

# Optional *se* constructions and flavours of applicatives in Spanish

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## Abstract

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This paper addresses Spanish optional *se* constructions, which host a reflexive clitic serving as a non-selected argument in transitive structures (*comer(se) la manzana* ‘eat.REFL the apple’). On the basis of new experimental data, we argue against the view that in such constructions *se* is similar to particles of exhaustivity such as *up* in English. We instead propose that *se* is a pronoun merged as an argument of a low applicative, conveying a locative relation ‘**in**( $x, y, s$ )’ between the binder of the reflexive  $x$  and the nominative DP  $y$  ( $x$  is in  $y$  in  $s$ ), or, for a subset of speakers, as an argument of a high applicative, introducing a (direct) experiencer of the verbal event. It is shown how this proposal accounts for the variability in the acceptance of optional *se* constructions across speakers

and verb types as well as for the inferences of enriched or unaided agency, affectedness and counter-expectation that have been argued to be triggered by the *se*-variant of these constructions.

**Keywords:** Spanish, optional *se*, aspectual *se*, low applicative, high applicative, experiencer applicative, telicity.

## 1. Introduction

In Spanish, the reflexive clitic *se* routinely serves as a non-selected argument in transitive structures, as seen in (1). We call the construction illustrated in (1) the optional *se* construction.<sup>1</sup>

- (1) Juan (se) comió la manzana.  
 Juan REFL eat.PFV.3SG the apple  
 ‘Juan ate (‘himself’) the apple.’

The judgements reported in the literature do not offer a homogeneous empirical picture of optional *se* constructions. The debate concerns the inferences triggered by the presence of *se* and the possibility to use transitive verbs other than consumption verbs, as for instance the verb *lavar* ‘wash’, as in (2), from MacDonald (2004).

- (2) Juan (se) lavó el coche.  
 Juan REFL wash.PFV.3SG the car  
 ‘Juan washed (‘himself’) the car.’

In this paper, we argue that the discrepancies in judgements are partly due to the co-existence of different varieties, cross-cutting the distinction between American Spanish (AS) and Peninsular Spanish (PS). In a nutshell, our proposal is that in a first variety of Spanishes—spoken by what we call ‘LOW-APPL speakers’—optional *se* constructions always are double object constructions (Campanini & Schäfer 2011, MacDonald 2004, 2017), and *se* is a pronoun merged as an indirect argument in the specifier of a low applicative (Campanini & Schäfer 2011). We attribute a resultative semantics to the low applicative: this head introduces a result state *s* of the verbal eventuality *v*; *s* locates the referent of the theme DP (the *locatum*) within the referent of the binder of the reflexive clitic (the *container*). See (3), where ‘**in**(*x, y, s*)’ means that *x* is in *y* in *s*.<sup>2</sup>

<sup>1</sup>Since the semantic contribution of *se* to the sentence is often difficult to translate, we translate *se* by a reflexive (although it is often not grammatical in English).

<sup>2</sup>Campanini & Schäfer’s (2011) approach is slightly different as they develop a *directional* analysis of the applicative, and as a consequence use the relation ‘into’ rather than the relation ‘in’ in the definition of the applicative. As they note, their analysis shares many similarities with the one developed in MacDonald (2004) (later on developed in MacDonald 2017), according to which Spanish optional *se* constructions involve a (silent) goal preposition *into*. One of the main differences between Campanini and Schäfer’s approach and the MacDonald one is that for the latter, *se* heads Voice, while for the former, it is a reflexive pronoun in the specifier of a low applicative. Since *into* always has a directional meaning in English, and given that we take the low applicative to introduce some result state of the verbal event, we depart from Campanini and Schäfer (as well as MacDonald) on this point.

$$(3) \quad \llbracket \text{Appl}_{LOC} \rrbracket \rightsquigarrow \lambda x \lambda y \lambda P \lambda v. \mathbf{theme}(v, x) \wedge P(v) \wedge \exists s (\mathbf{cause}(v, s) \wedge \mathbf{in}(x, y, s))$$

Low applicatives can appear in optional *se* constructions only with verbs whose meaning is compatible with its semantics. In particular, to be combined with the low applicative, a verb must describe eventualities that can cause the state of being incorporated within the subject's referent. Since consumption verbs have an ingestive meaning, they obviously fulfill this condition. For instance, when *x* eats *y*, this causes *y* to be within *x* (or *x*'s stomach) as a result. We argue that stative verbs that enter into optional *se* constructions (MacDonald 2004, 2017), like *creer* 'believe', are also conceptually compatible with this causal relation, which is the reason why they can combine with the low applicative. For instance, when *x* believes *y*, *y* (figuratively) ends up in *x* (or *x*'s mind) as a result. Verbs whose semantics is not compatible with the causal relation between the verbal eventuality and the locative state cannot combine with the low applicative in (3). For instance, when *x* washes or hates *y*, *y* does not end up in *x* (or *x*'s mind) as a result.

In a second variety of Spanishes, spoken by what we call 'LOW/HIGH-APPL speakers', optional *se* constructions can also host a high applicative head (just above *vP*). Differently from the low applicative, the high applicative is not restricted to verbs conveying or presupposing an incorporation of the theme by the subject's referent, and therefore can also combine with verbs like *lavar* 'wash' in (2). This high applicative introduces a 'direct' experiencer of the verbal event, that is, an individual that directly participates in the verbal event. We call the applicative in (4) the 'direct experiencer applicative'.

$$(4) \quad \llbracket \text{Appl}_{EXP} \rrbracket \rightsquigarrow \lambda P \lambda x \lambda v. \mathbf{experiencer}(v, x) \wedge P(v)$$

When *se* is in the specifier of the high applicative  $\text{Appl}_{EXP}$  in (4), it is then understood that the subject's referent experiences the verbal event first hand. This will, among others, explain a semantic difference observed in MacDonald (2004, 2017) between the version with and without *se* in (2). Without *se*, Juan can lazily sit in his car while it is being automatically washed in a carwash ('indirect washing'), but it might also be that he painstakingly scrubs his car with a sponge ('direct washing'). MacDonald argues that the indirect interpretation is not available anymore in the presence of *se* (see Armstrong 2013: 86 for similar observations). For us, this is a consequence of the semantics of  $\text{Appl}_{EXP}$ : since Juan must now be an experiencer of the washing event, he has to (directly) participate in it (see (5a)).

- (5) a. Juan *se* lavó el coche. (Spanish)  
 Juan REFL wash.PFV.3SG the car  
 'Juan washed ('himself') the car.'  
 → *Juan directly experienced the washing event.*
- b. Alex zerbrach dem Chris Bens Vase. (German)  
 Alex break.SP.3SG the.DAT Chris Ben's vase  
 'Alex broke Ben's vase on Chris.'  
 ↗ *Chris directly experienced the breaking event.*
- c. We had little Johnny run off this morning. (English)  
 ↗ *We directly experienced the running off event.*

$\text{Appl}_{EXP}$  is thus very different from Bosse et al.'s (2012) 'affected dative' AFF, illustrated in the German example (5b). The experiencer *x* projected by AFF does not participate in

the verbal event (a breaking event in (5b)); rather, following Bosse et al.'s (2012) analysis of the affected dative AFF repeated in (6),  $x$  is the experiencer of a psychological event  $v'$  that has the verbal event  $v$  as its source. We will say that the experiencer  $x$  in (6) is 'indirect' because it does not participate in the verbal event  $v$ , while the experiencer  $x$  in (4) is 'direct' in that it participates in the verbal event  $v$ .  $\text{Appl}_{EXP}$  is also different from the applicative hosted by English experiencer *have* sentences, illustrated in (5c) (Harley 1998, Myler 2016). In (5c), the experiencer does not (directly) participate in the verbal event (*we* didn't take part in the running off event). We label the high applicatives in (5b/c) 'indirect experiencer applicatives'.

- (6)  $\llbracket \text{Aff} \rrbracket \rightsquigarrow \lambda P \lambda x \lambda v. P(v) \wedge \exists v' (\mathbf{experience}(v') \wedge \mathbf{experiencer}(v', x) : \forall v'' (P(v'') \rightarrow \mathbf{source}(v'', v'))$

The clitic in optional *se* constructions must be reflexive, a fact that any appropriate analysis should account for. Under our account, this follows from conceptual reasons with both  $\text{Appl}_{LOC}$  and  $\text{Appl}_{EXP}$ . When *se* serves as the argument of the low applicative  $\text{Appl}_{LOC}$  in (3), it is necessarily bound by the subject, because the agent of the reported consuming event is necessarily the entity which ends up internalizing the theme (Campanini & Schäfer 2011): if  $x$  eats  $y$  and  $y$  ends up in  $z$  as a result, then necessarily,  $x=z$ . When *se* is the argument of the high applicative  $\text{Appl}_{EXP}$ , it is similarly also bound by the subject because, as explained in section 5.1, in transitive clauses, the subject's referent is the single sentient participant of the event which can directly experience this event.

The proposal is based on new data reported in section 4. The survey presented in section 4.1 was an exploratory online acceptability judgement task for examples for which conflicting judgements are reported in the literature, with 72 speakers of Peninsular Spanish and 42 speakers of American Spanish speakers. Subjects had to rate test items on a [1-7] labelled Likert scale (1: completely acceptable; 7: completely unacceptable). We broke the results down to a binary decision by dividing the scale into two disjunctive ranges: [1-3] for acceptable, [4-7] for non-acceptable. For the presentation of the results in sections 2-3, the percentage of speakers accepting tested sentences is provided at the right of the examples discussed in the presentation of data.

The results of this survey (computed on the basis of raw numbers) are summarized in section 4.1. We distinguished the results for speakers of American Spanish and speakers of Peninsular Spanish. The difference between the two groups did not turn out to match the difference between the LOW-APPL variety and LOW/HIGH-APPL one, indicating that both types of applicatives can in principle be found in both macro varieties.

The experiment presented in section 4.2 (N=44) was a truth-value judgement task repeating with Spanish speakers the procedure adopted in Arunachalam & Kothari (2010, 2011) for the study of Hindi and English perfectivized telic predicates, on the basis of the same visual material (pairs of video clips). The goal was to assess whether the *se*-variant differs from the unmarked one along the dimension of telicity or event completion. People were asked to judge whether the reflexively marked vs. reflexively unmarked variant of optional *se* constructions were judged acceptable in situations where the verbal event was completed and in situations where this event remained incomplete.

## 2. Verb classes and animacy restrictions in optional *se* constructions

Some authors claim that the non-selected reflexive clitic appears in the context of consumption verbs only, in sentences such as those in (1), or with verbs of psychological consumption such as *leer (una novela)* ‘read (a novel)’ (Schroten 1972, Campanini & Schäfer 2011). With these verbs and a quantized object, the reflexive loses its optionality for some speakers when the subject is animate. For instance, out of the 32 speakers tested by D’Introno et al. (2007: 8), only 53% accepted sentence (7), without the reflexive clitic (while 97% accepted sentence (1), with the reflexive):

- (7) Juan  $\emptyset$  comió la manzana.  
 Juan eat.PFV.3SG the apple  
 ‘Juan ate the apple.’

With an inanimate subject, the reflexive turns out to be compulsory for most speakers (D’Introno et al. 2007:8; Basilico 2010: 278; Armstrong 2013; MacDonald 2017: 98; see Folli & Harley 2005 for Italian). The acceptability judgements we collected through the survey on sentences (8)-(11) clearly confirm this tendency: the percentage of speakers accepting sentences with an inanimate subject significantly decreases if the reflexive is absent.

- (8) El mar se come la costa de Barcelona. AS/PS  
 the sea REFL eat.PRS.3SG the coast of Barcelona 81%/84%  
 ‘The sea is eating ‘itself’ Barcelona’s coast.’
- (9) El mar  $\emptyset$  come la costa de Barcelona. 42%/30%  
 the sea eat.PRS.3SG the coast of Barcelona  
 ‘The sea is eating Barcelona’s coast.’
- (10) La máquina se ha comido mi tarjeta. 67%/82%  
 the machine REFL has eaten my card  
 ‘The machine ate ‘itself’ my card.’
- (11) La máquina  $\emptyset$  ha comido mi tarjeta. 28%/13%  
 the machine has eaten my card  
 ‘The machine ate my card.’

Other authors argue that optional *se* constructions are also possible with transitive verbs other than consumption verbs, either non-core (activity) predicates, such as *cocinar* ‘cook’, or core (change-of-state) verbs, such as *abrir* ‘open’, see (12)-(17), cf. Sanz & Laka (2002), MacDonald (2004), Armstrong (2013), MacDonald (2017).<sup>3</sup> We collected ratings for three examples built with verbs other than consumption verbs, and they all were accepted by fewer speakers on average. Relatedly, D’Introno et al. (2007: 6) report that only

<sup>3</sup>We refer to Levin (1999) for the distinction between core vs. non-core transitive verbs. Sanz & Laka (2002)’s example (14) contains the modifier *en una hora* ‘in an hour’, which was not present in the test sentence in the survey.

20% of the 32 speakers they tested accepted sentence (15), built with a change-of-state verb.<sup>4</sup>

- (12) (Ayer) Juan se cocinó una paella para sus invitados. AS/PS  
 yesterday Juan REFL cook.PFV.3SG a paella for his guests 40%/29%  
 ‘Yesterday Juan cooked ‘himself’ a paella for his guests.’ (Sanz 2000: 59)
- (13) Voy a plancharme unas camisetas para mi pequeña familia, eso  
 I.am.going to iron.REFL some skirts for my small family this  
 me calmará.  
 REFL calm.FUT.3SG  
 ‘I’ll iron ‘myself’ some skirts for my family, this will calm me down.’ 33%/31%
- (14) Josep se lavó todos los platos de la cena.  
 Josep REFL wash.PFV.3SG all the plates of the dinner 26%/34%  
 ‘Josep washed ‘himself’ all the dishes of the dinner.’  
 (Sanz & Laka 2002:316, Armstrong 2013: 82)
- (15) Pedro se limpió el cuarto.  
 Pedro REFL clean.PFV.3SG the room  
 ‘Pedro cleaned ‘himself’ the room.’ (20% *apud* D’Introno et al. 2007: 6)
- (16) Felipe se abrió cinco latas él solito.  
 Felipe REFL open.PFV.3SG five cans the alone  
 ‘Felipe opened ‘himself’ five cans by himself.’ (Armstrong 2013: 96)

Example (17), built with a change-of-state verb and an inanimate subject, is accepted by very few speakers. This confirms Armstrong’s (2013) observation that optional *se* constructions hosting a verb which is not a consumption verb require an animate subject. We come back to this point in section 3.2.

- (17) El submarino se hundió dos acorazados enemigos.  
 the submarine REFL sank.PFV.3SG two battleships enemy 21%/10%  
 ‘The submarine sank ‘itself’ two enemy battleships.’  
 (Otero 1999: 1478, Armstrong 2013: 82)

Another class of transitive verbs that uncontroversially enter optional *se* constructions are a specific set of (stative) attitudinal verbs, such as *saber* ‘know’, *creer* ‘believe’, or *conocer* ‘know’ (MacDonald 2017: section 2; see also Zagana 1996, Sanz 2000, Sanz & Laka 2002, Anvari et al. 2019, Maldonado et al. 2021), as shown in (18). It is also uncontroversial that other attitudinal verbs, such as *amar* ‘love’ or *odiar* ‘hate’, are not acceptable in these constructions, as shown in (19).

<sup>4</sup>An anonymous reviewer reports that example (15) improves by adding the PP *de cabo a rabo*, ‘in its entirety’. This might possibly be due to the fact that this PP presents the agent as particularly engaged in the verbal event, for us a sign of the fact that it is syntactically represented as the direct experiencer of this event (see section 5.1).

- (18) Juan *se* cree que Ana tiene 30 años.  
 Juan REFL believe.PRS.3SG that Ana has 30 years  
 ‘Juan believes ‘himself’ that Ana is 30 years old.’ (Anvari et al. 2019: 61)
- (19) \*Juan *se* odia las acelgas.  
 Juan REFL hate.PRS.3SG the chard  
 ‘Juan hates ‘himself’ chard.’ (Sanz 2000: 52)

### 3. Semantic and pragmatic impact of *se* in optional *se* constructions

A unified account of the semantic and pragmatic impact of the reflexive in optional *se* constructions is notoriously challenging to pin down. Five inferences have been claimed to distinguish the *se*-marked and unmarked variants of optional *se* constructions, and they are often argued to co-occur with specific verb types only. Since we aim to explain which verb type triggers which inference(s) in which context, we first review the inferences that have been claimed to distinguish the marked and unmarked variants of optional *se* constructions, again mentioning results of the survey when relevant.

#### 3.1. Telicity

The reflexive clitic *se* in optional *se* constructions has famously been argued to require or enforce a telic interpretation of the underlying predicate with consumption verbs (Nishida 1994; see also Roldán 1971, Zagona 1996, Otero 1999, De Miguel & Fernández Lagunilla 1999, Sanz & Laka 2002, Maldonado 2008, Lewandowski 2021, Martínez Vera 2022). As such it is often analyzed as an aspectual operator, similar to particles of exhaustivity like English *up*. In English, such particles and other ‘true delimiters’ are known to block cumulative readings which are available with contextual support for weakly telic VPs (i.e., VPs preferably interpreted as telic but tolerating atelic uses with some contextual support), as shown for instance by the contrast in (20), from Smollett (2005: 55) (see also Piñón 2008).

- (20) a. Kathleen ate an apple for a couple of minutes while talking on the phone.  
 b. \*Kathleen {ate up an apple/ate an apple to the core} for a couple of minutes while talking on the phone.

For Spanish, Nishida’s analysis therefore predicts that a cumulative reading for a weakly telic VP is much more difficult to obtain in the presence of *se* than in its absence. Thus for instance, (21) and (23) are expected to be much less acceptable than (22) and (24), respectively. Some authors such as Sanz & Laka (2002), Armstrong (2013: 92) argue that the reflexive also has a telicizing effect with VPs built with verbs other than consumption verbs.

This first prediction of Nishida’s analysis is not clearly supported by our data. The percentage of speakers accepting sentences (21) and (23) is not significantly lower than for (22) and (24) (see D’Introno et al. 2007 for similar conclusions).

- (21) El perro *se* comió el hueso durante una hora. AS/PS  
 the dog REFL eat.PFV.3SG the bone for an hour 69%/40%  
 ‘The dog ate ‘itself’ the bone for one hour.’

- (22) El perro  $\emptyset$  comió el hueso durante una hora. 64%/44%  
 the dog eat.PFV.3SG the bone for an hour  
 ‘The dog ate the bone for one hour.’
- (23) El niño se bebió la leche durante diez minutos. 52%/33%  
 the child REFL drink.PFV.3SG the milk for ten minutes  
 ‘The child drank ‘himself’ the milk for ten minutes.’
- (24) El niño  $\emptyset$  bebió la leche durante diez minutos. 69%/44%  
 the child drink.PFV.3SG the milk for ten minutes  
 ‘The child drank the milk for ten minutes.’

In English by contrast, it seems much more difficult to obtain an atelic use in the presence of the particle *up* even with objects like *the milk* (which more easily describe incomplete entities than those built with a receptacle noun such as *glass*, as in *the glass of milk*):<sup>5</sup>

- (25) a. Kathleen drank the milk for ten minutes.  
 b. \*Kathleen drank up the milk for ten minutes.

Another prediction of the analysis of *se* as an event delimiter or particle of exhaustivity is that bare nouns should not be licensed in the *se*-variant, just like bare nouns in English are unacceptable in the presence of true delimiters such as *up*, since bare nouns invariably yield cumulative predicates (Krifka 1989, 1992, Piñón 2008), as shown in the English contrast in (26), from Smollett (2005: 56).

- (26) a. Kathleen ate ice cream.  
 b. \*Kathleen ate up ice cream.

For Spanish however, some authors claim that bare nouns in the *se*-variant of optional *se* constructions are acceptable in some contexts (thus contrasting with English, since arguably, (26b) is truly ungrammatical in any kind of context); see De la Mora (2011), Rivas (2011), Armstrong (2013) and de Benito Moreno (2021); see also the discussion about *creerse mentiras* ‘believe-*se* lies’ in MacDonald (2017: 83, fn. 20). The ratings we gathered for sentences (27)-(28) confirm that bare nouns are less acceptable in the reflexively marked variant than in the unmarked variant (the percentage of speakers accepting (28) is significantly higher than for (27)). But the judgements collected on sentences (27) and (29)-(31) also indicate that bare nouns are not rejected overall in the *se* variant, echoing the disagreement on the acceptability of such sentences in the literature. (Sentences (29) and (30) are natural occurrences found on the internet, and Rivas 2011 collected further examples in corpora.)

- (27) Mi perro se ha bebido aceite de cocina. AS/PS  
 my dog REFL has drunk oil of cook 35%/45%  
 ‘My dog drank ‘himself’ cooking oil.’

<sup>5</sup>This difference between *the milk* and *the glass of milk* follows straightforwardly from the analysis presented in section 5.4.



- (28) Mi perro  $\emptyset$  ha bebido aceite de cocina. AS/PS  
 my dog has drunk oil of cook 78%/83%  
 ‘My dog drank cooking oil.’
- (29) Para el desayuno se ha comido frutas. 48%/24%  
 for the breakfast REFL has eaten fruits  
 ‘For the breakfast he ate ‘himself’ fruits.’
- (30) Llegamos, nos bebimos cerveza y bebidas alcohólicas y  
 arrive.PFV.1PL REFL drink.PVF.1PL beer and drinks alcoholic and  
 tuvimos un tiempo maravilloso  
 have.PVF.1PL a time wonderful  
 ‘We arrived, drank ‘ourselves’ beer and alcoholic drinks and had a great time.’  
 38%/27%
- (31) El niño se comió veneno! 28%/28%  
 the child REFL eat.PFV.3SG poison  
 ‘The child ate ‘himself’ poison!’ (Armstrong 2013: 90)

A third prediction of Nishida’s analysis of *se* as an aspectual marker of event completion is that the *se*-variant of optional *se* constructions is infelicitous when the context makes clear that the event was not completed to its end. Available experimental data disconfirms this prediction. For instance, D’Introno et al. (2007: 7) show that 75% of the speakers tested accepted the *se*-variant of sentence (32), while only 41% accepted the unmarked variant.

- (32) Juan (se) comió la manzana pero dejó la mitad.  
 Juan REFL eat.PFV.3SG the apple but leave.PFV.3SG the half  
 ‘Juan ate (‘himself’) the apple but left half of it.’

Results of the experiment reported in section 4.2 further confirm that incompletive interpretations of the VP are licensed for the *se* variant.

A further problem for Nishida’s analysis is that optional *se* constructions can also host stative verbs (e.g. *creer* ‘believe’), which remain stative and atelic even when combined with *se* (MacDonald 2017). Finally, Campanini & Schäfer (2011) point out that Nishida’s analysis leaves unexplained the fact that *se* has the form of a clitic, showing the morpho-syntactic properties of reflexive clitics, which agree in phi-features with the nominative NP, as the reflexive *nos* in (30) illustrates, for instance.

### 3.2. Enriched agency

The *se*-marked version in optional *se* constructions built with verbs other than consumption verbs has also been claimed to present the agent as more engaged than with the unmarked variant. The focus on agentive engagement has been linked to notions such as volition, willfulness, effort, involvement, satisfaction, wholeheartedness and enjoyment (Armstrong 2013: 86). Armstrong (2013: 119) captures this inference by positing that with non-consumption verbs, *se* spells out a specific agentive head, introducing a specific kind of ‘enriched’ agent. As Armstrong also notes, this inference is not triggered when

the optional *se* construction hosts a verb of consumption, for such verbs are also compatible with inanimate subjects in optional *se* constructions (as was illustrated (8)-(9)). Armstrong relatedly argues that optional *se* constructions instantiate different structures depending on whether they host a verb of consumption or a verb of another type. We incorporate this idea in our proposal presented in section 5. However, we do not adopt his analysis of *se* as spelling out a functional head introducing a willful agent, because this leaves unexplained the fact that *se* has the form of a pronominal clitic.

### 3.3. *Unaided agency*

Hodgson (2001) showed on the basis of experimental data that the *se*-variant of optional *se* constructions conveys the inference that the agent executes the action on their own, without the help of another agent, as argued for by Zagona (1996), MacDonald (2004, 2017) and Armstrong (2013) (recall the discussion about MacDonald's example in (2) above). For instance, for a VP such as *limpiar(se) los zapatos* 'clean.REFL the shoes', Hodgson (2001) found that most adults (90%) she tested indicated that the use of *se* implies the performance of the event by the subject alone. Only 10% of them allowed the intervention of more than one agent in the completion of the event. Zagona (1996) and MacDonald (2017: section 6) translate this inference in localist terms (the agent must be *on/with* the object).

For Hodgson (2001), the same inference of 'unaided agency' may also be triggered when the *se*-variant of optional *se* constructions hosts a consumption verb. But obviously, if 'unaided agency' means 'direct participation' and exclusion of scenarios where the subject is an agentive instigator but not a performer (as Juan washing his car just by having it washed by somebody else), this is obtained for free with consumption verbs, as it is impossible to be an agentive instigator of an ingestive event without also co-performing this event actively (since one cannot eat a sandwich just by having it eaten by somebody else). But if 'unaided agency' means 'without the help of any other agent', there is evidence that consumption verbs do *not* trigger this inference in the presence of *se*. Indeed, D'Introno et al. (2007) show that most subjects accept optional *se* constructions built with a consumption verb in a context making clear that the binder of the reflexive (the referent of the nominative DP) is not acting alone. Thus, for instance, they report that 88% of their subjects accepted the *se*-variant of (33) (while only 50% of them accepted it without). In the absence of further data, we thus provisionally conclude that the inference of unaided agency is mainly triggered in the context of non-consumption verbs.

- (33) Juan (se) comió la paella con la ayuda de María.  
 Juan REFL eat.PFV.3SG the paella with the help of Maria  
 'Juan ate himself the paella with Mary's help.'

### 3.4. *Benefactiveness/affectedness*

The *se*-variant of optional *se* constructions has been reported to convey that the binder of the reflexive (the referent of the nominative DP) is affected by the event (Arce-Arenales 1989) or benefits from it (Rigau 1994). Rigau accounts for this inference by positing that *se* is a benefactive argument. As pointed out by Sanz & Laka (2002: 59), this leaves two points unexplained. Firstly, it is unclear why the beneficiary should be coreferential with the subject, i.e., why the clitic has to be reflexive. Secondly, optional *se* constructions are compatible for some speakers with an overt benefactive (prepositional) argument, sug-

gesting that *se* is not necessarily associated with the benefactive role in these structures. They illustrated the latter point with example (12). The data we gathered about the acceptability of (12) and (13) (repeated below) confirm that such combinations are felicitous for at least some speakers.

(12) (Ayer) Juan *se* cocinó una paella para sus invitados. AS/PS  
 yesterday Juan REFL cook.PFV.3SG a paella for his guests 40%/29%  
 ‘Yesterday Juan cooked ‘himself’ a paella for his guests.’ (Sanz 2000: 59)

(13) Voy a plancharme unas camisetas para mi pequeña familia, eso  
 I.am.going to iron.REFL some skirts for my small family this  
 me calmará.  
 REFL calm.FUT.3SG  
 ‘I’ll iron ‘myself’ some skirts for my family, this will calm me down.’ 33%/31%

### 3.5. Counter-expectation

The reflexive clitic in optional *se* constructions has also been shown to present the verbal event as violating prior expectations (Maldonado 1992, Strauss 2003). In particular, De la Mora’s (2011) exhaustive corpus study (based on around 4000 tokens of ingestive verbs from spoken/written corpora) shows that *se* is strongly favoured when the object is not expected to be ingested, because it is a non-edible object, or because it consists of an unexpected amount of food; see (34) for attested examples.

- (34) a. Ceci, tus hijos están hermosos, me los como.  
 Ceci your kids are beautiful REFL them eat  
 ‘Ceci, your kids are beautiful, I eat ‘myself’ them up.’  
 (www.facebook.com, *apud* De la Mora 2011: 64)
- b. Las ratas *se* están comiendo unas ocho mil toneladas de cacao  
 the rats REFL are eating some eight thousand tons of cacao  
 al año.  
 per year  
 ‘The rats are eating ‘themselves’ about eight thousand tons of cocoa every year.’  
 (CDE, *apud* De la Mora 2011: 135)

In the remainder of this section, we would like to suggest that the inferences triggered by *se* in the context of attitudinal verbs, which we describe below, are very similar to the inferences that de la Mora (2011) links to the presence of *se* in the context of verbs of consumption.

Anvari et al. (2019) and Maldonado et al. (2021) point out that *creerse* ‘believe-*se*’ suggests that the complement is false, thus *prima facie* not credible. They relatedly observe that a continuation like ...*and he/she is right!* is felicitous in the absence of *se* only (see (35); see also the translation by Maldonado 1992: 372 of *creerse* by ‘wrongly believe’ in English).

- (35) Juan (#se) cree que Ana tiene 30 años... ¡y tiene  
 Juan (REFL) believe.PRST.3SG that Ana has 30 years and have.PRST.3SG  
 razón!  
 reason  
 ‘Juan believes (‘himself’) that Ana is 30 years old...and he’s right!’  
 (Anvari et al. 2019: 61)

Attitudinal *saber/conocer(se)* ‘know(-se)’ cannot possibly trigger a similar inference under the *se*-variant, as they entail the truth of their complement. Some authors have argued that with these factive attitudinal verbs, the variant with *se* suggests a ‘more intense’ mental control on the object of cognition (see Maldonado 1992:19). This flavour somehow is reminiscent of the inference De la Mora (2011) claims to be conveyed with verbs of consumption in optional *se* constructions: *saberse* is favoured when the subject’s referent masters an unexpected amount of knowledge. Cartagena’s (1972) and others’ examples of the *se*-variant of factive verbs like *saber/conocer* indeed often suggest that the subject’s referent masters an amount of knowledge that goes beyond normality, as (36) illustrates.

- (36) Tengo allí un primo que se conoce todo: teatros,  
 have.PRS.1SG there a cousin that REFL know.PRS.3SG everything theaters  
 cabarets... ¡Se sabe cada sitio!  
 cabarets REFL know.PRS.3SG each place  
 ‘I have a cousin there that knows it all: theaters, cabarets...he knows each place!’  
 (Cartagena 1972)

We propose that the same way *se* is strongly favoured with consumption verbs when the object is not expected to be ingested (De la Mora 2011), *se* with attitudinal verbs like *creer*, *conocer* or *saber* (which all conceptually suggest that the complement ends up ‘within the mind’ of the attitude holder) conveys that the complement is either non-expected to be ‘mentally ingested’—non-(cr)edible— or consists of an unexpectedly large amount of information.

### 3.6. Interim summary and next steps

We recap the inferences discussed in previous sections in Table 1. Our goal is to provide a unified analysis of optional *se* constructions that does justice to the morpho-syntactic properties of *se* (it has the form of a reflexive clitic, needs an antecedent, and shows phi-feature agreement with it), and explains which verb type triggers which inference(s) in which context. In the next section, we show on the basis of new experimental data that the reflexive is not only *syntactically* different from particles of exhaustivity such as English *up* (*se* is a reflexive pronoun, and not the spell out of a verbal head), but also has a very different impact on the *semantics* of the VP (see section 5.3). In particular, we present data suggesting not only that *se* has a telicizing effect with verbs of consumption only, but also that this telicizing effect with consumption verbs is weaker than the one triggered by the addition of the particle of exhaustivity *up* to a consumption verb in English. In section 5.3, we argue that the problem raised by bare nouns in optional *se* constructions is not due to the aspectual properties of bare nouns, but results from a type mismatch: the low applicative Appl<sub>LOC</sub> requires an individual denoting argument, while bare nouns are property denoting (McNally 1995, Espinal & McNally 2011). As will be explained in

**Table 1.** Summary of inferences attributed to *se* in optional *se* constructions across verb types ('COS' stands for 'change-of-state' and 'ACT' for 'activity')

WHICH INFERENCE?	WITH WHICH VERBS?	ACCORDING TO WHOM?
<b>#1. Telicity</b>	consumption verbs COS & non-consumption ACT verbs	Nishida 1994 a.o. Sanz & Laka 2002
<b>#2. Enriched agency</b>	COS & non-consumption ACT verbs	Amstrong 2013
<b>#3. Unaided agency</b>	COS and non-consumption ACT verbs	Hodgson 2001 MacDonald 2017
<b>#4. Affectedness</b>	cognition verbs COS and ACT verbs	Rigau 1994 D'introno et al. 2007
<b>#5. Counter-expectation/ abnormality</b>	consumption verbs cognition and COS verbs	Maldonado 1992 Strauss 2003 de la Mora 2011 Anvari et al. 2019

section 5.3, the type mismatch does not arise when *se* serves as the argument of the high applicative Appl<sub>EXP</sub>. This accounts for why *se* is accepted with bare nouns by a subset of speakers.

## 4. Survey and experiment

### 4.1. The survey

The survey was an exploratory online acceptability judgement questionnaire for the examples presented in sections 2-3, for which the judgements reported in the literature are not homogeneous.<sup>6</sup> Our subjects were 72 speakers of Peninsular Spanish (PS) and 42 speakers of American Spanish (AS).<sup>7</sup> All subjects rated all test sentences on a [1-7] labelled Likert scale (1: completely acceptable; 7: completely unacceptable). Results are summarized in Table 2. The first column gives the example number. The second specifies whether the subject is animate (A) or inanimate (I). In the third column, '-*se*' indicates the absence of the reflexive in the test sentence, and '+*se*' its presence. Columns 5 and 6 give the average of ratings for native speakers of Peninsular vs. American Spanish.

Results confirm that in optional *se* constructions built with consumption verbs like *comer*, the reflexive tends to lose its optionality with an inanimate subject (see the ratings for the examples with inanimate subjects (8)-(11) in block 1 of Table 2). Figure 1a provides a visualization of the results for the same examples (8)-(11). As this figure shows, judgements are overall more positive (closer to rating 1) for sentences with *comer* and an inanimate subject in the presence of *se*, and also much more polarized in Peninsular Spanish than in American Spanish. Ratings for the version without *se* show a lot of variation in both macro-dialects, but even more so in American Spanish. Results are also suggestive that the availability of a cumulative (atelic) reading for the VP does not drastically decrease in the presence of *se* (see the ratings for the examples (21)-(24) with

<sup>6</sup>All data from the survey and the experiment are available in open access at [osf.io/cfvjb/?view\\_only=fe2f5e27fda94a77ad1ffdf83b25ea93](https://osf.io/cfvjb/?view_only=fe2f5e27fda94a77ad1ffdf83b25ea93)

<sup>7</sup>Number of participants per country of origin. Argentina: 4; Bolivia: 1; Chile: 3; Columbia: 14; Cuba: 1; Dominican Republic: 1; Mexico: 14; Paraguay: 2; Peru: 2; Spain: 71; France: 1.

**Table 2.** Results of the survey (1 = completely acceptable, 7 = completely unacceptable)

Ex.	Subject	Form	Verb	PS average	AS average
<i>With consumption verbs and an inanimate subject</i>					
(8)	I	+se	comer	2,2	2,1
(10)	I	+se	comer	2,1	2,8
(9)	I	-se	comer	4,6	4,1
(11)	I	-se	comer	5,8	4,8
<i>With consumption verbs and a durative adverbial</i>					
(21)	A	+se	comer	4,3	2,9
(23)	A	+se	beber	4	3,5
(22)	A	-se	comer	4	3
(24)	A	-se	beber	3,9	2,7
<i>With consumption verbs and a bare noun</i>					
(27)	A	+se	beber	4,1	4,2
(29)	A	+se	comer	5	3,7
(30)	A	+se	beber	5	4,1
(31)	A	+se	comer	5,1	4,7
(28)	A	-se	beber	2,2	2,1
<i>With other verbs than consumption verbs</i>					
(13)	A	+se	planchar	5,2	5,4
(14)	A	+se	lavar	4,6	4,7
(12)	A	+se	cocinar	4,9	4,3
(17)	I	+se	hundir	6,2	5,6

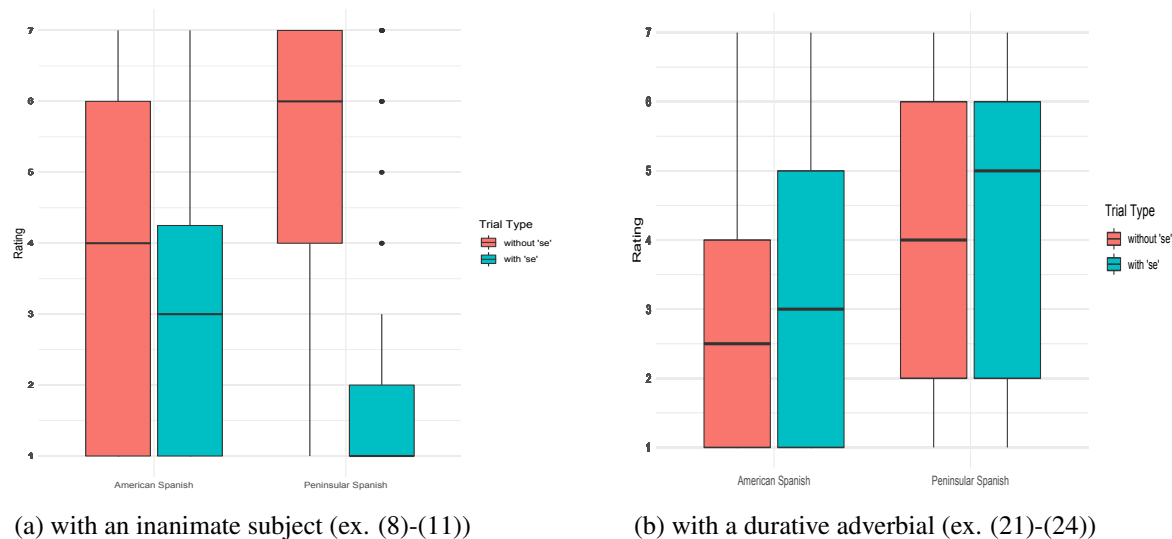
durative adverbials in block 2 of Table 2). Ratings for the same examples are also plotted in Figure 1b. As this figure shows, the median does get lower in both groups in the absence of *se* (thus, closer to value 1 signalling full acceptability). This effect of *se* on the median appears stronger in Peninsular Spanish than in American Spanish. However, the overall pattern does not show much difference in the presence and absence of *se* in both macro-dialects.

The average obtained for sentences (27)-(31) suggests that the presence of *se* significantly decreases the acceptability of bare nouns in both American and Peninsular Spanish (see block 3 of Table 2). However, remember from the presentation of results in previous sections that such sentences received ratings between 1 and 3 by a fourth to a third of participants. We therefore cannot conclude that *se* blocks bare nouns for all speakers.

Test sentences containing an agent subject and an eventive verb which was not a consumption verb were on average less acceptable than those built with a consumption verb. But ratings for these sentences with a non-consumption verb indicate that they are acceptable for roughly a third of speakers tested when the subject is animate (see block 4 of Table 2).

We compared results obtained for speakers of American Spanish and those obtained for speakers of Peninsular Spanish. We saw that when examining all the items together, again looking at raw ratings (i.e. without collapsing them into two disjunctive values *accept/not accept*), the ratings are significantly higher (thus, signalling lower acceptability) overall for Peninsular Spanish (Peninsular Spanish mean = 4,37 (sd = 2,40); American Spanish mean = 3,87 (sd = 2,30). A t-test comparing participants' mean ratings

**Figure 1.** Results of the survey for sentences with *comer* with vs. without *se* (examples (8)-(11) and (21)-(24); 1 = completely acceptable, 7 = completely unacceptable)



across groups is also significant:  $t(112) = 2.63, p < .01$ ). While we do not have a clear account for this difference, we speculate that one reason might be a higher proportion of linguists in the Peninsular Spanish sample—or even maybe something more pervasive like cultural differences in how the speaker approaches these kinds of tasks, or cultural differences in evaluating others' speech.

One limitation of this survey is that the participants from America come from different countries (see footnote 7), and it is not clear that all American Spanishes are homogeneous with regard to optional *se* constructions. Peninsular Spanishes also exhibit variability. In particular, with transitive verbs, these constructions have been shown to be less productive in some varieties such as Northwestern ones than in others (de Benito Moreno 2015).

## 4.2. The experiment

### 4.2.1. Methodology

The experiment was a YES/NO truth value judgement task. We showed 42 Spanish speakers (38 of which were speakers of American Spanish)<sup>8</sup> the video clips used by Arunachalam & Kothari (2010, 2011) for their study on Hindi vs. English perfective sentences. These video clips depict either a partially complete event (e.g., eating half of a cookie) or a fully complete event (e.g., eating all of a cookie). We used one consumption verb (*comer* 'eat'), one creation verb (*dibujar* 'draw') and 5 change-of-state verbs (*arrancar* 'pick', *cubrir* 'cover', *apagar* 'extinguish', *cerrar* 'close', *llenar* 'fill'). In the partial completion condition, the event was completed from 50% to 80% (e.g., 50 to 80% of the cookie or chocolate was eaten). Each verb was associated with a pair of video clips, e.g., an actor eating a cookie and a different actor eating a chocolate bar. Test sentences were built with the verb used in the simple past (*pretérito indefinido*) combined with a definite

<sup>8</sup>Number of participants per country of origin. Argentina: 1; Bolivia: 1; Colombia: 4; Cuba: 2; Spain: 4; Mexico: 9; Peru: 4; Puerto Rico: 8; Dominican Republic: 3; Uruguay: 1; USA: 2; Venezuela: 2 (one participant did not declare their country of origin).

(quantized) object.<sup>9</sup> We manipulated two variables within subjects: the completion of the event (FULL/PART) and the presence vs. absence of the reflexive clitic (+*se* vs. -*se*). As a reminder, in their study on English, Arunachalam & Kothari (2010) manipulated the completion of the event (FULL/PART) and the presence vs. absence of the particle (+*up* vs. -*up*). We give in (37a/b)-(38a/b) examples of test sentences used in the current study, as well as the corresponding sentences (37c/d)-(38c/d) used by Arunachalam & Kothari.

- |      |    |                                   |             |             |
|------|----|-----------------------------------|-------------|-------------|
| (37) | a. | Ella comió                        | la galleta. | - <i>se</i> |
|      |    | she eat.PVF.3SG                   | the cookie  |             |
|      |    | 'She ate the cookie.'             |             |             |
|      | b. | Ella se comió                     | la galleta. | + <i>se</i> |
|      |    | she REFL eat.PVF.3SG              | the cookie  |             |
|      |    | 'She ate 'herself' the cookie.'   |             |             |
|      | c. | She ate the cookie.               |             | - <i>up</i> |
|      | d. | She ate up the cookie.            |             | + <i>up</i> |
|      |    |                                   |             |             |
| (38) | a. | Ella llenó                        | el vaso.    | - <i>se</i> |
|      |    | she fill.PVF.3SG                  | the glass   |             |
|      |    | 'She filled the glass.'           |             |             |
|      | b. | Ella se llenó                     | el vaso.    | + <i>se</i> |
|      |    | she REFL fill.PVF.3SG             | the glass   |             |
|      |    | 'She filled 'herself' the glass.' |             |             |
|      | c. | She filled the glass.             |             | - <i>up</i> |
|      | d. | She filled up the glass.          |             | + <i>up</i> |

#### 4.2.2. Results

The percentage of 'true' responses across all verbs tested is given in Table 3a. We observed main effects on both conditions. Most verbs except the consumption verb *comer* 'eat' show the same pattern: there were more true judgements for the unmarked variant than for the reflexively marked variant under both FULL and PART conditions. This pattern is unexpected if in optional *se* constructions, *se* mainly marks event completion. If the core semantic contribution of *se* was to require event completion with eventive predicates, the *se* variant should be less acceptable than the unmarked variant in the PART condition (as indeed observed), but should also be at least as acceptable as the unmarked variant in the FULL condition, contrary to our observations. The verb *comer* is the single one for which the reflexively marked variant is fully accepted in the FULL condition. However, in the PART condition, *comerse* is much more accepted than *eat up* was according to Arunachalam & Kothari's (2011) results for English (73% vs. 17%), as shown in Table 3b. This cross-linguistic difference goes against the view that *se* requires event completion the same way *up* does in combination with verbs of consumption.

<sup>9</sup>Although the subject pronoun *Ella* 'she' used in test sentences is unnecessary and somewhat unnatural out of the blue, it was added in order to avoid the anticausative or *se*-passive uses of change-of-state verbs in the presence of *se*; e.g., *se cerró la puerta* can either mean *She/he closed the door* (for speakers accepting *cerrar* 'close' in optional *se* constructions) or *The door (was) closed* (automatically or from the wind, for example). A full DP like *La mujer* 'the woman' would also have disambiguated the structure, but the aim was to remain as close as possible to the verbal stimuli used in Arunachalam & Kothari (2010).



**Table 3.** Percentage of ‘true’ responses for Spanish test items with (a) all verbs and (b) the consumption verb *comer* (compared to ‘true’ responses for *eat* in English)

	– <i>se</i>	+ <i>se</i>		<i>comer</i>	<i>comerse</i>	<i>eat</i>	<i>eat up</i>
FULL	97	70	FULL	100	100	100	100
PART	61	46	PART	88	73	83	17

**Source:** Arunachalam and Kothari (2010, 2011) for English results

**Table 4.** Percentage of ‘true’ responses for the Spanish verbs *llenar*, *cubrir*, *dibujar*, *arrancar* and their English counterparts *fill*, *cover*, *draw*, *pluck*

	– <i>se</i>	+ <i>se</i>	– <i>up</i>	+ <i>up</i>
FULL	98	64	98	96
PART	59	49	88	77

**Source:** Arunachalam and Kothari (2010, 2011) for English results

These results suggest that in American Spanishes, it is only with consumption verbs that the reflexive variant comes with a stronger inference of event completion than the unmarked variant. But they also indicate that even with consumption verbs where a telicizing effect of *se* is observed (since event completion is more strongly required in its presence), *se* does not mark exhaustivity, differently from *up* (see also D’Introno et al. 2007, Moreno 2021), since sentences with *comerse* combined with a quantized object (as in e.g. (37b)) were more often judged true in the PART condition than were English *eat up* sentences such as (37d), tested with the same material by Arunachalam & Kothari (2010).

For verbs which were not verbs of consumption, we informally collected grammaticality judgements suggesting that all test sentences were acceptable. Nevertheless, three participants (from Bolivia, Mexico, and Puerto Rico respectively) reported sentences with *apagar* ‘blow out’ and *cerrar* ‘close’ to be ungrammatical or borderline in the *se* variant. We therefore looked at the percentage of true responses across the remaining change-of-state and creation verbs. Table 4 compares the true responses for these verbs with the true judgements for their English counterparts gathered in Arunachalam & Kothari (2010, 2011) (*fill*, *cover*, *draw*, *pluck*). The pattern for these four verbs is similar to the one with all seven verbs, albeit less strong. Again, the reflexively marked variant is dispreferred across verbs both in the PART and FULL conditions in American Spanish (with only 64% of true responses in the latter condition). By contrast, the verb+particle combination was accepted almost at ceiling in the FULL condition in English. This, again, confirms that in American Spanish, the *se*-variant of these verbs does not (mainly) differ from the unmarked one along the dimension of telicity or event completion. This is also in line with the results of the survey for sentences with a durative adverbial in American Spanish.

It might be that the telicizing effect of *se* would prove stronger across Peninsular Spanishes (remember that most participants of the experiment were American Spanish speakers). However, the results of the survey for sentences with a durative adverbial do not really support the view that *se* decreases incomplete readings for the VP much more

strongly in Peninsular Spanish than in American Spanish.<sup>10</sup>

## 5. Analysis

### 5.1. Main proposal

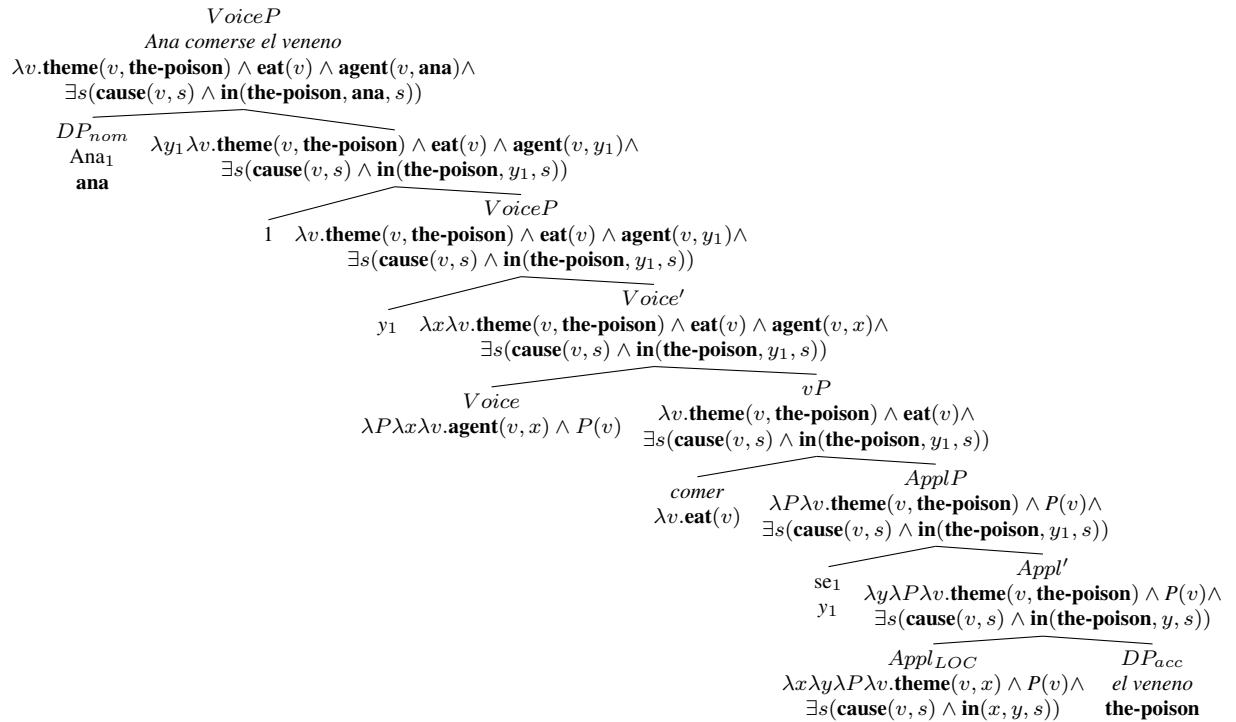
We propose that the variety of inferences triggered by the *se*-variant of optional *se* constructions identified in section 3 reflects the variety of flavours that applicative heads hosted in these constructions may be associated with, as shown in (39).

- (39) a. “Ana comerse la manzana” (with low applicative)
- VoiceP  
 / \  
 Ana<sub>i</sub> Voice'  
 / \  
 Voice vP  
 / \  
 comer ApplP  
 / \  
 se<sub>i</sub> Appl'  
 / \  
 Appl<sub>LOC</sub> la  
 manzana
- b. “Ana cocinarse una paella” (with high applicative)
- VoiceP  
 / \  
 Ana<sub>i</sub> Voice'  
 / \  
 Voice ApplP  
 / \  
 se<sub>i</sub> Appl'  
 / \  
 Appl<sub>EXP</sub> vP  
 / \  
 cocinar una  
 paella

The reflexive clitic can be the argument of a low applicative (Campanini & Schäfer 2011), attached below the verb, or a high applicative attached just above vP, below Voice (Pylkkänen 2008). We propose that the high applicative Appl<sub>EXP</sub> in optional *se* constructions introduces an experiencer of the verbal event. In this respect, Appl<sub>EXP</sub> is different from Bosse et al.’s (2012) affected experiencer AFF, which introduces a psychological event in addition to the verbal event. (We come back to the distinction between the two high applicatives in section 5.2.)

In optional *se* constructions, *se* can be merged as the indirect argument in the specifier of a low applicative head Appl<sub>LOC</sub> expressing an internalization of the theme by the dative argument (Campanini & Schäfer 2011). Appl<sub>LOC</sub> can only combine with verbs describing eventualities leading to a state of being incorporated within the subject’s referent. Appl<sub>LOC</sub> introduces some locative state *s* resulting from the verbal eventuality *v*. This state defines a relation of locative inclusion of the theme DP (the *locatum*) within the binder of the reflexive clitic (the *container*); see (3) repeated in (40a), where ‘in(*x, y, s*)’ means that *x* is in *y* in *s*, *v* is a variable for (stative or eventive) eventualities and *P* a property of eventualities.

<sup>10</sup>As Table 4 shows, in the PART condition, both marked and unmarked variants in Spanish are much less accepted on average than the marked and unmarked variants in English. We speculate that this cross-linguistic difference has nothing to do with inner (lexical) aspect, but rather reflects a semantic difference between the English simple past (used in the test items of Arunachalam & Kothari 2011) and the Spanish *pretérito indefinido* (used in our items). In particular, we believe that the Spanish *pretérito indefinido* is unambiguously perfective, while the English simple past also has imperfective uses (see van Hout et al. 2010, Martin & Gyarmathy 2019, Minor et al. 2022 and references therein).

**Figure 2.** “Ana comerse el veneno”

For a first set of speakers—those that we call ‘LOW-APPL speakers’—the applicative in optional *se* constructions can be low only. When *se* serves as the argument of  $\text{Appl}_{LOC}$ , the event structure of the VP is augmented by the applicative with a state caused by the verbal event, see (40b), derived via the binding of the container-position by the nominative subject. An analysis for the (uninflected) event predicate *Ana comerse el veneno* involving  $\text{Appl}_{LOC}$  is given in Figure 2. As made clear in this analysis, it is not the verb itself (here, *comer* ‘eat’) which introduces the internal argument; rather, the verb merges with the Applicative head while still ‘argumentless’. We see this as supporting the analysis, given that it directly accounts for the fact that only non-core transitive verbs can combine with  $\text{Appl}_{LOC}$  (Campanini & Schäfer 2011).

- (40) a.  $\llbracket \text{Appl}_{LOC} \rrbracket \rightsquigarrow \lambda x \lambda y \lambda P \lambda v. \mathbf{theme}(v, x) \wedge P(v) \wedge \exists s(\mathbf{cause}(v, s) \wedge \mathbf{in}(x, y, s))$   
 b.  $\llbracket \text{Ana comerse la manzana} \rrbracket \rightsquigarrow$   
 $\lambda v. \mathbf{theme}(v, \mathbf{the-apple}) \wedge \mathbf{eat}(v) \wedge \mathbf{agent}(v, \mathbf{ana}) \wedge$   
 $\exists s(\mathbf{cause}(v, s) \wedge \mathbf{in}(\mathbf{the-apple}, \mathbf{ana}, s))$

Campanini & Schäfer (2011) emphasize that when *se* serves as the argument of a low applicative, the incorporative meaning of the consumption verb is not simply derived from world knowledge about what eating events are (as is the case in the unmarked variant). Rather, the incorporative meaning is then *structurally* encoded, as reflected in the paraphrase in (41b) of (41a).

- (41) a. Ana se comió una manzana.  
 b.  $\approx$  ‘Ana ate an apple and thereby caused the apple to be in her.’

We propose that the translation of the ingestive meaning into the syntactic structure leads to an *emphasis effect*: the incorporating semantics is pragmatically focused on. This accounts for two empirical facts reported in section 3. Firstly, it explains why *se* is strongly favoured when the object is not expected to be eaten (de la Mora 2011, inference #5 of counter-expectation/abnormality), at least for speakers for which *se* is truly optional in optional *se* constructions built with consumption verbs. The idea is that by putting emphasis on the ingestive process by expressing it through the syntax (and not only via the lexical semantics of the verb), the sentence conveys incredulity or unexpectedness with regard to this ingestion process. Secondly, the ‘syntactization’ by Appl<sub>LOC</sub> of the ingestive meaning conveyed by consumption verbs also contributes to understanding why many speakers in fact *require se* in optional *se* constructions with consumption verbs (recall D’Introno’s et al. 2007 data reported in section 2). For these speakers, if the ingestive meaning entailed by consumption verbs *can* be encoded in the syntax, it *must* be so via some pragmatic Gricean reasoning. That is, for these speakers, not using *se* amounts to denying that the object’s referent *y* is ‘in’ the subject’s referent *x* as a result of being ingested by *x*. Thus for instance, for these speakers, (42a) is strange because it yields the implicature (42c).

- (42) a. Ana comió la manzana.  
 b.  $\rightsquigarrow$ NOT (Ana se comió la manzana)  
 c.  $\rightsquigarrow$  It is not the case that the eating event caused some state of the apple to be in Ana.

Another empirical fact that follows straightforwardly from Campanini & Schäfer’s (2011) proposal concerns inanimate subjects. We saw that *se* loses its optionality across most speakers with an inanimate subject. This is because causer (inanimate) subjects require a bi-eventive structure (Folli & Harley 2005, Schäfer 2012, Martin & Schäfer 2014, Alexiadou et al. 2017), a condition which is fulfilled in the presence of *se*, since the applicative augments the event structure with a result state.

We would like to argue that the *se* with attitudinal verbs like *creer* ‘believe’ is the same *se* as with consumption verbs (as already argued for by MacDonald 2017: 106–107 from the perspective of his null P hypothesis). More precisely, a common point to attitudinal stative verbs that enter into optional *se* constructions—*creer* ‘believe’, *saber* ‘know’, etc.—and distinguishes them from attitudinal verbs that do not (e.g., *odiar* ‘hate’) is that the former are compatible with the causal relation conveyed by Appl<sub>LOC</sub>: knowing or believing *x* implies that *x* is figuratively ‘within’ the attitude holder as a result of the attitudinal state (by contrast, hating *x* does not suggest that *x* is ‘within’ the hater as a result of the emotion, and consequently, these verbs are not compatible with Appl<sub>LOC</sub>).

Verbs like *creer* ‘believe’ remain stative in the *se*-variant (as argued for in MacDonald 2017: section 2). This is why we attribute to Appl<sub>LOC</sub> in (40a) a semantics compatible with stative predicates (*v* is a variable for stative or eventive eventualities). This is in line with Cuervo (2003), who argues that stative transitive verbs can combine with low applicatives. Obviously, the causal relation expressed by optional *se* constructions hosting a stative verb is then *stative*, as illustrated in (43).

- (43) a.  $\llbracket$ Ana creerse la historia $\rrbracket \rightsquigarrow$   
 $\lambda v$ .**theme**(*v*, **the-story**)  $\wedge$  **believe**(*v*)  $\wedge$  **holder**(*v*, **ana**)  $\wedge$   
 $\exists s'$ (**cause**(*v*, *s'*)  $\wedge$  **in**(**the-story**, **ana**, *s'*))

- b. Ana se cree la historia.  
 c.  $\approx$  ‘Ana believes the story and thereby causes the story to be in her.’

From this perspective, the various inferences triggered by the *se*-variant of these verbs (i.e. the complement is not expected to be mentally incorporated by the attitude holder, because it is not credible or too complex) come from the same emphasis effect as above: the state of the complement being ‘within’ the attitude holder is expressed syntactically and thus focused on.<sup>11</sup>

Verbs that do not have a (figurative or literal) incorporative meaning do not combine with  $\text{Appl}_{\text{LOC}}$ , for they are not semantically compatible with its semantics. Thus for instance, *cocinar* in the example (12) repeated below cannot be combined with  $\text{Appl}_{\text{LOC}}$ . For LOW-APPL speakers, optional *se* constructions built with verbs other than consumption verbs thus turn out ungrammatical. As we saw in sections 3 and 4.1, the percentage of speakers accepting optional *se* constructions with verbs other than consumption verbs seems indeed lower, confirming the existence of this LOW-APPL dialect.

Nevertheless, the percentage of speakers accepting such sentences with non-consumption verbs (as for instance (12)) is still far from negligible, ranging from a rate of 20% to 40% acceptance rate in our survey.

- (12) (Ayer) Juan se cocinó una paella para sus invitados.  
 yesterday Juan REFL cook.PFV.3SG a paella for his guests 40%/29%  
 ‘Yesterday Juan cooked ‘himself’ a paella for his guests.’ (Sanz 2000: 59)

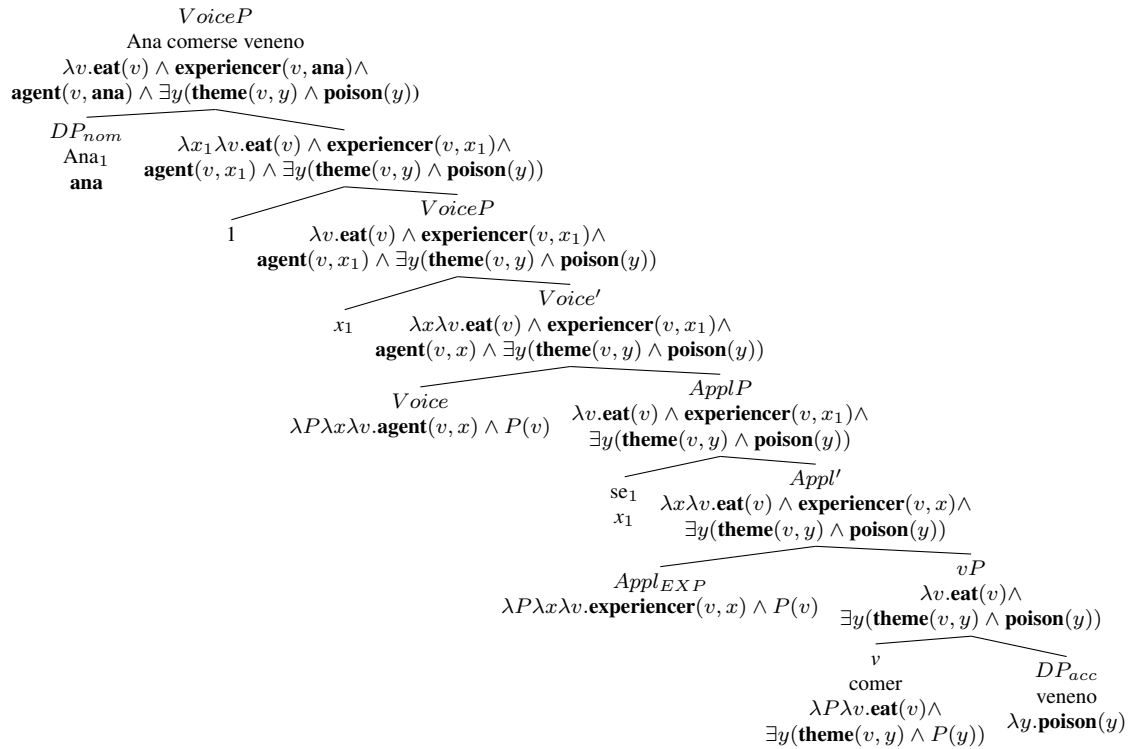
We propose that for a second set of speakers—‘LOW/HIGH-APPL speakers’—optional *se* constructions can also host a high applicative head (just above VP) introducing a (direct) experiencer of the verbal event, see (4) repeated below. We assume, furthermore, that for an entity  $v$  to be the direct experiencer of some event  $v$ ,  $x$  must participate in  $v$ . Thus for instance if Juan cooked for us and I’m happy about this, I am not the *direct* experiencer of Juan’s cooking  $v$  (I wasn’t part of the cooking). Rather, I am the experiencer of a psychological event  $v'$  which has  $v$  as its source. On the other hand, Juan, *qua* agent of the cooking  $v$ , is possibly the direct experiencer of  $v$ . We call the applicative in (4) the ‘direct experiencer applicative’, because the experiencer it introduces directly takes part in the verbal event.

- (4)  $[[\text{Appl}_{\text{EXP}}]] \rightsquigarrow \lambda P \lambda x \lambda v. \text{experiencer}(v, x) \wedge P(v)$

An agent performing an action by definition (directly) experiences their action. But in fact, in a transitive clause, the experiencer introduced by the dative clitic can *only* be the agent. To be sure, the theme of the verbal event  $v$  also directly participates in the event  $e$ , but it is virtually always inanimate in optional *se* constructions, and thus cannot be

<sup>11</sup>We remain intentionally vague about the nature of the implicatures triggered by optional *se* constructions. We believe that they are manner or non-scalar quantity implicatures, but the identification of these inferences requires further investigation (see Anvari et al. 2019 and Maldonado et al. 2021 for discussion). Also, given that the verb must be argumentless when it combines with the applicative, we expect only *non-core* transitive stative verbs to enter into optional *se* constructions. However, core vs. non-core transitivity has not been thoroughly investigated for stative predicates; it is therefore unclear whether this prediction holds. It is perhaps telling though that verbs like *creer* can be used without an object (*Creo. Soy creyente, tengo fe* ‘I believe. I’m a believer, I have faith.’) or with a preposition (*Juan cree en ti* ‘Juan believes in you’).

Figure 3. “Ana comerse veneno”



identified with the experiencer. Furthermore, when the dative is coindexed with a DP in a PP, the beneficiary reading is forced (for instance, *Juan te lavó el coche* ‘Juan washed DAT.2SG the car’ can only mean that Juan washed the car for the addressee, and not that the addressee was the direct experiencer of this washing event). As a result, the subject is the single argument which can be identified with the experiencer of *v* introduced by a dative argument. This accounts for why the clitic in optional *se* constructions built with verbs other than consumption verbs has to be reflexive, too.

Optional *se* constructions which host  $Appl_{EXP}$  in (4) do not impose lexical restrictions as when they host  $Appl_{LOC}$ —in principle, any kind of event predicate is compatible with  $Appl_{EXP}$  as long as it combines with an animate subject, including consumption verbs. As an illustration, Figure 3 provides the syntax/semantics for the (untensed) predicate *Ana comerse veneno*, where the  $vP$  *comer veneno* combines with  $Appl_{EXP}$ .<sup>12</sup> Several facts reported in section 3 follow straightforwardly from this proposal. Firstly, it accounts for the animacy requirement of optional *se* constructions built with verbs other than consumption verbs (Armstrong 2013). Secondly, it accounts for why these constructions present the agent as more ‘engaged’ in the action (see the inference #2 of enriched agency in section 3.2): the agent of the verbal event is also represented in the syntax as the experiencer of this event. Thirdly, it also accounts for why *se* triggers the inference #3 of unaided agency (section 3.3): since the agent also *experiences* the event, they must be a ‘direct’ executor (and not a distant instigator) of the event. Fourthly, it captures the infer-

<sup>12</sup>As argued below, in the presence of a bare object, a *se* construction hosting a consumption verb *must* combine with  $Appl_{EXP}$  (as  $Appl_{LOC}$  requires an entity-denoting argument). Furthermore, combined with a bare object, which we assume with McNally (1995) to be property-denoting, consumption verbs have an incorporating variant *à la* van Geenhoven (1998: 132-133) (see section 5.2 for details).

ence #4 of affectedness (section 3.4): expressing structurally that the subject experiences the verbal event plausibly triggers the inference that the subject is affected by this event. Also, we speculate that the intuition that the reflexive presents the event as performed ‘to its core’ comes from the fact that by representing the agent as really engaged in their performance, they performed it to its very end.

Furthermore, the dispreference observed in the experiment reported in section 4.2 for the reflexively marked variant with all verbs except *comer* ‘eat’ plausibly follows from the fact that the agent in the video clips used in Arunachalam & Kothari (2010, 2011) performs the depicted action in a completely neutral way, not as an engaged experiencer of this action.

Given the general dispreference across languages for \*NOM-DAT-DAT combination (see Abraham 2006: 11 among others), we do not expect the same clause to host both Appl<sub>EXP</sub> (4) and Appl<sub>LOC</sub> in (40). The ethical dative, to which we turn next, is a particular case, since it is known to combine more easily with further datives.

## 5.2. Direct vs. indirect experiencer applicatives

### 5.2.1. Bosse et al.’s (2012) affected experiencer constructions

The direct experiencer applicative Appl<sub>EXP</sub> in (4) hosted in optional *se* constructions such as (12) should not be confused with Authier & Reed’s (1992) ethical datives, aka higher ‘affected datives’, found in what Bosse et al. (2012) ‘affected experiencer constructions’, involving what they call the AFF head. We endorse Bosse et al.’s (2012) analysis, according to which AFF introduces a psychological event  $v'$  besides the verbal event  $v$ , and projects an NP in its specifier denoting the experiencer of this psychological event  $v'$ . The German sentence (5a) repeated below in (44) is an example of the affected experiencer construction, where the dative NP ‘dem Chris’ is understood as psychologically affected by the verbal event.

- (44) Alex zerbrach dem Chris Bens Vase. (German)  
 Alex break.PST.3SG the.DAT Chris Ben’s vase  
 ‘Alex broke Ben’s vase on Chris.’

We repeat below the semantics Bosse et al. (2012) attributes to AFF (using the eventuality variable  $v$  where they use the event variable  $e$ ).<sup>13</sup>

- (6)  $[[\mathbf{Aff}]] \rightsquigarrow \lambda P \lambda x \lambda v. P(v) \wedge \exists v' (\mathbf{experience}(v') \wedge \mathbf{experiencer}(v', x) : \forall v'' (P(v'') \rightarrow \mathbf{source}(v'', v'))$

Thus, while the experiencer introduced by Appl<sub>EXP</sub> in (4) ‘directly’ participates in the verbal event, the experiencer  $x$  projected by AFF in (6) does not; rather, in (6),  $x$  is the experiencer of a psychological event  $v'$  which has the verbal event  $v$  as its source.<sup>14</sup> Thus

<sup>13</sup>In German, the part before the colon is at issue, and the part after is not at issue (see Fernández 2019 for arguments in favour of a similar analysis for Spanish affected experiencer constructions). Bosse et al. argue that in other languages such as Hebrew, the existential quantification over the psychological event is also part of the non at issue component.

<sup>14</sup>We believe that the applicative hosted by English experiencer *have* sentences (see Harley 1998, Myler 2016) also differs from Appl<sub>EXP</sub>: in English *have* sentences, the experiencer participates in a psych-event *about* the verbal event, and not in the verbal event itself. In fact, the semantics Myler attributes to the applicative in experiencer *have* sentences is very close to the one we attribute to Appl<sub>EXP</sub>. But for us, the experiencer of English *have* sentences is semantically closer to Bosse et al.’s (2012) AFF head.

the experiencer  $x$  only has an indirect relation to the verbal event.

Obviously, no coreference is required between the experiencer  $x$  introduced by AFF and the subject of the clause, precisely because  $x$  does not directly participate in the verbal event  $v$ —it suffices that  $x$  perceives  $v$ , or even just entertains some thoughts about  $v$ , to be the experiencer of the psychological event  $v'$  introduced by AFF.

Coreference between AFF and the nominative DP is therefore not required. But in fact, it seems that for some reason, coreference is not even possible. We indeed observe that when the experiencer  $x$  introduced by AFF is identified with the referent of the nominative DP via a reflexive pronoun, the sentence turns out infelicitous. For instance, (45) is not acceptable; the only way to save this example is to interpret the reflexive as a benefactive argument, as in (46).<sup>15</sup> We will see that in this respect, Spanish is similar to German.

- (45) #Alex hat sich Marias Vase zerbrochen/gebrochen. (German)  
 Alex has REFL Maria's vase broken  
 Intended: 'Alex broke Maria's vase on himself.'
- (46) Alex hat sich Marias Vase in kleine Stücke gebrochen, weil er diese  
 Alex has REFL Maria's vase in small pieces broken because he these  
 Stücke brauchte.  
 pieces need.PST.3SG  
 'Alex broke [for] himself Maria's vase into small pieces, because he needed these pieces.'

### 5.2.2. Combining applicatives in Spanish

According to Fernández (2019), the ethical datives of Class II in Franco & Huidobro's (2008) typology, also called *dativos de afectación* in Maldonado (1994), correspond to the affected experiencers in Bosse et al.'s (2012) typology (see MacDonald 2015: section 4.2 for a related view). One of the Spanish examples provided by Fernández (2019) is repeated in (47). Thus in (47), the speaker is *not* the experiencer of the verbal (breaking the vase) event  $v$ , but rather of a psychological event  $v'$  *about* this verbal event  $v$ .

- (47) El niño me ha roto el vaso.  
 the kid CL.1SG.DAT has broken the vase  
 'The kid broke a vase on me.'

Reflexive affected experiencers are not felicitous in Spanish, as we just have seen for German. Thus for example, *El niño se ha roto el vaso* cannot be used to mean that the kid broke the vase and was affected by this event. The contrast in (48) (from Paulina Parra-Miranda, p.c.) shows the same point.

- (48) Juan me/#se chocó el auto.  
 Juan CL.1SG.DAT/REFL.3SG crash.PFV.3SG the car  
 'Juan crashed the car on me/himself.'

<sup>15</sup>We thank Theresa Löchel for the contrast in (45)-(46).



We take this to show that just as in German, Bosse et al.'s (2012) affected experiencer constructions cannot be reflexivized in Spanish.

As mentioned above, the \*NOM-DAT-DAT constraint blocking the combination of datives of different flavours is often relaxed across languages in the presence of affected experiencers (aka 'ethical datives'). For Spanish, Armstrong (2013: fn.6) reports that sentences such as (49) are judged acceptable by some speakers, but other speakers we consulted rejected such examples, although they accept the version without *me* or the one without *te*. For us, (49) thus hosts the two applicative heads Appl<sub>EXP</sub> and AFF, and as a result presents the addressee as the agent *and* the experiencer of the cooking event *v*, and the speaker as the experiencer of a psychological event *v'* *about* the verbal (cooking) event *v*.

- (49) Te            me            les            cocinaste        todo.  
 REFL.2SG CL.1SG.DAT CL.3PL.ACC cook.PFV.2SG all  
 'You cooked 'yourself' it all for them [and I was positively affected by this event].'

Bosse et al. (2012) propose that one parameter of variation associated with AFF concerns its attachment height; either it attaches between *v*P and Voice, or above Voice. In the former case, AFF is in exactly the same position as Appl<sub>EXP</sub> (recall (39b); see also the tree in Figure 3). We hypothesize that among LOW/HIGH-APPL speakers (who accept optional *se* constructions hosting Appl<sub>EXP</sub> in (4)), those that reject sentences like (49) attach AFF in the same position as Appl<sub>EXP</sub> such that the two high applicatives end up competing for the same spot, while those that accept them attach AFF higher, above Voice, thus avoiding the competition with the (lower) applicative Appl<sub>EXP</sub>.

We expect Appl<sub>LOC</sub> to be in principle even more compatible with the indirect experiencer dative AFF. Firstly, they do not compete for the same position, independently of whether AFF is attached low, between *v*P and Voice, or high, above Voice. Secondly, Appl<sub>LOC</sub> and AFF seem to be accepted across all dialects. And indeed, such combinations as in (50)-(51) have not only been reported to be possible (see, e.g., Gutiérrez Ordóñez 1999; see also MacDonald 2015: section 4.2 for similar examples), but also, available data suggest that sentences combining a low and an indirect experiencer applicative are generally more accepted than those combining the two 'high' applicatives. For instance, D'Introno et al. (2007) report that that half of the speakers they tested accepted (51).

- (50) No te            me            fumes            los cigarrillos.  
 NEG REFL.2SG CL.1SG.DAT smoke.PRS.2SG the cigars  
 'Do not smoke 'yourself' the cigars on me.'

- (51) Juan se            me            comió            la manzana.  
 Juan REFL.3SG CL.1SG.DAT eat.PFV.3SG the apple  
 'Juan ate 'himself' the apple on me.'

### 5.3. Bare nouns in optional *se* constructions

Section 3.1 showed on the basis of examples built with consumption verbs that bare nouns are often, but not always, judged unacceptable in optional *se* constructions.

We adopt the idea proposed in previous work that in Spanish (as in several other languages), plural bare nouns (McNally 1995) as well as singular ones (Espinal & Mc-

Nally 2011) are property-denoting, and combine with the verb via pseudo-incorporation (see Borik & Gehrke 2015 and McNally 2020 on property-denoting nouns and semantic incorporation). We observe that this suffices to account for the incompatibility of bare nouns in optional *se* constructions hosting Appl<sub>LOC</sub>: bare nouns cannot feed the first argument of this head Appl<sub>LOC</sub>, which is individual denoting, as seen in (40a).<sup>16</sup> This accounts for the unacceptability of bare nouns in the *se*-variant of optional *se* constructions for LOW-APPL speakers.

However, a bare noun can first combine with the verb and form a *vP* which can feed the event property *P* serving as the first argument of Appl<sub>EXP</sub>, as shown in Figure 3. We propose that speakers accepting bare nouns with the reflexively marked variant of optional *se* constructions built with consumption verbs (an average of 28% of our 114 speakers for (31), repeated below, are LOW/HIGH-APPL speakers. For these speakers, *se* can be merged as the argument of Appl<sub>EXP</sub>. The type mismatch mentioned above can then be avoided for these speakers.

- (31) ¡El niño se comió veneno!  
 the child REFL eat.PFV.3SG poison 28%/28%  
 ‘The child ate ‘himself’ poison!’ (Armstrong 2013: 90)

As already observed by Antonio Fábregas (in a p.c. reported in Campanini & Schäfer 2011: fn. 14), optional *se* constructions with a bare noun claimed to be good often come with a context presenting the subject as an affected experiencer, as (31) obviously does (and MacDonald 2017 relatedly reports that with objects that do not present the ‘eater’ as affected, like *arroz* ‘rice’, the bare variant is more degraded). This indeed suggests that with bare nouns, *se* does not serve as an argument of Appl<sub>LOC</sub>, but rather of Appl<sub>EXP</sub>.

By contrast, in English, particle verbs such as *eat up* do not felicitously combine with bare nouns because they select a bounded object as their internal argument (Smollett 2005, Piñón 2011, de Swart 2012), as we detail in the next section.

#### 5.4. Incomplete uses for the marked and unmarked variants of optional *se* constructions

The results of the experiment showed that *comerse* ‘eat.REFL’ is judged true in the PART condition by 73% of our Spanish speakers, while Arunachalam & Kothari (2011) showed on the basis of the same experimental material and following the same methodology that *eat up* was accepted only by 17% of English speakers in the same condition, where the depicted event was not performed completely. Furthermore, we reported in section 3.1 that sentences such as (21) and (23), built with a weakly telic VP modified by a *for*-adverbial, are accepted by an average of 48,5% of our 114 participants (against 55,2% for the reflexively unmarked variants (22) and (24)). By contrast, *eat up* strongly rejects incomplete uses and durative adverbials (Smollett 2005).

<sup>16</sup>By contrast, nothing impedes property-denoting bare nouns to combine with consumption verbs without *se* via pseudo-incorporation, as shown in Figure 3. The assumption is, of course, that consumption verbs do not necessarily take an entity-denoting argument, and have an ‘incorporating’ use selecting for a property-type nominal (while Appl<sub>LOC</sub> is never incorporating, and always requires an entity-denoting argument). On this view, the dispreference for bare nouns is not related to the telicizing effect of *se* in optional *se* constructions (as also argued by MacDonald 2017: 85 from a difference perspective).

- (23) El niño *se* bebió la leche durante una hora. 52%/33%  
 the child REFL drink.PFV.3SG the milk during an hour  
 ‘The child drank ‘himself’ the milk during one hour.’
- (24) El niño  $\emptyset$  bebió la leche durante una hora. 69%/44%  
 the child drink.PFV.3SG the milk during an hour  
 ‘The child drank the milk during one hour.’

We first aim to account for the availability of incomplete readings for both types of VPs, i.e., *comerse la pizza* or *comer la pizza*, as well as for the possibility to combine felicitously with *for* adverbials in Spanish, and then turn briefly to English. In a nutshell, the idea developed below is that in Spanish, these uses hinge on the *non-maximal* reading of the DP serving as the theme of the verb (see Martin 2019 on ‘non-maximal accomplishments’).

It has already been observed that singular definites *the N* (see e.g. Križ 2016: 23, Kennedy & Levin 2008: 9) but also singular indefinites *a N* (Piñón 2008) can be used vaguely to describe a part of an individual *N*. For instance, *a/the pizza* can be used to describe a part of a/the pizza. We adopt the semantic account of non-maximal readings of definites/indefinites sketched in Piñón (2009). Piñón’s core idea is that nominal predicates encode gradable properties, which are measure functions  $\mu$  yielding degrees  $d_o$  as values. The degree  $d_o$  tracks the degree of completion of objects, as in (52).

- (52) **pizza** $_{\mu}(x)$  ‘the degree to which  $x$  is a pizza’

This degree argument gets bound either by the ‘positive binding operator’ or by the ‘degree maximizing operator’ (as shown in (53a/b) respectively; see Piñón 2008 on incremental theme verbs and Piñón 2009 on gradable accomplishments).

- (53) a. **pizza** $_{\mu}^{+}(d_o, x) := \mathbf{pizza}_{\mu}(x) = d_o \wedge d_o > 0$   
 b. **pizza** $(x) := \mathbf{pizza}_{\mu}(x) = d_o \wedge d_o = 1$

Depending on the value of the degree  $d_o$  yielded by the measure function encoded by the indefinite *una pizza*, the VP *comerse una pizza* denotes a set of events of eating a pizza incompletely (see (54b)), as in the PART condition of our experiment, or completely (see (54c), as in our FULL condition). The same two readings obviously also exist for the reflexively unmarked variant *comer una pizza*.

- (54) a.  $\llbracket \text{Amir comerse una pizza} \rrbracket \rightsquigarrow$   
 b.  $\lambda v. \exists d_o (\mathbf{eat}(v) \wedge \mathbf{agent}(v, \mathbf{amir}) \wedge \mathbf{theme}(v, x) \wedge \mathbf{pizza}_{\mu}^{+}(d_o, x) \wedge \exists s (\mathbf{cause}(v, s) \wedge \mathbf{in}(x, \mathbf{amir}, s)))$   
 ‘a predicate of events  $v$  such that Amir is the agent of  $v$ ,  $x$  is the theme of  $v$ ,  $x$  is a pizza to a positive degree  $d_o > 0$ , and  $v$  causes some state  $s$  of  $x$  to be in Amir.’  
 c.  $\lambda v. \exists d_o (\mathbf{eat}(v) \wedge \mathbf{agent}(v, \mathbf{amir}) \wedge \mathbf{theme}(v, x) \wedge \mathbf{pizza}(x) \wedge \exists s (\mathbf{cause}(v, s) \wedge \mathbf{into}(x, \mathbf{amir}, s)))$   
 ‘a predicate of events  $v$  such that Amir is the agent of  $v$ ,  $x$  is the theme of  $v$ ,  $x$  is a pizza to degree 1, and  $v$  causes some state  $s$  of  $x$  to be in Amir.’

The preference by default for the completive reading can be accounted for by the Gricean principle of informativeness (see Kennedy & Levin 2008, Piñón 2008). Since the com-

pletive reading asymmetrically entails the incomplete one (if  $d_o = 1$ , then  $d_o > 0$ , but not the reverse), it is by default preferred as the strongest meaning, which accounts for why subjects of the experiment judged sentences such as *Juan (se) comió la galleta* more often true in situations where Juan ate the whole cookie than when he ate it incompletely.

Let us now turn to the compatibility of *comer(se) una pizza* with durative adverbials. Piñón (2015) argues that ‘divided reference’ is the property that a predicate  $P$  has to satisfy in order to felicitously combine with a *for*-adverbial. Informally,  $P$  has divided reference with respect to  $x$  just in case  $x$  can be exhaustively divided in two parts  $y$  and  $z$  each of which is of type  $P$ . Thus for instance, *comer* ‘eat’ has divided reference because any event  $v$  in the denotation of this predicate can be exhaustively divided in two disjoint proper subevents  $v'$  and  $v''$  such that each is an eating event.

It is easy to show that *comer(se) una pizza* ‘eat.REFL a pizza’ may also have divided reference given that *una pizza* can be interpreted non-maximally (with the degree output by the measure function (52) bound by the positive degree operator, as in (53a)). Take an event  $v$  of eating  $x$  such as  $x$  is a pizza to  $d_o > 0$ . Then  $e$  can be exhaustively divided into two disjoint proper subevents  $v'$  and  $v''$  of eating  $x$  such as  $x$  is a pizza to  $d_o > 0$ . The fact that durative adverbials are not more broadly accepted can again be accounted for by the Strongest Meaning Hypothesis: interpreters tend to prefer the maximal reading of *una pizza*, under which *comer la pizza* cannot have divided reference.

Turning now to English *eat up*, we saw that the exhaustivity particle *up* blocks non-maximal uses of definites and indefinites in the theme position, as well as modification by a *for*-adverbial. Arunachalam & Kothari’s (2010) experimental results also showed that incomplete uses are rejected for VPs such as *eat up the pizza*. There are several ways to account for this distribution. One way is to relate it to Piñón’s (2011) analysis of *eat up*, repeated in (55). According to this analysis, *eat up* denotes *pairs* of eventualities whose second member is an *event boundary*.

- (55) a.  $\llbracket \text{Amir eat up the pizza} \rrbracket \rightsquigarrow$  (Piñón 2011)  
 b.  $\lambda \langle v, b \rangle . \mathbf{eat}^+(\langle v, b \rangle) \wedge \mathbf{agent}(\langle v, b \rangle, \mathbf{amir}) \wedge \mathbf{theme}(\langle v, b \rangle, \mathbf{the-pizza})$   
 c.  $\forall \langle v, b \rangle (\mathbf{V}^+(\langle v, b \rangle) \rightarrow b = \mathbf{right-boundary-of}(v) \wedge b \sqsubset v)$

The internal argument of predicates of pairs of eventualities must be a ‘bounded noun’, what Piñón (2011) analyzes as a predicate of ordered pairs of objects, as in (56) (where  $x$  is a variable for objects, and  $f$  is a variable for object boundaries).

- (56)  $\lambda \langle x, f \rangle . \mathbf{N}^+(\langle x, f \rangle)$

Definite or indefinite DPs such as *a/the pizza* cannot serve as ‘bounded nouns’ when they are interpreted non-maximally, as describing incomplete objects, precisely because such objects are not bounded, that is, are not paired with boundaries. In other words, when a DP serves as the theme of a VP such as *eat up*, it is necessarily interpreted maximally, for as soon as a nominal predicate denotes ‘bounded’ objects of type  $\mathbf{N}^+$  (e.g., ‘bounded’ pizzas), these objects are necessary  $N$  to the maximal degree (e.g., pizzas to degree 1). Thus (57) holds:

- (57)  $\forall \langle x, f \rangle . \mathbf{N}^+(\langle x, f \rangle) \rightarrow \mathbf{N}_\mu(x) = 1$   
 ‘If an object  $x$  of type  $\mathbf{N}$  is bounded (i.e., forms an ordered pair of object with its boundary  $f$ ), then  $x$  is an  $\mathbf{N}$  to degree 1.’

Since VPs such as *eat up the/a pizza* cannot have divided reference when the theme DP is interpreted maximally, we also expect such VPs to be unacceptable with *for*-adverbials. Relatedly, since incomplete interpretations rely on the non-maximal use of the theme DP, we also expect these interpretations not to be possible with English particle verbs such as *eat up*.

## 6. Conclusions

Spanish optional *se* constructions can host two different types of applicatives, either a high applicative introducing a direct experiencer of the verbal event (with any type of transitive verbs) or a low applicative expressing an internalization of the theme by the dative argument (with verbs denoting events that can cause a state of the theme being located in the subject's referent). In LOW-APPL dialects, the applicative can only be low, whereas in (less widespread) LOW/HIGH-APPL dialects, both types of applicatives are accepted. That the clitic in optional *se* constructions must be reflexive follows from conceptual reasons with both applicatives. In line with previous experimental data, the results of our survey and experiment show that in optional *se* constructions, *se* differs from particles of exhaustivity such as English *up* in many respects: (i) it does not block a cumulative reading for the VP, (ii) it licenses bare nouns for LOW/HIGH-APPL speakers, (iii) it licenses incomplete event interpretations, and (iv) it has the morpho-syntactic properties of a reflexive pronoun, agreeing in phi-features with the nominative NP. Obviously, a lot remains to be said, in particular about optional *se* constructions hosting intransitive verbs such as *caer* 'fall' (see Cuervo 2003, 2014), inchoative middle constructions looked at in Suárez-Palma (2020), or about the differences between Spanish optional *se* constructions and what Boneh & Nash (2011a, b) call coreferential dative constructions in French.

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## References

- Abraham, Werner. 2006. Introduction. In Daniel Hole, André Meinunger & Werner Abraham (eds.), *Datives and other cases*, 3–49. Amsterdam & Philadelphia: John Benjamins.
- Alexiadou, Artemis, Fabienne Martin & Florian Schäfer. 2017. Optionally causative manner verbs. Hand-out for a talk at *Roots V*, London. [amor.cms.hu-berlin.de/~schaeffl/papers/roots-final.pdf](http://amor.cms.hu-berlin.de/~schaeffl/papers/roots-final.pdf).
- Anvari, Amir, Mora Maldonado & Andrés Soria Ruiz. 2019. The puzzle of reflexive belief construction in Spanish. In Maria Teresa Espinal, Elena Castroviejo, Manuel Leonetti, Louise McNally & Cristina Real-Puigdollers (eds.), *Proceedings of Sinn und Bedeutung 23*, 57–74. Barcelona: Universidad Autònoma de Barcelona.
- Arce-Arenales, Manuel. 1989. *Semantic structure and syntactic function: The case of Spanish SE*. Boulder: University of Colorado dissertation.
- Armstrong, Grant. 2013. Agentive reflexive clitics and transitive ‘se’ constructions in Spanish. *Borealis – An International Journal of Hispanic Linguistics* 2(2). 81–128.
- Arunachalam, Sudha & Anubha Kothari. 2010. Telicity and event culmination in Hindi perfectives. In Pier Marco Bertinetto, Anna Korhonen, Alessandro Lenci, Alissa Melinger, Sabine Schulte im Walde & Aline Villavicencio (eds.), *Proceedings of Verb 2010, interdisciplinary workshop on verbs: The identification and representation of verb features*, 16–19. [www.ims.uni-stuttgart.de/documents/team/schulte/publications/proceedings/verbs-10.pdf](http://www.ims.uni-stuttgart.de/documents/team/schulte/publications/proceedings/verbs-10.pdf).
- Arunachalam, Sudha & Anubha Kothari. 2011. An experimental study of Hindi and English perfective interpretation. *Journal of South Asian Linguistics* 4(1). 27–42.
- Authier, Jean-Marc & Lisa Reed. 1992. Case theory, theta theory, and the distribution of French affected datives. In Dawn Bates (ed.), *Proceedings of the tenth West Coast Conference on Formal Linguistics*, 27–40. Stanford: CSLI.
- Basilico, David. 2010. The *se* clitic and its relationship to paths. *Probus* 22. 271–302.
- de Benito Moreno, Carlota. 2015. *Constructions with se: A variationist and dialectal perspective*. Madrid: Universidad Autónoma de Madrid dissertation.
- de Benito Moreno, Carlota. 2021. Is there really an aspectual *se* in Spanish? *Folia Linguistica* 55(1). 195–230.
- Boneh, Nora & Léa Nash. 2011a. High and higher applicatives: The case of French non-core datives. In Mary Byram Washburn, Katherine McKinney-Bock, Erika Varis, Ann Sawyer, & Barbara Tomaszewicz (eds.), *Proceedings of the 28th West Coast Conference on Formal Linguistics*, 60–68. Somerville, MA: Cascadilla Press.
- Boneh, Nora & Léa Nash. 2011b. When the benefit is on the fringe. In Janine Berns, Haike Jacobs & Tobias Scheer (eds.), *Romance languages and linguistic theory 2009*, 19–38. Amsterdam & Philadelphia: John Benjamins.

- Borik, Olga & Berit Gehrke. 2015. *The Syntax and Semantics of Pseudo-Incorporation*. Leiden & Boston: Brill.
- Bosse, Solveig, Benjamin Bruening & Masahiro Yamada. 2012. Affected experiencers. *Natural Language and Linguistic Theory* 30. 1185–1230.
- Campanini, Cinzia & Florian Schäfer. 2011. Optional Se-Constructions in Romance: Syntactic Encoding of Conceptual Information. Hand-out for a talk presented at GLOW 2011, available at [amor.cms.hu-berlin.de/~schaeffl/papers/glow34.pdf](http://amor.cms.hu-berlin.de/~schaeffl/papers/glow34.pdf).
- Cartagena, Nelson. 1972. *Sentido y estructura de la construcciones pronominales en español*. Chile: Universidad de Concepción dissertation.
- Cuervo, Cristina. 2003. *Datives at large*: MIT dissertation.
- Cuervo, María Cristina. 2014. Alternating unaccusatives and the distribution of roots. *Lingua* 141. 48–70.
- De Miguel, Elena & Marina Fernández Lagunilla. 1999. El operador aspectual *se*. *Revista española de lingüística* 1. 13–43.
- de Swart, Henriëtte. 2012. Verbal aspect. In Robert Binnick (ed.), *The Oxford Handbook of Tense and Aspect*, 753–780. Oxford: Oxford University Press.
- D’Introno, Francesco, Verónica González & Javier Rivas. 2007. Aspectos sintácticos y semánticos del pronombre *se*. *Boletín de Linguística* 19. 1–10.
- Espinal, Maria Teresa & Louise McNally. 2011. Bare nominals and incorporating verbs in Spanish and Catalan. *Journal of Linguistics* 47(1). 87–128.
- Fernández, Beatriz. 2019. On non-selected datives: Ethical datives in Basque and Spanish. In Ane Berro, Fernández Beatriz & Jon Ortiz de Urbina (eds.), *Basque and Romance*, 221–242. Leiden: Brill.
- Folli, Raffaella & Heidi Harley. 2005. Consuming Results in Italian and English: Flavours of v. In P. Kempchinsky & R. Slabakova (eds.), *Aspectual enquiries*, 95–120. Dordrecht: Springer.
- Franco, Jon & Susana Huidobro. 2008. Ethical datives, clitic doubling and the theory of *pro*. In *Selected proceedings of the 10th Hispanic linguistics symposium*, 215–224. Somerville, MA: Cascadilla Press.
- van Geenhoven, Veerle. 1998. *Semantic incorporation and indefinite descriptions: Semantic and syntactic aspects of noun incorporation in west greenlandic*. Stanford: CSLI Publications.
- Gutiérrez Ordóñez, Salvador. 1999. Los dativos. In Ignacio Bosque & Violeta Demonte (eds.), *Gramática descriptiva de la lengua española, 1855–1930*. Madrid: Espasa Calpe.

- Harley, Heidi. 1998. You're having me on: Aspects of have. In Jacqueline Guéron & Anne Zribi-Hertz (eds.), *La grammaire de la possession*, 195–226. Paris: Université Paris X-Nanterre.
- Hodgson, Miren. 2001. The acquisition of Spanish reflexive *se* in transitive verb-argument structures and singularity. Study presented at BUCLD 26, Cambridge, Massachusetts.
- Kennedy, Christopher & Beth Levin. 2008. Measure of change: The adjectival core of verbs of variable telicity. In Louise McNally & Christopher Kennedy (eds.), *Adjectives and adverbs: Syntax, semantics, and discourse*, 156–182. Oxford: Oxford University Press.
- Krifka, Manfred. 1989. *Nominalreferenz und Zeitkonstitution: Zur Semantik von Massentermen, Individualtermen, Aspektklassen*. München: Fink.
- Krifka, Manfred. 1992. Thematic relations as links between nominal reference and temporal constitution. In Ivan Sag & Anna Szabolsci (eds.), *Lexical matters*, 29–53. Stanford: CSLI Publications.
- Križ, Manuel. 2016. Homogeneity, non-maximality and *all*. *Journal of Semantics* 33. 493–539.
- Levin, Beth. 1999. Objecthood: An event structure perspective. In *Proceedings of CLS 35*, vol. 1, 223–247. Chicago: Chicago Linguistic Society.
- Lewandowski, Wojciech. 2021. Constructions are not predictable but are motivated: evidence from the Spanish complete reflexive. *Linguistics* 59. 35–74.
- MacDonald, Jonathan. 2004. Spanish reflexive pronouns: A null preposition hypothesis. In Vineeta Chand, Ann Kelleher, Angelo J. Rodrigue & Benjamin Schmeiser (eds.), *Proceedings of the 23rd West Coast Conference on Formal Linguistics*, 528–540. Somerville, MA: Cascadilla Press.
- MacDonald, Jonathan. 2015. A case of multiple agree: Accusative, not dative *se*. In Jason Smith & Tabea Ihsane (eds.), *Selected papers from the 42nd Linguistic Symposium on Romance Languages (LSRL)*, 275–288. Amsterdam & Philadelphia: Benjamin.
- MacDonald, Jonathan. 2017. Spanish aspectual *se* as an indirect object reflexive: The import of atelicity, bare nouns, and leísta PCC repairs. *Probus* 29. 73–117.
- Maldonado, Mora, Laia Mayol, Andrés Soria Ruiz & Amir Anvari. 2021. El secreto de *creerse*: Reflexive beliefs and thoughts in Romance. Hand-out for a talk at *Sensus 2*, UMass. [osf.io/ary46/](https://osf.io/ary46/).
- Maldonado, Ricardo. 1992. *Middle voice: the case of Spanish se*. San Diego: University of California dissertation.
- Maldonado, Ricardo. 1994. Dativos de interés sin intereses. In *Verbo y estructuras frásicas*, 241–264. Porto: Facultad de Letras. Aactas do IV Coloquio Internacional de Lingüística Hispánica.



- Maldonado, Ricardo. 2008. Spanish middle syntax: A usage-based proposal for grammar teaching. In Sabine de Knop & Teun de Rycker (eds.), *Cognitive approaches to pedagogical grammar*, 155–196. Berlin: Mouton De Gruyter.
- Martin, Fabienne. 2019. Non-culminating accomplishments. *Language and Linguistics Compass* 13(8). e12346.
- Martin, Fabienne & Zsófia Gyarmathy. 2019. A finer-grained typology of perfective operators. In Christopher Piñón (ed.), *Empirical issues in syntax and semantics*, vol. 12, 187–216. [www.cssp.cnrs.fr/eiss12/eiss12\\_martin-and-gyarmathy.pdf](http://www.cssp.cnrs.fr/eiss12/eiss12_martin-and-gyarmathy.pdf).
- Martin, Fabienne & Florian Schäfer. 2014. Causation at the syntax/semantics interface. In Bridget Copley & Fabienne Martin (eds.), *Causation in grammatical structures*, 209–244. Oxford: Oxford University Press.
- Martínez Vera, Gabriel. 2022. Revisiting aspectual *se* in Spanish: telicity, statives and maximization. *The Linguistic Review* 39. 159–202.
- McNally, Louise. 1995. Bare plurals in Spanish are interpreted as properties. In Glyn Morrill & Richard Oerhle (eds.), *Formal grammar: Proceedings of the Conference of the European Summer School in Logic, Language and Information*, 197–212.
- McNally, Louise. 2020. Strong and Weak Nominals. In Lisa Matthewson, Cecile Meier, T. Rullmann & Ede Zimmermann (eds.), *The Wiley Blackwell Companion to Semantics*, Oxford: Wiley.
- Minor, Serge, Natalia Mitrofanova, Gustavo Guajardo, Myrte Vos & Gillian Ramchand. 2022. Temporal information and event bounding across languages: Evidence from visual world eye tracking. Slides for a talk given at SALT 32, University of Mexico. [osf.io/ua54r/](https://osf.io/ua54r/).
- De la Mora, Juliana. 2011. *A quantitative approach to variable se-marking in Spanish ingestive verbs*. Columbus: The Ohio State University dissertation.
- Myler, Neil. 2016. *Building and Interpreting Possession Sentences*. Cambridge, MA: The MIT Press.
- Nishida, Chiyo. 1994. The Spanish reflexive clitic *se* as an aspectual class marker. *Linguistics* 32(3). 425–458.
- Otero, Carlos Peregrín. 1999. Pronombres reflexivos y recíprocos. In *Gramática descriptiva de la lengua española. Sintaxis básica de las clases de palabras*, vol. 1, 1427–1518. Buenos Aires: Espasa Calpe.
- Piñón, Christopher. 2008. Aspectual composition with degrees. In Louise McNally & Christopher Kennedy (eds.), *Adjectives and adverbs: Syntax, semantics, and discourse*, 183–219. Oxford: Oxford University Press.

- Piñón, Christopher. 2009. Incrementality by degrees. Plenary talk presented at the Chronos Conference, Paris Diderot. [xclock.org/data/pinon\\_incrementality-by-degrees\\_h\\_2009.pdf](https://xclock.org/data/pinon_incrementality-by-degrees_h_2009.pdf).
- Piñón, Christopher. 2011. Event structure in event semantics (Aspectual composition with structured denotations). Hand-out for a talk given *Chronos 10*, April 2011, Birmingham. [xclock.org/data/pinon\\_event-structure-in-event-semantics\\_h\\_2011.pdf](https://xclock.org/data/pinon_event-structure-in-event-semantics_h_2011.pdf).
- Piñón, Christopher. 2015. An illusory common core. *Theoretical Linguistics* 41(3-4). 185–195.
- Pylkkänen, Liina. 2008. *Introducing arguments*. Cambridge, MA: MIT Press.
- Rigau, Gemma. 1994. Les propietats dels verbs pronominals. *Els Marges* 50. 0029–39.
- Rivas, Javier. 2011. “Como no me trago el humo...:” A Corpus-Based Approach to Aspectual Se. *Studies in Hispanic and Lusophone Linguistics* 4(2). 379–416.
- Roldán, Mercedes. 1971. Spanish constructions with *se*. *Language Sciences* 18. 15–29.
- Sanz, Montserrat. 2000. *Events and Predication: A new approach to syntactic processing in English and Spanish*. Amsterdam & Philadelphia: John Benjamins. doi:10.1075/cilt.207.
- Sanz, Montserrat & Itziar Laka. 2002. Oraciones transitivas con *se*: el mode de acción en la sintaxis. In Cristina Sánchez López (ed.), *Las construcciones con ‘se’*, 309–338. Madrid: Visor.
- Schäfer, Florian. 2012. Two types of external argument licensing—the case of causers. *Studia Linguistica* 66(2). 128–180.
- Schroten, Jan. 1972. *Concerning the deep structures of Spanish reflexive sentences*. The Hague: Mouton.
- Smollett, Rebecca. 2005. Quantized direct object don’t delimit after all. In Henk Verkuyl, Henriëtte de Swart & Angeliek van Hout (eds.), *Perspectives on aspect*, 41–60. Berlin: Kluwer.
- Strauss, Susan. 2003. Completive aspect, emotion, and the dynamic eventive: The case of Korean V-*a/e pelita*, Japanese V-*te shimau*, and Spanish *se*. *Linguistics* 41(4). 653–679.
- Suárez-Palma, Imanol. 2020. Applied arguments in Spanish inchoative middle constructions. *Glossa* 1(5). 1–37.
- van Hout, Angeliek, Natalia Gagarina & Wolfgang Dressler. 2010. Learning to understand aspect across languages. Talk given to *BUCLD 2010*.
- Zagona, Karen. 1996. Compositionality of aspect: Evidence from Spanish aspectual *se*. In Claudia Parodi, Carlos Quicoli, Mario Saltarelli & Maria Luisa Zubizarreta (eds.), *Aspects of Romance Linguistics: Selected Papers from the Linguistic Symposium on Romance Languages XXIV*, 475–488. Washington, D.C: Georgetown University Press.