

MODES OF JUDGMENT AND THE CONCRETE AND IMAGINATIVE READINGS OF PERCEPTION VERBS

Anne Rochette and Patricia de Araujo Rodrigues
Université du Québec à Montréal

1. Introduction

Most work on perception verbs has focussed on the “concrete” reading of the verbs, and the differences of interpretation discussed in the literature are for the most part related to the distinction between the direct and indirect interpretations possible with some perceptions verbs like *see*, as exemplified in (1).

- (1) a. I see a man crossing the street. (direct perception)
b. I see that a man has crossed the street. (indirect perception)

There is, however, another type of ambiguity related to the interpretation of *see*, namely the ambiguity found in the following example between a concrete reading and an imaginative reading.

- (2) John can see Mary leaving the party.

Several authors (e.g., Guasti 1992, Diesing 1992, Safir 1993, Felser 1998) have noticed that the concrete reading is only compatible with stage-level predicates. The imaginative reading, however, is compatible with both individual-level predicates (ILP) and stage-level predicates (SLP), as argued by Boivin (1998). In other words, the presence of an ILP in the complement of *see* forces an imaginative reading of the perception verb, as illustrated by the following example borrowed from Boivin.

- (3) I see him/her intelligent, good-looking and tall.

The restriction against ILPs with perception verbs has recently been recast by Basilico (2003) in terms of an analysis of ILPs as involving categorical judgments, following among others Ladusaw (1994). According to Basilico, a perception verb like *see* introducesthetic judgments and is therefore not compatible with ILPs. Basilico is only concerned with the concrete reading of the perception verb, and he does not discuss the possible occurrence of ILPs under the imaginative reading.

In this article, we would like to explore the hypothesis that the shift from the concrete to the imaginative reading of perception verbs in the presence of ILPs is in fact a shift from athetic to a categorical mode of judgment. In doing so, we will be mainly concerned with examples from Brazilian Portuguese, although we will at times also take into account facts from English or French. In section 2, we will first examine in more detail the two readings of *see* in English, French, and Brazilian Portuguese. We will then briefly review the main aspects of the distinction between the two modes of judgments in section 3. In

section 4, we will show that the complements of the perception verbs under the imaginative reading have the status of small clauses. Finally, in section 5, we will show that the small clause complement under the imaginative reading has the characteristics of the complement of a categorical judgment.

2. The concrete and imaginative readings of *see*

In this section, we will look at the different types of complements found under the concrete and the imaginative readings in English, French, and Brazilian Portuguese. We will focus our attention on the infinitival and gerundive complements that can occur with perception verbs.

2.1 English

In English, the concrete reading of *see* is possible both with a bare infinitival complement and with a gerundive complement as long as the predicate is a SLP. The imaginative reading is possible both with SLP and ILP complements but only if the complement is a gerundive complement.

- | | | | | |
|-----|----|--------------------------------|-----|----------------------------|
| (4) | a. | I see John play the guitar. | SLP | (concrete) |
| | b. | I see John playing the guitar. | SLP | (concrete and imaginative) |
| | c. | *I see John own a house. | ILP | |
| | d. | I see John owning a house. | ILP | (imaginative) |

As shown by the paradigm examples in (4), only the gerundive form of SLPs (4b) may give rise to ambiguity.

2.2 French

In French, the concrete reading is found both with the infinitive and the gerundive complements as long as the predicate is a SLP. The imaginative reading is compatible with both SLPs and ILPs and with both types of complements, infinitival or gerundive.

- | | | | | |
|-----|----|------------------------------------|-----|----------------------------|
| (5) | a. | Je vois Jean jouer de la guitare. | SLP | (concrete and imaginative) |
| | b. | Je vois Jean jouant de la guitare. | SLP | (concrete and imaginative) |
| | c. | Je vois Jean posséder une maison. | ILP | (imaginative) |
| | d. | Je vois Jean possédant une maison. | ILP | (imaginative) |

Hence, contrary to English, both the gerundive and the infinitive forms of SLPs (5a-b) in French give rise to ambiguity.

2.3 Brazilian Portuguese

Brazilian Portuguese behaves like English with respect to the distribution of the two types of complements. The concrete reading is found only with SLPs whether the complement is infinitival or gerundive. The imaginative reading is possible both with SLPs and ILPs but it is restricted to gerundive

complements. As in English, only the gerundive form of SLPs (6b) gives rise to ambiguity.

- | | | | | |
|-----|----|----------------------------------|-----|----------------------------|
| (6) | a. | Eu vejo João tocar violão. | SLP | (concrete) |
| | b. | Eu vejo João tocando violão. | SLP | (concrete and imaginative) |
| | c. | *Eu vejo João possuir uma casa. | ILP | |
| | d. | Eu vejo João possuindo uma casa. | ILP | (imaginative) |

2.4 Summary

In sum, the concrete reading of the perception verb is compatible only with SLPs, whether these occur in (bare) infinitival or gerundive complements. The imaginative reading is compatible with both SLPs and ILPs, but in English and Brazilian Portuguese the complement must be a gerundive complement whereas French allows both forms of the complement, infinitival or gerundive.

3. Thetic and categorial judgments

Kuroda (1972) defends the relevance of a distinction between two fundamental types of judgment: the categorial judgment, which corresponds to the traditional paradigm of subject-predicate, and the thetic judgment, which describes an event, stage, or situation. The thetic judgment consists of a single cognitive act whereas the categorial judgment “is assumed to consist of two separate acts, one the act of recognition of that which is to be made the subject, and the other, the act of affirming or denying what is expressed by the predicate about the subject” (Kuroda 1972: 154).

Kuroda argues that the distinction between the two types of judgment plays an important role in explaining some of the properties of the particles *wa* and *ga* in Japanese. When these particles appear linked to the subject NP of the sentence, two distinct interpretations arise. Sentence (7a), for instance, is used to describe a situation in which “a cat is sleeping”, whereas in sentence (7b) the particle *wa* draws first attention to the cat and then says of the cat that it is sleeping there.

- | | | | |
|-----|----|------------------------------|-----------------------|
| (7) | a. | neko ga asoko de nemutte iru | (thetic judgment) |
| | | the/a cat there sleeping is | |
| | b. | neko wa asoko de nemutte iru | (categorial judgment) |
| | | the cat there sleeping is | |

Ladusaw (1994) relates the distinction between the two types of judgment to the distinction between weak and strong DPs (Milsark 1974) as well as to the distinction between stage-level and individual-level predicates. Following Milsark, strong DPs (strong quantifiers and definite determiners) have a presuppositional interpretation, whereas weak DPs (cardinals, indefinites, existentials) are ambiguous between a presuppositional and a non-presuppositional interpretation. Milsark observes that this distinction is also related to a distinction between predicates that express “state descriptions” and

those that express “properties”, in that “properties” can only be predicated of strong DPs.

Given this relation, Ladusaw argues that ILPs, which express properties, must have strong subjects and, therefore, can only appear as predicates of categorical sentences, since the subject of a categorical judgment must be a presupposed subject, previously identified, or in other terms, “strong”. Hence, the distinction between SLPs and ILPs is analyzed by Ladusaw as a distinction betweenthetic judgments and categorical judgments, respectively.

Following Kuroda (1972), Sasse (1987), Ladusaw (1994), and Raposo and Uriagereka (1995), among others, Basilico (2003) explains the difference in behaviour of the small clauses selected by verbs like *consider*, which allow only ILPs in their complements, and verbs like *see*, which allow only SLPs (under the concrete reading), as a result of the different modes of judgment associated with each type: “categorical” in the case of *consider* (8a) and “thetic” in the case of *see* (8b).

- (8) a. We consider the guard intelligent.
b. We saw the guard leave.

Basilico argues that the two modes of judgment are associated with distinct structural realizations which are responsible for the differences in behaviour. Both modes of judgment involve the presence of a small clause embedded in a Topic Phrase (TopP). However, in the case of a categorical predication like in (8a), the subject of the small clause raises to [Spec, TopP], as shown in (9a), while in the case of athetic predication like in (8b), the topic is rather the event argument, which is expressed syntactically as *pro* and is realized in [Spec, TopP], as shown in (9b).

- (9) a. [_{VP} consider [_{TopP} the guard_i [_{Top'} [_{AP} t_i intelligent]]]]
b. [_{VP} saw [_{TopP} *pro*_t [_{Top'} [_{VP} the guard leave]]]]

In terms of the hypothesis that we are pursuing in this article, the structure in (9a) would correspond to the imaginative reading of the verb *see* while the structure in (9b) would be reserved for the concrete reading of the verb. In the next two sections, we will examine whether the complement of the perception verb under the imaginative reading behaves like a small clause complement involving a categorical judgment.

4. The small clause status of the complements of perception verbs

In order to verify our hypothesis that the imaginative reading of the perception verbs involves a categorical predication of the complement, we must first show that the complement of the perception verb under this reading can be analyzed as a small clause. In this section, we will examine the behaviour of the gerundive complement in Brazilian Portuguese and argue that, under the imaginative reading, it can only be analyzed as forming a small clause constituent with its subject DP.

4.1 Subject-oriented secondary predicates

Under the concrete reading of the perception verb, the gerundive predicate can be analyzed as a subject-oriented secondary predicate. For instance, in (10), the gerundive predicate is analyzed as predicated of the subject Maria, and the imaginative reading is impossible.

- (10) Maria pode ver o filme comendo pipoca.
'Maria can see the movie eating popcorn.'

Under the imaginative reading, the gerundive complement can only be predicated of the object, as illustrated by the following example.

- (11) Pedro pode ver João correndo no parque.
'Pedro can imagine João running in the park.'

The impossibility of interpreting the gerundive predicate as a subject-oriented secondary predicate in (11) favours a small clause analysis of the gerundive complement. We will now look at some of the traditional arguments for determining small clauses.

4.2 Adverb interpretation

Another argument in favour of the small clause status of some complements comes from the interpretation of adverbs. In a typical small clause complement, an adverb occurring between the subject and the predicate of the small clause can only modify the small clause predicate and not the main verb that introduces the small clause. For instance, in (12), *frequentemente* 'frequently' modifies the adjective *inconveniente* 'inconvenient' and not the main verb *considera* 'considers'.

- (12) João considera Maria frequentemente inconveniente.
'João considers Maria frequently inconvenient.'

In the case of the gerundive complements of perception verbs, under the concrete reading, the adverb can modify either the gerundive predicate or the main verb, as exemplified in (13). This ambiguity of interpretation is related to the fact that the gerundive predicate can be analyzed either as forming a single constituent with the DP, that is, a small clause complement, or as a secondary predicate, in which case it may be predicated of the object or the subject of the perception verb. Under the imaginative reading, however, the adverb can only modify the gerundive predicate, as shown by the fact that this reading of the perception verb forces the interpretation of the adverb as modifying the embedded gerundive predicate in (14).

- (13) João vê Maria freqüentemente trabalhando. (concrete reading)
'João frequently sees Maria working / sees Maria frequently working.'
- (14) João vê Maria freqüentemente trabalhando. (imaginative reading)
'João imagines Maria frequently working.'

The fact that the adverb can only modify the embedded predicate in (14) again supports a small clause analysis of the complement.

4.3 Entailments

Another argument that can be used to determine the small clause status of complements comes from the validity of some entailments in the absence of the embedded predicate. When the embedded predicate is a small clause predicate, no entailment is possible between a sentence where it is present and a similar sentence where it is omitted, as illustrated in (15), where (15a) does not entail (15b).

- (15) a. Ele considera o problema difícil.
'He considers the problem difficult.'
- b. Ele considera o problema.
'He considers the problem.'

Under the concrete reading of the perception verb, an entailment is possible between the two sentences in (16). However, under the imaginative reading, such an entailment is disallowed. This fact again points toward an analysis of the complement under the imaginative reading of the perception verb as a small clause complement.

- (16) a. Ele pode ver o cachorro correndo.
'He can see the dog running.'
- b. Ele pode ver o cachorro.
'He can see the dog.'

4.4 Extraction

A final argument that can be adduced in favour of the small clause status of these complements comes from the behaviour of the subjects of the complements under the imaginative reading.

Subjects of small clauses behave like subjects (not like objects) with respect to extraction. For instance, extraction from the DP *the sister of who* is possible in (17), where the embedded predicates are secondary predicates, but is disallowed in (18), where the embedded predicates are small clause predicates. This is due to the fact that in (17) the DP is an object of the main verb, while in (18) it is rather the subject of the small clause complement.

- (17) a. Who_i did you meet the sister of t_i drunk?
 b. Who_i did you elect the sister of t_i president?
- (18) a. *Who_i do you consider the sister of t_i very smart?
 b. *Who_i did you make the sister of t_i leave?

In Portuguese, extraction from DP objects is not as felicitous as in English, according to Foltran (1999), as shown in (19). But there is still a clear contrast between extraction from the subject (20a) and extraction from the object (20b).

- (19) a. ??De quem_i você rebocou o carro t_i para a oficina?
 of whom_i you tow the car t_i to the garage
 b. *De que_i o professor elogiou o autor t_i na aula passada?
 of what_i the professor praise the author t_i during the last class
- (20) a. *De quem_i que [o irmão t_i] detesta o João?
 of whom_i that [the brother t_i] hates João
 b. ?De quem_i que o João detesta [o irmão t_i]?
 of whom_i that João hates [the brother t_i]

Under the concrete reading of the perception verb, extraction from the post-verbal DP appears to give rise to the same marginal result as extraction from an object DP, as shown in (21a), while a similar extraction under the imaginative reading leads to a fully ungrammatical result, as shown in (21b).

- (21) a. ?De quem_i que João viu [o irmão t_i] trabalhando?
 of whom_i that João saw [the brother t_i] working
 b. *De quem_i que o João vê [o irmão t_i] trabalhando?
 of whom_i that João sees [the brother t_i] working

The above contrast again gives support to an analysis of the complement under the imaginative reading of the perception verb as a small clause complement.

4.5 Summary

In this section, we put forward several arguments in favour of the small clause status of the complements of perception verbs under the imaginative reading. In the case of the concrete reading, the sentences may show ambiguity between an analysis of the embedded predicate as a small clause predicate or as a secondary (subject or object-oriented) predicate.

In the following section, we will test the hypothesis whereby the small clause complements under the imaginative reading involve a categorical judgment similar to that involved in the case of the small clause complements of verbs like *consider*.

5. Categorical judgments and the imaginative reading

We now turn to the types of judgment involved with perception verbs. As mentioned in the introduction, the main purpose of this article is to argue that the concrete reading of the perception verb is associated with athetic judgment, as proposed by Basilico (2003), while the imaginative reading would be associated with a categorical judgment.

In order to verify this hypothesis, we will show that the restriction against indefinite non-specific subjects associated with categorical judgments is present in the case of the imaginative reading of the perception verbs. We will also examine another context, namely the inversion of the DP subject, which appears to be incompatible with the imaginative reading, and we will argue that this impossibility follows from the type of structure put forward by Basilico for categorical judgments.

5.1 Indefinite non-specific subjects

The imaginative reading is extremely difficult to obtain with the non-specific indefinite *uns* 'some' (22a), which shows a clear contrast with the purely quantificational *alguns* (22b).

- (22) a. ??Posso ver uns alunos estudando.
 b. Posso ver alguns alunos estudando.
 'I can see some students studying.'

A sentence like (22a) improves in acceptability when we add a contrastive complement introduced by *outros* 'others', as shown in (23), but then we clearly shift to a "strong" DP reading, that is, to a quantificational reading.

- (23) Vejo uns alunos estudando, outros jogando bola.
 'I imagine some students studying, others playing with a ball.'

On the basis of this data, it thus appears that the complement of *see* under the imaginative reading behaves like a complement involving a categorical judgment.

5.2 Post-verbal subjects

In French, the subject of the infinitival complement of a perception verb can occur post-verbally when the verb is intransitive, as shown in (24).

- (24) a. J'ai vu Marie rire.
 b. J'ai vu rire Marie.
 'I saw Mary laugh.'

Boivin (1998), however, shows that the imaginative reading of the perception verb is only compatible with the occurrence of the subject in pre-verbal position within the complement, as in (25a). As she argues, one way to further test this claim would be to use an ILP in the complement, thus forcing

the imaginative reading. Although there are almost no intransitive ILPs, Boivin points out that some verbs like *boire* 'drink' or *fumer* 'smoke' can have an ILP interpretation 'be a drinker' or 'be a smoker'. With the ILP reading of these verbs, the imaginative reading is possible only when the subject is in pre-verbal position, as in (25a).

- (25) a. Je vois Marie fumer.
'I imagine Marie smoking.'
- b. Je vois fumer Marie.
'I see Marie smoking.'

Another fact noticed by Boivin is that inversion is allowed in the presence of an adverbial adjunct when the adverbial matches the tense of the matrix clause, as shown in (26), but when the adverbial does not match the tense of the main clause, the imaginative reading is forced and inversion is impossible, as shown in (27).

- (26) a. J'ai vu Marie partir alors qu'elle était toute jeune.
'I have seen Mary leave when she was very young.'
- b. J'ai vu partir Marie alors qu'elle était toute jeune.
- (27) a. Je vois Marie partir quand elle aura 18 ans.
'I imagine Mary leave when she will be 18.'
- b. *Je vois partir Marie quand elle aura 18 ans.

In Brazilian Portuguese, the imaginative reading is also very difficult to obtain when inversion occurs within the complement, as illustrated in (28), but the concrete reading is quite felicitous, as shown in (29).

- (28) a. Maria vê os convidados chegando.
b. ??Maria vê chegando os convidados.
'Maria imagines the guests arriving.'
- (29) a. Maria viu os convidados chegando.
b. Maria viu chegando os convidados.
'Maria saw the guests arriving.'

We believe that these facts can easily be accounted for under the analysis put forward by Basilico for the two types of judgment. Analyzing the imaginative reading as a case of categorical judgment would imply that the small clause subject necessarily raises to [Spec, TopP], as illustrated in (30a), and we could simply assume that inversion of the DP is impossible from this raised position. In the case of the concrete reading, thethetic structure does not permit the raising of the subject, as shown in (30b), and inversion of the subject and the predicate would be possible within VP.

- (30) a. [_{VP} vê [_{TopP} os convidados_i [_{Top'} [_{VP} t_i chegando]]]]
 b. [_{VP} viu [_{TopP} pro_t [_{Top'} [_{VP} os convidados chegando]]]]

6. Conclusion

The facts examined in the previous sections point toward a predication difference between the complements of the perception verbs under a concrete reading and those under an imaginative reading: while the former express athetic judgment, the latter express a categorical judgment. Hence, we adopt the analysis put forward by Basilico (2003) and we propose that the imaginative reading of perception verbs obtains in the presence of a small clause complement where the subject of the small clause raises to [Spec, TopP], as illustrated in (31a). The concrete reading obtains when the subject of the small clause does not raise to [Spec, TopP], as illustrated in (31b).

- (31) a. [_{VP} see [_{TopP} John_i [_{Top'} [_{VP} t_i owning a house]]]]]
 b. [_{VP} saw [_{TopP} pro_t [_{Top'} [_{VP} John wash the dishes]]]]

This analysis raises several questions which will need to be addressed in future work. Among these is the claim made by Basilico that structures such as (31a) are characteristic of adjectival small clauses, and that verbal small clauses correspond rather tothetic judgments. Also, another important fact that still needs to be explained is why English and Brazilian Portuguese differ from French with respect to the types of complements that can be found under the imaginative reading. This last question, however, is surely related to the overall aspectual system of these languages, and its elucidation clearly will not be achieved by simply studying the complementation of perception verbs.

References

- Basilico, David. 2003. The topic of small clauses. *Linguistic Inquiry* 34:1-35.
 Boivin, Marie-Claude. 1998. Complementation and interpretation: The concrete and imaginative readings of 'visual' perception verbs. In *MIT Working Papers in Linguistics* 25: *The interpretive tract*, ed. U. Sauerland and O. Percus, 103-123.
 Diesing, Molly. 1992. *Indefinites*. Cambridge, Mass.: MIT Press.
 Felser, Claudia. 1998. Perception and control: A minimalist analysis of English direct perception complements. *Journal of Linguistics* 34:351-386.
 Foltran, Maria José. 1999. As construções de predicação secundária no português do Brasil : aspectos sintáticos e semânticos. Doctoral dissertation, Universidade de São Paulo.
 Guasti, Maria Teresa. 1992. Causative and perception verbs. Doctoral dissertation, Université de Genève.
 Kuroda, S.-Y. 1972. The categorical judgement and thethetic judgement. *Foundations of Language* 9:153-185.

- Ladusaw, William. 1994. Thetic and categorical, stage and individual, weak and strong. In *Proceedings from Semantics and Linguistic Theory IV*, ed. Mandy Harvey and Lynn Santelmann, 220-229. Ithaca: Cornell University, CLC Publications.
- Raposo, Eduardo, and Juan Uriagereka. 1995. Two types of small clauses (Toward a syntax of theme/rheme relations). In *Syntax and semantics 28: Small clauses*, ed. Anna Cardinaletti and Maria Teresa Guasti, 179-206. San Diego: Academic Press.
- Safir, Ken. 1993. Perception, selection and structural economy. *Natural Language Semantics* 2:47-70.
- Sasse, Hans-Jürgen. 1987. The thetic/categorical distinction revisited. *Linguistics* 25:511-580.