operators is that they presuppose at least one proposition of the premise set to be made explicit in the immediately preceding or following co-text and that they require a specific linear order of the various textually expressed propositions.

In this article, I will concentrate on inferential connectives that signal a transition from premises to a conclusion (P>C connectives)². I will discuss one discourse marker in particular, the Italian impersonal expression *come si vede* 'as you (can) see', which can fulfill both evidential and text-connective functions.

The logical concept of relative necessity is crucial to define P>C connectives and, more generally, the argumentative act (even if linguistically unmarked) of passing from an argument to a conclusion. It accounts for a central pragmatic property of inferential discourse relations, i.e. the fact that they not only link textually given propositions, but presuppose the existence of an appropriate larger premise set warranting the P>C transition. This existential presupposition influences the addressee's interpretation of discourse and triggers the inference of implicit premises in the case of enthymemic argumentation³.

The meaning and function of P>C connectives cannot be reduced to this logical concept, though. Languages usually possess several P>C connectives, each covering a range of functions and imposing restrictions on the entities in the marker's scope and on the inference relation itself. The existing research on P>C connectives shows that such restrictions regard the epistemic, evidential, illocutionary and textual/conversational properties of the entities in their scope⁴; some studies suggest, moreover, that certain markers impose restrictions on

namely others' discourse and inference. The typological relevance of this basic categorization is by and large confirmed by Aikhenvald's (2004) survey, which concentrates on languages with grammaticalized evidential systems. It is a useful point of departure also for the analysis of lexical and discourse-based strategies to express information source.

² On the inverse order cf. Sweetser's (1990, 76-78), Blochowiak's (2010) and Moeschler's (in press) analyses of causal and inferential uses of English *because* and French *parce que* as well as Günthner's (1993) and Keller's (1995) analysis of inferential *weil* in German.

³ The theoretical and methodological issue of how to reconstruct implicit argumentative relations and premises has been discussed in argumentation theory, e.g. in Pragmatics-Dialectics (van Eemeren & Grootendorst 2004, 95-122) and by the proponents of the Argumentum Model of Topics (Rigotti & Greco 2010).

⁴ See Gerecht (1987), Zénone (1982), Mosegaard Hansen (1997) and Jayez & Rossari (1998, 2001) on French *alors, donc, par conséquent, ainsi, aussi*; Ferrari & Rossari (1994) on French *donc* and Italian *dunque, quindi*; Bazzanella et al. (2008), Bazzanella & Miecznikowski (2009) and Miecznikowski et al. (2009) on Italian *allora*; Schiffrin (1987), Blakemore (1988) and Bolden (2009) on English *so*, Sweetser (1990, 78) on English *therefore*.

the inference schemes (the type of premise sets) warranting the conclusion⁵.

Despite the growing body of research dedicated to discourse markers, variation within this particular class of discourse markers is still only partly understood. Among other open questions, it is not clear which patterns of polyfunctionality and functional specializations are preferred cross-linguistically. Furthermore, existing studies provide only fragmentary evidence about the relationship between discourse functions and aspects of referential meaning. The present corpus-based study⁶ is meant to contribute another fragment to complete the picture. The example of *come si vede* will allow me to explore evidential-connective polyfunctionality and, within connective functions, a zone that ranges from certain types of premise-conclusion relations to paraphrase and summary. These functions will be related to the expression's compositional meaning, focusing in particular on the contribution of the *come* construction, on deixis, and on the contribution of the perception verb *vedere* 'to see'.

2. Variation in meaning and function in P>C connectives

Besides highly grammaticalized P>C connectives (e.g. French *donc* / Italian *dunque* or Polish *więc*⁷), many languages have P>C connectives that maintain some conceptual, event-related meaning, either as a transparent reminiscence of earlier uses or as a synchronically relevant autonomous reading. Even a rapid glance at the lexemes

⁵ Comparing French *alors* and *donc* with two less grammaticalized P>C connectives, *de ce fait* and *du coup*, Jayez & Rossari (2001) observe that the markers differ as to the set of "inference rules" they are compatible with. Discussing a series of constructed examples, the authors argue that *alors* and *donc* can signal inferences based both on "causal rules" (from the cause to the effect) and on "abduction" (from the effect to the cause), whereas *de ce fait* and *du coup* are acceptable only with the first type ("causal rules"). Interestingly, causal order asymmetries occur in the domain of evidential markers as well, as shown by Rocci (2012) with regard to the Italian modal verb *dovere* 'must' (which prefers different causal orders when used in the indicative and in the conditional mood) and Miecznikowski & Musi (2015) with regard to Italian *sembrare* 'to seem' (which prefers inferences from the effect to the cause over those from the cause to the effect).

⁶ This study has been conducted within the Swiss National Foundation project n. 141350 "From perception to inference. Evidential, argumentative and textual aspects of perception predicates in Italian", Università della Svizzera italiana, 2012-2015 (direction: Johanna Miecznikowski and Andrea Rocci). I would like to thank Elena Musi, who collaborated to the project, for having contributed to data collection.

⁷ Diachronically, the origin of *donc/dunque* is not entirely clear, but lexicographers agree that the Romance particle derives from one or more Latin adverbs with inferential and temporal meaning (cf. in particular *Trésor de la langue française informatisé*, s.v. *donc* and Cortelazzo & Zolli 1989, s.v. *dunque*), none of which has survived in modern French and Italian. *Więc* derives from a comparative form etymologically related to *więcej* 'more', maybe via a metadiscursive use.

involved in the expression of P>C connectives in a small set of languages suffices to give an idea of the conceptual richness of the category. Drawing a conclusion appears to share properties with (at least)

- fictive motion (Talmy 2000, 99-122): Italian *quindi* / English *hence* / German *daher* 'from there', Latin *sequi* 'to follow' and the corresponding verbs in modern languages, Polish *zatem*, originally 'following/behind that';

- temporal/modal concomitance or sequence: Italian *allora* / French *alors* 'at that time, in that case', German *dann* 'then', German *in dem Fall* 'in that case';

- efficient and final cause: English *therefore*, similarly Polish *przeto* and French *du coup* lit. roughly 'by that hit'⁸;

- similarity/analogy: e.g. English *so*, German *also* 'so', English *accordingly*, German *demgemäß* 'according to that', English *thus* and Dutch *dus*;

- paraphrastic reformulation and sign-meaning relations: Hungarian *szóval* 'word-INSTRUMENT', French *c'est-à-dire* 'that is to say', English *you mean*, German *das heisst* 'that means', *mit anderen Worten* 'in other words';

- vision: perception and appearance verbs used in constructions with a P>C connective function, e.g. English *to show*, *to see*, *to appear*; a special case are expressions combining vision and motion, e.g. English *it appears from that*, *you can see from that* and German *X ersehen aus Y* 'RESULTATIVE-see X from Y' or *daraus sieht man* 'you see from that'.

Linguists have dedicated particular attention to the relationship between causality and inference. According to Sweetser's (1990) proposal, the polyfunctionality both of the English modals (p. 49-75) and of several discourse connectives (p. 76-112) can be explained as a metaphorical transposition of force-dynamic, causal schemes (compelling force in the case of necessity modals, absence of barriers in the case of possibility modals) from the sociophysical to the epistemic and to the speech act world. In that context, Sweetser (1990, 78) analyzes the inferential use of English *q therefore p* as signaling that the conclusion *p* is caused (in the epistemic world) by *S*'s knowledge of *q*. An analogous analysis is proposed by Stukker et al. (2008) for the Dutch P>C connective *dus*.

⁸ *Du coup* is used causally and inferentially and, moreover, conveys the idea of unexpectedness and immediacy. It is interesting to note, at this regard, that the late Latin noun *colpus* (classical Latin *colaphus*, from Greek *κόλαφος* 'slap', cf. *Trésor de la langue française informatisé*, s.v.) occurs in several expressions in Romance languages denoting concomitance or immediate temporal sequence (among others Old French *au colp* 'both, as well as', French *tout à coup* / Italian *di colpo* / Spanish *de golpe* 'suddenly', Italian *sul colpo* / French *sur le coup* 'immediately').

Similar metaphorical transfers have been hypothesized between the domain of motion and that of acquiring knowledge (cf. Diewald 2000, who posits a source-path-goal "semantic template" for modal and evidential verbs in German); diachronic deictic-modal shifts from distal temporal to inferential meanings have been described for the Italian P>C connective *allora* (Bosco & Bazzanella 2005, Bazzanella & Miecznikowski 2009).

As far as vision is concerned, studies on perception and appearance verbs (e.g. Viberg 1983, Usoniene 2001) underline the conceptual proximity, in many languages, between the domains of visual perception and of understanding. This proximity might be analyzed as an instance of a more general conceptual MIND-AS-BODY metaphor (Sweetser 1990, 23-48, Ibarretxe 1999); moreover, a contiguity relation exists between perceiving and interpreting, or between observed visual evidence and "experiential" reasoning (Anderson 1986, 284), e.g. when inferring causes from observable effects. Studies on single perception and appearance verbs show how in certain languages the proximity between the two domains is exploited in perception predicate based evidential strategies (Whitt 2010, Musi 2015), but little is known about the role that it plays in inferential connectives. Which aspects of vision are relevant in P>C connectives? Inversely, which aspects of the inferential relation do visual predicates highlight?

3. *Come si vede*: basic compositional meaning

Come si vede, in which *vedere* is used impersonally, roughly corresponds to the English expression *as you (can) see*. *Come si vede* claims high similarity between an explicit proposition *p* in the marker's scope and a belief *x* which is part of a presupposed seeing experience, from visual perception to seeing before one's mind's eyes. That seeing experience (a) is made by an experiencer that includes at least the speaker (S) and the addressee (A), (b) takes place in a situation *y* (including a stimulus), which optionally may be referred to explicitly by a experiential complement, and (c) takes place in the moment and place of speech or, thanks to iterative and distributive reference, in an extended present time that might not include the speech situation.

High similarity is expressed by the parenthetical *come* construction, which in its use with transitive verbs is syntactically characterized by direct object ellipsis. When this construction has scope over an event, it tends to convey the idea that the event instantiates a known model or realizes a prediction, intention or request:

- (1) [Se ne andò presto]EVENT, *come era solito fare / come aveva promesso / come gli era stato chiesto / come si poteva prevedere.*

[He left early]EVENT, as he was used to do / as he had promised to do / as he had been asked to do / as one could predict.

When the construction has scope over a proposition - which is the case with *vedere* - the speaker claims that the proposition in question is similar or even identical to the content *x* of a speech act or a belief *x* based on perception and/or inference:

- (2) Come ho già detto / spiegherò dopo / si vede / appare dal rapporto, [non è stato facile]PROPOSITION.
As I've already said / as I will explain later / as you can see / as appears from the report, [it has not been easy]PROPOSITION.

In *come si vede*, the reference to a seeing experience specifies how belief *x* has come about. As we will see, a connective reading arises when the situation of the seeing experience coincides with that of the speech event, the stimulus is a proposition in the preceding co-text and the seeing experience, accordingly, is mental rather than concretely perceptual.

4. Functions of *come si vede*

4.1. Overview

In order to investigate the functions of *come si vede* and their relationship with aspects of conceptual meaning and reference, a small corpus study has been conducted. For this study, the ItWac corpus for written Italian has been used, which has been compiled by *Web crawling*, consists of two billions of words and can be interrogated using the web-based interface Sketch Engine (Kilgarriff & al. 2014). In ItWac, the impersonal form *si vede* occurs 16.000 times. For this study, a random sample of 500 tokens has been created in 2014. 57 tokens of these correspond to the construction *come si vede*.

Table 1 shows the quantitative distribution of the main uses of *come si vede*, distinguished according to a deictic parameter (the relation between the speech event and the possible world in which the seeing experience takes place) and the presence or absence of explicit reference to a stimulus. Both aspects have proven to be relevant to determine the expression's connective uses, which amount to 30 tokens out of the 57 tokens in total. Deixis is *a priori* relevant, since a connective use implies a relationship to preceding discourse, i.e. to an aspect of the speech situation. In the corpus data, explicitness appears to play a role as well. In the presence of a complement that makes the circumstances of the seeing event explicit, the stimulus always has visual properties. In contrast, propositional scope - a prerequisite for connective uses - arises (among other readings) when the stimulus is left implicit.

	Seeing experience is reported		Seeing experience takes place <i>hic et nunc</i>		Total
Explicit reference to stimulus	Repeated / distributive observation in specific situation	6	Discourse deictic reference to a visual stimulus present in the speech situation	12	18
Stimulus left implicit	Unspecified collective experience	3	Situation deictic reference to a visual stimulus	0 ⁹	36
			Metalinguistic reference to signs in the preceding context	6	
			Propositional stimulus (connective use)	30	
Total		9		48	57

Table 1. Uses of 'come si vede' in the analyzed sample.

The following discussion will concentrate on those tokens in which the seeing experience takes place *hic et nunc* (48 tokens), which by far outnumber non deictic uses (9 tokens). I will discuss non connective uses first (4.2.) and then pass on to connective uses (4.3.).

4.2. Non connective uses

4.2.1. Visual perception and inference from visual data

In the corpus, *come si vede* is quite often used with a reader-oriented evidential and argumentative function to relate a proposition to a piece of intersubjectively accessible visual evidence (12 tokens). The visual stimulus can be located in the situational context or in written discourse. A typical example is the following:

- (3) Nella figura che segue viene schematizzata una soluzione per l'interfaccia Intranet / Internet. Come si vede nella parte superiore della figura, molte grandi organizzazioni mantengono più server Web su Internet in modo che i contenuti siano uguali, secondo una tecnica nota come mirroring. In the following figure, a solution for the intranet / internet interface is delineated. As you can see (lit. 'one sees') in the upper part of the figure, many large organisations maintain several web servers in internet in such a way as to have identical contents, according to a technique known as 'mirroring'.
http://www.gufo.it/utenti/corsi_on_line/paragrafo.asp?IDcorso=62&IDcapitolo=236&IDparagrafo=1010

The author of this pedagogical text identifies a place in the immediate visual discourse context ("nella figura che segue" 'in the

⁹ Visual situation deixis is absent from our corpus because of the limitation to written data.

following figure'), directing the addressee's attention towards it. What is to be seen is presented as located in that place ("nella parte superiore della figura" 'in the upper part of the figure'), implying that, in the multimodal reading situation, S's and A's seeing experience is roughly simultaneous with the communication and reception of the proposition in the scope of *come si vede*. On the speech act level, the expression here mainly indicates that S has visual arguments in favor of p which he or she regards as accessible intersubjectively and invites A to consider.

When a visual stimulus is referred to, belief x may be derived by experiential inference (for instance by inferring causes from visible effects), but also - what is considerably more frequent in the sample - by "sensing" visual structure (Talmy 2000, 144-153, e.g. when recognizing symmetry in a picture) or by interpreting the visual stimulus as an intentional message, recognizing conventional meanings and enriching it pragmatically. In example (3), for instance, the part of the schema mentioned by the author shows two boxes labelled "mirrored servers" connected to a straight line labelled "internet". To understand that in this kind of internet/intranet solution organizations 'maintain several web servers in internet in such a way as to have identical contents', the observer must assign a meaning to the connecting lines, infer agents and consecutive/final relations and recognize the conventional use of the quantity two to represent a small set ("più server" 'several servers').

4.2.2. Metalinguistic comments

In a relevant number of cases (6 out of 57), *come si vede* is used to metalinguistically comment on an element in the preceding context¹⁰, which is topicalized as a semiotic structure, including form and meaning. The object of the metalinguistic comment is not primarily visual, even if in the written modality it has a visual appearance. In this kind of use, the expression allows S to make an aspect of discourse explicit that has to do with exact wording and may have otherwise gone unnoticed. In the following example, S categorizes a preceding proposition as "hypothetical", thus underlining the uncertainty of the sketched scenario:

- (4) Perché se le primarie riescono vorrà dire finalmente che l'Unione non è soltanto uno stato d'animo, una condizione mentale modellata esclusivamente dall'antiberlusconismo. Significherà insomma, o significherebbe, che una parvenza di realtà c'è ancora, nell'Italia del reality postpolitico. Come si vede, la proposizione è ipotetica.

¹⁰ On metacommunication cf. Franceschini (1998) and, as far as metalexical comments and sequences are concerned, Miecznikowski (2005).

Because if it succeeds at the primary elections, this means, after all, that the Union is not only a mood, a mental condition shaped exclusively by antiberlusconism. It means, in fact, or would mean, that there is still some semblance of reality in the Italy of postpolitical reality shows. As you can see, the proposition is hypothetical.

http://www.espressonline.it/eol/free/jsp/print_articolo.jsp?m1s=o&m2s=null&idCategory=4789&idContent=1027353.

The kind of "vision" expressed by *si vede* in this example is similar to the sensing of visual structure: by abstracting away from particular meanings and focusing on structure, it becomes evident that the proposition in question has a hypothetical form.

4.3. Uses that connect propositions

4.3.1. 'Come si vede' as a P>C inferential connective

As we have seen above, *come si vede* is often combined with discourse deixis – identifying observable parts of discourse as intersubjectively accessible arguments in favor of p or as objects of a metalinguistic comment – and implies a type of seeing experience that includes abstraction and inference. The marker's connective inferential uses differ from the previously discussed uses by their even more abstract nature. They arise when no spatial circumstances of the *seeing* experience are specified and the most relevant stimulus is the content of the preceding discourse. *Vedere* is then used in the metaphorical sense of 'seeing with one's mind's eyes' and the relation between the belief x and what can be seen is one between a set of premises - some of which made explicit in the preceding co-text - and a conclusion. Equating p with x (by means of *come*) actually amounts to indicating an inferential P>C relation between the preceding co-text and p.

The following examples illustrate *come si vede* as a P>C connective. In all three examples I will discuss, the construction can be paraphrased by typical P>C connectives such as *dunque* or *quindi*. Consider first example (5):

- (5) Sulla copertina della *Lettera d'amore alle sartine d'Italia* (1924) leggiamo le seguenti cifre [...] di copie pubblicate fino ad allora: di *L'amore che torna* (1908) uscirono 150.000 copie; di *Colei che non si deve amare* (1910) 220.000; [...]. La fortuna di alcuni di questi romanzi si protrasse nel secondo dopoguerra [...]. Come si vede, ad ogni modo, il grande successo di Guido Da Verona precede largamente la Marcia su Roma [...].
On the cover of *Lettera d'amore alle sartine d'Italia* (1924) we read the following numbers [...] concerning the copies published until them: *L'amore che torna* (1908) appeared in 150.000 copies; *Colei che non si deve amare* (1910) in 220.000 copies; [...]. The fortune of some of these novels lasted until the 1950ies [...]. As you can see, in any case, Guido Da Verona's success largely precedes the March on Rome [...]. [n.b. The fascists march on Rome in 1922].

<http://www.griseldaonline.it/didattica/guido-da-verona-paraletteratura-romanzatura-cornacchia.html>

That the writer Guido da Verona had large success well before the fascists took over the power in Italy can be inferred from the quantities of books sold in the first two decades of the XXth Century if the reader adds a premise concerning the date of the March on Rome as well as elementary arithmetic rules. The author chooses a purely verbal mode (rather than a table or the like) to present the selling numbers and, by omitting any spatial complement of *come si vede*, defocuses eventual visual properties of written discourse.

In example (6), *come si vede* introduces a generalization that can be inferred by induction from the availability of various services on the campus mentioned in the preceding co-text:

- (6) [...] tramite Internet si può accedere alla fornitissima biblioteca locale; chi ha terminato il proprio ciclo di studi può trovare un impiego in zona tramite il Waterford Career Center, ma anche chi, per un motivo o per un altro, non ha potuto diplomarsi può contare su un servizio educativo per gli adulti. Come si vede, non c'è ora della giornata, non c'è età della vita, che il distretto scolastico abbia mancato di coprire.
[...] through internet it is possible to access the well-furnished local library; those who have finished their studies can find an employment in the region through the Waterford Career Center, but also those who haven't graduated, for one reason or another, can rely on a training program for adults. As you can see, there is no hour of the day and no age that is not taken care of by the school district.
(<http://webnews.html.it/storia/printstoria.php?idstor=84>)

The inference schemes on which the P>C connections signaled by *come si vede* rest are mostly rooted in ontological relations (*topoi* or *loci*, cf. Rigotti & Greco 2010) that have to do with definition, implication (as in (5)) and generalization (as in (6)). In the examined sample, it is neither attested with causal argumentation nor with inference schemes - such as analogy - that are based on paradigmatic relations of similarity or contrast, nor with arguments from authority. In example (7), the introduced conclusion states a correlation between approval rate and time, based on an observed correlation between approval rate and generation:

- (7) È un dato sorprendente: il 36 % degli italiani secondo il sondaggio Eures è favorevole al matrimonio tra omosessuali. Al Nord i favorevoli diventano maggioranza come pure tra i giovani e le donne. Come si vede è solo questione di tempo, quando la prossima generazione sarà maggioranza anche il consenso al matrimonio tra omosessuali sarà maggioranza.
It is a surprising figure: according to the survey Eures, 36% of Italians support homosexual marriage. In the North, supporters constitute the majority, and the same is the case among young people and women. As you can see, it is just a question of time: when the next generation will be

in the majority, the approval of homosexual marriage will be the majority view.
(<http://spazioinwind.libero.it/uaarverona/archivio/agec-ancora-soldicc.htm>)

Come si vede does not directly introduce the prediction that support for homosexual marriage will rise, which is stated immediately afterwards. The marker would indeed be hardly acceptable if it preceded the predictive statement immediately, maybe because the latter requires additional causal assumptions (e.g. that no unforeseen causal factors will influence opinions in the future) and/or analogical assumptions (e.g. that a trend observed in the past will occur in a similar way in the future¹¹). What the reader is invited to "see" is not a future state of affairs, but the dimension of time that is tacitly present in the cited generational data.

4.3.2. Paraphrase / summary

When *come si vede* is used as a P>C connective, it introduces new information marking it as inferable on the basis of the preceding context. In some connective, non visual occurrences, a textual paraphrasing and summary function prevails, instead (cf. Gülich & Kotschi 1983, 1986). This is the case in the following example:

- (8) Si è discusso molto sugli effetti sociali e economici che una epidemia di questo genere potè provocare all'interno di una società che in alcune regioni vedeva una grossa ripresa economica (specie le regioni italiche).
[Several economic developments observed after the medieval plagues are enumerated].
Come si vede, segnali contrastanti.
[following co-text: topic change and new paragraph]
There has been an intense debate on the social and economic effects produced by this kind of epidemic in a society in which, in some regions, we see an important economic recovery (especially in the italic regions).
[Several economic developments observed after the medieval plagues are enumerated].
In sum, contradictory signals.
[following co-text: topic change and new paragraph]
<http://www.girodivite.it/antenati/xivsec/13stori.htm>

In (8), the construction introduces a nominal utterance consisting in an anaphoric encapsulator (Conte 1996) that sums up several phenomena mentioned previously. This summarizing use of *come si vede* shares features with inferential and metalinguistic uses: it implies generalization (categorizing the enumerated phenomena as signals) and the recognition of rhetorical structure (sorting the signals in two classes of opposite argumentative orientation).

¹¹ Causal and analogical inferences are frequent in predictions in general (cf. Miecznikowski, in press, Palmieri & Miecznikowski, in press).

5. Discussion and conclusion

The analysis of deictic and connective uses of the marker *come si vede* in a sample of written texts confirms what has been observed in the literature both with regard to P>C connectives and with regard to evidential inferential markers, namely that, even if the logical category of necessity is central to understand the meaning of inferential connections in discourse, the functional range of markers does not coincide with that of a logical necessity operator. On one hand, *come si vede* well illustrates the polyfunctionality of markers, which in this case covers relations between events (in non deictic uses), evidentiality (linking asserted propositions to discourse-external visual information sources), discourse deixis (linking asserted propositions to discourse-internal visual signs), metalinguistic comment (making explicit some aspect of linguistic signs in the preceding co-text), inferential connections (establishing a P>C relation between a proposition and other propositions in the preceding co-text) and summary (establishing a paraphrastic and summarizing relation between a proposition and a larger segment of preceding text). On the other hand, the discussion of P>C connective uses (cf. 4.3.1.) suggests that, as an inferential connective, *come si vede* has specific preferences. It is attested with inference schemes based on definition, induction and semantic as well as ontological implications, whereas it is not attested, in the examined sample, with a series of other common inference schemes based on relations of causality, analogy or authority.

Functional preferences within P>C uses bear family resemblances to the other observed functions. The preferred inferential connections present some similarities with the acquisition of knowledge through direct visual experience, which requires the identification and categorization of objects and structures, but does not require knowledge about causal event sequences or social facts. Mediating categories between direct visual perception and inferential connections appear to be the abstraction of spatial structure, but also visual discourse deixis; the latter shifts the focus from direct vision to the semiotic relations presupposed by intentional signs, which play a role not only in inferences from definition and semantic implications, but also in metalinguistic uses.

Interestingly, the above-mentioned conceptual connections between vision and inference are not identical to those that are relevant in certain other evidential inferential (non connective) uses of the verb *vedere* in Italian. In particular, on-going corpus-based research on the verb's uses with a complement clause indicates that the verb often denotes a mental operation of causal inferencing,

especially from visual results to efficient causes and from observable behaviour to mental states, and that in one construction, i.e. the strongly grammaticalized evidential construction *si vede* + complement clause ('apparently', 'it seems'), causal reasoning is commonly generalized to situations without visual data.

Within the wider domain of evidential and connective discourse markers, more than one conceptual link thus exists between visual perception and inference. Differently from what explanations in terms of conceptual metaphor suggest, a constructional, rather than a purely lexical and conceptual, approach is necessary to determine which links are relevant in P>C connectives based on verbs of visual perception. To understand the contrast between *come si vede* and *si vede* + complement clause, a key role must probably be attributed to the syntactic expression of the direct object position, which semantically corresponds to the percept in *vedere*'s frame as a perception verb. In *si vede* + complement clause, the complement clause institutes a third order - propositional - entity as a direct object of *vedere*. As a consequence, since propositions cannot be perceived directly, a direct perception reading of *vedere* is blocked¹². In *come si vede*, on the contrary, the direct object position is not filled, making the construction more vague as to the type of entity perceived and probably favoring the activation of a direct perception reading as an unmarked default meaning of *vedere*. This syntactic and semantic difference may help explain why we observe specific metaphorical relations between direct vision and the scrutiny of signs in *come si vede*, but not in *si vede* + complement clause.

In the semantic and functional analysis proposed in this paper, the specific polyfunctionality of the examined inferential marker has made it necessary to refer to categories related to discourse structure, to evidentiality and to the conceptual-ontological underpinnings of inference schemes (*loci / topoi*). The analytical integration of these three domains is, however, useful more generally to understand the way speakers verbally encode inferential connections in discourse. A focus on discourse highlights the discourse-structuring potential that inferential evidential markers have in virtue of their relational meaning. Inversely, evidential and topical properties may explain at least some functional differentiations in the rich field of inferential connectives, both intra- and interlinguistically.

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¹² See Dik & Hengeveld (1991) for an analysis of perception verb complementation.

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