

Composition and Control in Spanish Causative and Perception Constructions

It is generally agreed that periphrastic causatives and perception verbs with infinitival complements fall into two basic construction types in Romance languages (Abeillé et al. 1997, 1998, Miller and Lowry 2003). The first is the double complement construction (1), where the causative/perception verb selects for both an NP controller (accusative) and an infinitival VP complement, as shown in the following examples from Spanish:

- (1) a. *yo lo_i hice (a el_i) comer la manzana*
I him.acc made.1sg (to him) eat the apple
'I made him eat the apple'
- b. *yo lo_i vi (a el_i) comer la manzana*
I him.acc saw.1sg (to him) eat the apple
'I saw him eat the apple'

The second is a structure in which the finite causative/perception verb and the infinitive together form a complex predicate (2). Various telltale properties provide evidence that the two verbs form a complex predicate, chiefly the placement of pronominal affixes, which appear on the finite verb, even where they are semantic arguments of the infinitive (3), and the fact that in cases where the optional independent pronoun¹ is realised (doubled by the clitic) it must not intervene between the two verbs:

- (2) a. *yo le_i hice comer la manzana (a el_i)*
I him.dat made.1sg eat the apple (to him)
'I made him eat the apple'
- b. *yo le_i vi comer la manzana (a el_i)*
I him.dat saw eat the apple (to him)
'I saw him eat the apple'
- (3) *yo la hice comer a Pedro*
I it.acc made.1sg eat to Pedro
'I made Pedro eat it'

In the HPSG literature this construction has been successfully analysed as having a flat VP structure, whereby the infinitive and all of its complements come to be sisters of the finite verb via the technique of 'argument composition' (Hinrichs and Nakazawa 1990).

A particularly salient feature of the composition construction is the differential case marking which it exhibits. In certain Romance languages (e.g. French (Abeillé et al 1998), Argentinian Spanish (Paris 1999)) the case pattern is generally determined by the transitivity of the infinitive: when transitive, the 'causee'/perceived entity is marked with the dative case. When intransitive, the causee/perceived entity appears in the accusative case. In the French case, various exceptions to this rule have posed a challenge to the straightforward implementation of this generalisation. Certain infinitives such as 'see' and 'eat', when combined with the composition causative, trigger the dative on the causee, even in cases where there is no overt object present. Earlier analyses employed an *ad hoc* binary feature TRANS and multiple lexical entries to deal with these exceptions, thus failing to capture the transitivity generalisation. Tily and Sag 2006 show how to derive the transitivity facts for French in terms of the varying argument

¹The *a*-marker in Spanish marks animate objects, and therefore can co-occur with both dative and accusative affixed pronouns.

structures for certain verbs, which optionally allow for definite null-instantiated (*pro*) objects. On a composition analysis, the presence of the dative then can follow straightforwardly from the combined triadic argument structure of the complex predicate, and a structural case approach to case assignment.

This rather inviting transitivity-centered case pattern is unfortunately not ubiquitous across Romance languages. There are certain dialects of Spanish (e.g. certain Iberian, Chilean, Paraguayan varieties) where the presence of the dative in numerous intransitive constructions cannot be accounted for by an underlying transitive analysis of the superficially intransitive predicate. Moore 1996 gives examples of the following type, from Iberian Spanish:

- (4) *le hice correr*
 him.dat make.1sg run
 ‘I made him run’

Moore does not discuss the possible occurrence of the dative with intransitive infinitives for perception verbs, though a corpus study² reveals that for Iberian, Paraguayan, and Chilean dialects, the dative + intransitive infinitive is available for this verb class too. Indeed, for the verbs *ver* ‘see’ and *oír* ‘hear’, around 15 percent of dative + infinitive constructions occurred with intransitive infinitive complements.

Consideration of a wide data set thus reveals that the transitivity of the infinitive does not determine case choice for these dialects. Instead, it appears that a semantic distinction is associated with the choice of case. It has been observed that for certain dialects, the accusative marked causative expresses direct causation (an agent directly acting on a causee), while the dative marked causative expresses indirect causation. Moore 1996 observes that the dative variant in (4) above is best glossed as ‘I had him run’, while the accusative variant (5) refers to the direct action of the causer on the causee.

- (5) *Lo hice correr*
 he.acc made.1sg run
 ‘He made them run’

The association between the dative/accusative and indirect/direct causation is present in constructions with transitive infinitives as well. The VP complement construction with accusative involves direct causation, while the composition causative with dative involves indirect causation:

- (6) a. *Los hizo quemar las casas*
 them.acc made.3sg burn the houses
 ‘He made them burn down the houses’
 b. *Les hizo quemar las casas*
 them.dat made.3sg burn the houses
 ‘He had them burn down the houses’

For these dialects, the obvious semantic generalisation is that the accusative marked participant is a semantic argument of the causative verb, while the dative construction is semantically diadic (causer, caused event).

The connection between the accusative participant and the presence of a semantic role is made particularly evident by the fact that *hacer* imposes selectional restrictions on accusative ‘causees’, but not on dative participants. Thus, (7a) (from Moore 1996) is unacceptable in the accusative, because *hacer* requires animate causees³. By contrast, the dative example in (7b) is well formed, because here *hacer* selects only for an event, and thus imposes no restriction on the animacy of the agent of that event.

- (7) a. **?El ingeniero la hizo (a la pared) resistir el temblor.*
 The engineer her-ACC made to the wall resist the tremor.
 ‘The engineer make the wall resist the tremor’

²The corpus was the written literature component of Mark Davies’ online *Corpus del Español*: 6 750 000 words from 850 short stories and novels spanning nine regional dialects of Spanish. Data from Iberian, Paraguayan, and Chilean varieties were collected.

³Much like other classical control verbs such as ‘persuade’, ‘convince’ etc.

- b. *El ingeniero le hizo resistir el temblor (a la pared).*
 The engineer it made resist the tremor to the wall
 The engineer made the wall resist the tremor

I offer a simple treatment of causative and perception constructions in these Spanish dialects which captures these semantic distinctions and associated case distribution facts.

Building on previous argument composition analyses for Romance (Miller and Sag 1997, Abeillé et al. 1998, Tily and Sag 2006), I adopt as a starting point Tily and Sag’s 2006 construction-based analysis of French affix placement⁴, in particular the multi-step operation that causes affixal elements on the ARG-ST list of a verb *lexeme* to be replaced by a phonologically null *pro*, with suppressed affix arguments recorded via the ‘bookkeeping’ list feature PRAFS (PRONOMINAL-AFFIXES), and eventually realised affixally on *words* via the affix function. In order to account for Spanish clitic doubling facts, this analysis must be modified slightly, so that the removal of elements from the ARG-ST list remains optional, in spite of any addition of affixal elements to the PRAF list. I also make use of the bipartite division of the type *infinitive* into *coherent* and *incoherent* subtypes, with *coherent* infinitives constrained to have an empty PRAFS list, thereby enforcing clitic climbing for composition verbs, which must select for a *coherent* infinitive.

Here I focus on the two chief components of the present analysis which distinguishes it from previous approaches. The first relates to the relationship between semantic arity and construction type, the second to case assignment.

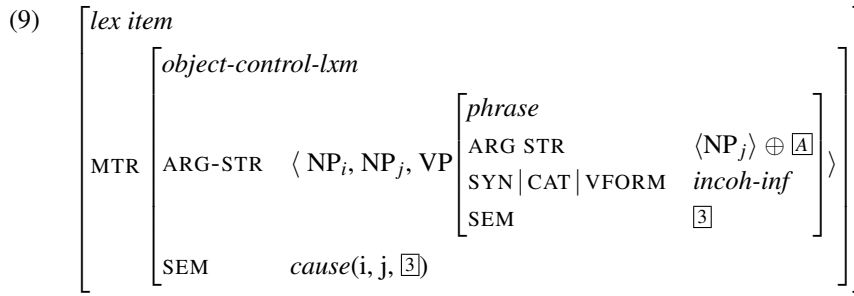
1. Semantic arity and construction type

Abeille et al. 1998, in their composition analysis of the French causative *faire* propose that the verb take three semantic arguments when it combines with a transitive infinitive, while adopting a raising analysis of *faire* with intransitive infinitives. While it is not made explicit in their analysis, the consequence of this approach is that both VP complement constructions and composition constructions with transitive infinitives are taken to involve semantically selected controllers (causees), and thus have the same semantic arity. While this may be an appropriate characterisation of the French data (though note that Tily and Sag assume semantic diadicity for their French composition constructions), it clearly is not for the Spanish dialects under discussion. To account for the semantic facts, I analyse the composition causative/perception verb lexeme as semantically selecting for only two arguments, the causer, and the caused event, expressed by the infinitive. The NP denoting the agent of the caused event is raised along with any objects of the infinitive. The composition verb is thus necessarily a type of raising verb. In this last respect this analysis differs somewhat from Tily and Sag 2006, who treat the relationship between the ‘downstairs’ subject and its composed realisation on the matrix ARG-ST as one of co-indexation.

$$(8) \left[\begin{array}{l} \textit{lex item} \\ \text{MTR} \left[\begin{array}{l} \textit{composition-verb-lexm} \\ \text{ARG-STR} \langle \text{NP}_i, \text{V} \left[\begin{array}{l} \textit{word} \\ \text{ARG STR} \\ \text{SYN | CAT | VFORM} \\ \text{SEM} \end{array} \right] \langle \langle \text{I}_j \rangle \oplus \text{A} \rangle \oplus \text{A} \oplus \langle \text{I}_j \rangle \rangle \\ \text{SEM} \quad \textit{cause}(i, \text{I}_j) \end{array} \right] \end{array} \right]$$

By contrast, the VP complement causative/perception verb introduces an additional semantic causee/perceivee argument. This stands in a control relationship with the subject argument of the unsaturated VP complement.

⁴As in French, various tests (cf. Zwicky and Pullum 1983) show that Spanish pronominal ‘clitics’ are in fact affixes.



The two construction types, the composition construction, and the VP complement construction, thus are associated with distinct semantic structures. This captures the data presented above for causative verbs. At first glance, complications arise, however, when we consider perception verb constructions. It has been claimed that, unlike the causative *hacer*, perception verbs in Spanish never have a control option (Moore 1996, Di Tullio 1998). Given that perception verbs pattern like causatives in terms of participation in both composition and VP complement construction types, and exhibit the same differential case marking, we would expect the same semantic distinction between the control and composition construction to hold for this verb class too.

Di Tullio's claim is a reiteration of the standard view in the perception verb literature for English (Kirsner and Thompson 1976, Felser 1999), namely that in perceptual reports expressed by infinitival perception constructions, perception verbs semantically select for an event argument only, and thus direct perception of the agent participant of the event is pragmatically inferred but not linguistically encoded. I argue that the distinction between pragmatic inference and linguistic encoding is ultimately an empirical matter, and must be determined on a language by language basis. There is cross-linguistic support for this view. Lødrup 2004, for example, has observed for Norwegian that perception verbs in accusative + infinitival constructions display syntactic ambiguities between control and raising. Control structures, as expected, involve a directly perceived individual, while raising constructions encode event perception only.

We must therefore consider the Spanish facts in more detail. Moore argues specifically against a control analysis of *ver*, because, unlike *hacer*, which requires an animate causee, *ver* imposes no semantic restrictions on the agent of the perceived event. Thus, there is no evidence that *ver* selects a thematic individual argument in infinitival constructions. This is misleading; it is rather that the set of semantic objects of verbs of seeing (i.e, directly visually perceivable objects) includes both animate and inanimate entities (this is evident from the semantic selection of *ver* in simple transitive clauses), so such an animacy based selectional restriction would never apply to visual perceptions verbs. However, it is useful to consider a verb of a different perceptual modality, *oír* 'hear', which in some languages does impose heavy semantic restrictions on its objects, albeit of a different type. From a psychophysical perspective, the true set of objects of hearing is restricted to audible objects (noises etc). We see the linguistic reflection of this categorically in some languages: Nepali (Norcliffe 2004) and Tariana (Viberg 2001), for example, do not allow non-audible objects of hearing.

In light of these cross-linguistic tendencies, and in keeping with the present proposal that the accusative construction is a control construction, involving a semantically selected perceived entity, it is telling that there are significant distributional differences between *ver* and *oír* with respect to accusative marking of human participants in the Spanish corpus: *oír* exhibits a much lower frequency of accusative marking of human objects than *ver* does, in Iberian, Chilean and Paraguayan dialects⁵. This is predicted by the analysis in which human objects are not canonical semantic objects of hearing, and are thus more likely to occur in a construction which denotes event perception only (i.e, the composition construction), whereas human objects can readily function as semantic objects of seeing, and therefore occur frequently in the accusative control construction. The different selectional restrictions imposed by perception verbs of different sense modalities on their respective arguments is thus reflected in the relative frequency of occurrence of the two verbs in each of the two construction types.

It thus appears that both perception verbs and the causative *hacer* can enter into two construction types in Spanish, the composition construction, and the VP complement (control) construction. The composition causative/perception verb necessarily has a diadic semantic structure, and a dative marked participant (irrespective of the transitivity of the infinitive), while the semantically triadic causative/perception verb is a control verb, constraining

⁵Similar case distribution patterns have also been shown for hearing and seeing verbs in Old and Middle French with infinitival complements (Martineau 1990).

its object to bear accusative case.

Case assignment

In order to capture the case facts, I assume a general structural case system for Spanish. By the case constraints on *trans-verb-lexeme* (*object-control-lexeme*'s supertype), the causee/perceived entity argument coindexed with the unexpressed subject of the subcategorised verb will resolve to accusative. I further assume that infinitive verb forms impose no lexical constraint on the case of their subject, but do assign accusative case to their objects. Composition-verb-lexemes are exceptions to the general structural case constraints on transitive-verb-lexemes: these lexemes constrain the raised subject of the infinitive to be dative. The accusative object obtains its case from the infinitive. Dative assignment on this analysis thus does not fall out of structural case assignment, and therefore is not determined by the transitivity of the infinitive.

$$(10) \left[\text{ARG-STR} \left\langle \text{NP}_i, \text{V} \left[\begin{array}{l} \text{word} \\ \text{ARG STR} \left\langle \text{I}_j \right\rangle \oplus \text{A} \end{array} \right] \right\rangle \oplus \text{A} \oplus \left\langle \text{I}_j[\text{dat}] \right\rangle \right]$$

The interaction between the structural case system and the specific case constraints imposed on composition verbs thus gives rise to an attested trinity of case realisation possibilities in different types of raising constructions in Spanish. Raised subjects resolve to nominative, raised objects to accusative, and raised composition objects to dative.

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