Optional *se* constructions and flavours of applicatives in Spanish

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Abstract

This paper addresses Spanish optional *se* constructions, hosting 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 '$\mathbf{in}(x, y, s)'$ 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 an 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 agency, affectedness and counter-expectation that have been argued to be triggered by the *se*-variant of these constructions.

Keywords: Spanish, optional *se* constructions, aspectual *se*, applicatives, direct vs. indirect experiencer applicatives, telicity

1.   Introduction

In Spanish, the reflexive clitic *se* routinely serves as a non-selected argument in transitive structures, as seen in (1).[1] We call the construction illustrated in (1) the optional *se* construction.[2]

(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, in particular concerning the inferences triggered by the presence of *se* and the possibility to use verbs other than consumption verbs. In this paper, we argue that the discrepancies in judgements are partly due to the co-existence of different groups of speakers or dialects, cross-cutting the distinction between American Spanish (AS) and Peninsular Spanish (PS). In a nutshell, our proposal is that for a first set of speakers – that we call 'LOW-APPL speakers' – *se* is necessarily a pronoun merged as an indirect argument in the specifier of a low applicative. Low applicatives appear in optional *se* constructions built with consumption verbs only, for they are the single verbs semantically compatible with the locative relation this type of applicative heads conveys between the binder of the reflexive clitic (the *internalizer*) and the theme DP (Campanini and Schäfer 2011). For a second set of speakers – that we call 'LOW/HIGH-APPL speakers' – optional *se* constructions can also host a high applicative head (above *v*P). Differently from the low applicative, the high applicative is not restricted to consumption verbs. This high applicative introduces an experiencer of the verbal event.

   The clitic in optional *se* constructions must be reflexive. This follows from conceptual reasons with both low and high applicatives. When *se* serves as the argument of a low applicative, 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 and Schäfer 2011). When *se* is the argument of a high applicative, it is similarly also bound by the subject because as explained in section 5.1, the agent is the single participant of the event which can directly experience this event.

   The proposal is based on new experimental data reported in section 4. Experiment 1 (N=114, 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. Results are summarized in section 4.1, but the percentage of speakers accepting tested sentences is already provided though sections 2-3, at the right of the examples tested. 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 LOW-APPL speakers and LOW/HIGH-APPL ones. Experiment 2 (N=44, presented in sec-

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[1] Acknowledgements removed for review.

[2] Since the semantic contribution of *se* to the sentence is often difficult to translate, we translate *se* by a reflexive (albeit it is often not grammatical in English).

tion 4.2) was a truth-value judgement task replicating with Spanish speakers the task ran by Arunachalam and Kothari (2010, 2011) on Hindi and English perfectivized telic predicates. People were judged to ask whether the reflexive vs. unmarked variant of optional *se* constructions was satisfied in complete vs. incomplete situations. The goal was to assess whether the *se*-variant differs from the unmarked one along the dimension of telicity or event completion.

2. Verb classes and animacy restrictions on 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)-(5), or with verbs of psychological consumption such as *leer (una novela)* 'read (a novel)' (Schroten 1972, Zagona 1996, Campanini and 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), 53% only accepted sentence (2), without the reflexive clitic (while 97% accepted sentence (1), with the reflexive):

(2) Juan ∅ 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; see also Folli and Harley 2005 for Italian). The acceptability judgements we collected through Experiment 1 on sentences (3)-(6) confirm this tendency: the percentage of speakers accepting sentences with an inanimate subject significantly decreases if the reflexive is absent.

(3) El mar se   come   la costa de Barcelona.   AS/PS
     the sea REFL eat.PST.3SG the coast of Barcelona   81%/84%

     'The sea is eating 'itself' Barcelona's coast.'

(4) El mar ∅   come   la costa de Barcelona.
     the sea   eat.PST.3SG the coast of Barcelona   42%/30%

     'The sea is eating Barcelona's coast.'

(5) La máquina se   ha comido   mi tarjeta.
     the machine REFL eat.PFCT.3SG my card   67%/82%

     'The machine ate 'itself' my card.'

(6) La máquina ∅   ha comido   mi tarjeta.
     the machine REFL eat.PFCT.3SG my card   28%/13%

     'The machine ate my card.'

Other authors argue that optional *se* constructions are also possible with other transitive verbs than consumption verbs, either non-core (activity) predicates, such as *cocinar* 'cook', or core (change-of-state) verbs, such as *abrir* 'open', see (7)-(12), cf. Sanz and Laka (2002), Armstrong (2013).[3] 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 20% of the 32 speakers they tested accepted sentence (10), built with a change-of-state verb.

Two of the three examples we tested contain a prepositional benefactive argument (see examples (7) and (8)). One could therefore argue that the decrease of acceptability is due to the presence of the prepositional benefactive argument rather than to the lexical property of the transitive verb. However, the similar decrease in acceptability for sentences (9) and (10), which do not contain a prepositional benefactive argument, is suggestive that optional *se* constructions are in general less well accepted with verbs other than consumption verbs.

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

(8) Voy   a plancharme   unas camisetas para mi pequeña familia, eso
     I'm going to iron.REFL.1SG some skirts   for my small   family this
     me   calmará.
     .REFL.1SG calm.FUT.3SG
     'I'll iron 'myself' some skirts for my family, this will calm me down.'   33%/31%

(9) 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)

(10) 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)

(11) Felipe se   abrió   cinco latas él solito.
     Felipe REFL open.PFV.3SG five   cans himself
     'Felipe opened 'himself' five cans by himself.'   (Armstrong 2013: 96)

Example (12), 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).

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[3]We refer to Levin (1999) for the distinction between core vs. non-core transitive verbs. Sanz & Laka 2002's example (9) contains the modifier *en una hora* 'in an hour', which was not present in the test sentence in Experiment 1.

(12) 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)

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. Four 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 Experiment 1 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 and Fernández Lagunilla 1999, Sanz and Laka 2002, Maldonado 2008, Lewandowski 2021). 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., a VP preferably interpreted as telic but tolerating atelic uses with some contextual support), see for instance the contrast in (13), from Smollett (2005: 55) (see also Piñón 2008).

(13)   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, (14) and (16) are expected to be much less acceptable than (15) and (17), 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 (14)–(16) is not significantly lower than for (15)–(17) (see D'Introno et al. 2007 for similar conclusions). Our data suggest a slight improvement only in the absence of *se*, and this only for the pair in (16)-(17).

(14) El perro se   comió   el hueso durante una hora.   AS/PS
      the dog/ REFL eat.PFV.3SG the bone during an hour   69%/40%
      'The dog ate 'itself' the bone during one hour.'

(15) El   perro   ∅   comió   el   hueso   durante   una   hora.
      the dog/   REFL   eat.PFV.3SG the bone   during   an   hour   64%/44%
      'The dog ate the bone during one hour.'

(16) El   niño   se   bebió   la   leche   durante   una   hora.
      the child REFL   drink.PFV.3SG the milk   during   an   hour   52%/33%
      'The child drank 'himself' the milk during one hour.'

(17) El   niño   ∅   bebió   la   leche   durante   una   hora.
      the child REFL   drink.PFV.3SG the milk   during   an   hour   69%/44%
      'The child drank the milk during one hour.'

Another prediction of the analysis of *se* as a 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, Krifka 1992, Piñón 2008), see the English contrast in (18), from Smollett (2005: 56).

(18) 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 (18b) is truly ungrammatical in any kind of context) ; see De la Mora (2011), Rivas (2011), Armstrong (2013), de Benito Moreno (2021). The ratings we gathered for sentences (19)-(20) confirm that bare nouns are less acceptable in the reflexively marked variant than in the unmarked variant (the percentage of speakers accepting (20) is significantly higher than for (19)). But the judgements collected on sentences (19) and (21)-(23) 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 (21) and (22) are natural occurrences found on the internet).

(19) Mi   perro   se   ha bebido   aceite   de   cocina.   AS/PS
      my dog   REFL   drink.PFV.3SG oil   of   cook   35%/45%
      'My dog drank 'himself' cooking oil.'

(20) Mi   perro   ∅   ha bebido   aceite   de   cocina.   AS/PS
      my dog   REFL   drink.PFV.3SG oil   of   cook   78%/83%
      'My dog drank cooking oil.'

(21) Para   el   desayuno   se   ha comido   frutas.
      for   the breakfast REFL   eat.PFCT.3SG fruits   48%/24%
      'For the breakfast he ate 'himself' fruits.'

(22) Llegamos, nos bebimos cerveza y bebidas alcohólicas y
arrive.PFV.1PL REFL.1PL drink.PVF.1PL beer and drinks alcoholic and
tuvimos un tiempo maravilloso.
havePVF.1PL a time wonderful
'We arrived drank 'ourselves' beer and alcoholic drinks and had a great time.'

38%/27%

(23) El niño se comió veneno!
the child REFL eat.PFV.3SG poison 28%/28%
'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 (24), while only 41% accepted the unmarked variant.

(24) Juan (se) comió la manzana pero dejó la mitad.
Juan REFL eat.PFV.3SG the apple but left the half
'Juan ate ('himself') the apple but left half of it.'

Results of our Experiment 2 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 it leaves unexplained the morphosyntactic properties of the reflexive, which agrees in phi-features with the nominative NP (Campanini & Schäfer 2011), as the reflexive *nos* in (22) shows, 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 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 Amstrong 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 (3)-(4)). Amstrong 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, for *se* does not behave like a verbal head with respect to the head movement constraint, but like a pronominal clitic.

3.3   *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 and 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, suggesting that *se* is not necessarily associated with the benefactive role in these structures. They illustrated the latter point with example (7). The data we gathered about the acceptability of (7) and (8) above confirm that such combinations are felicitous for at least some speakers.

3.4   *Counter-expectation*

The reflexive clitic in optional *se* constructions has also been shown to present the verbal event as violating prior expectations (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. This inference has not been traced back to the other properties of *se* yet. In section 5, we show that it follows straightforwardly from Campanini & Schäfer's analysis of *se* as the argument of a low applicative.

3.5   *Interim summary*

We recap the inferences discussed in previous sections in Table 1. Our goal is to provide on the basis of new experimental data a unified analysis of optional *se* constructions that does justice to the morpho-syntactic properties of the reflexive clitic (it 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 semantically different from particles of exhaustivity such as English *up* (see section 5.3). In particular, we present data suggesting 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, 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 requires an individual denoting argument, while bare nouns are property denoting (Espinal and McNally 2011). The type mismatch does not arise when *se* serves as the argument of a high applicative, which explains why *se* is accepted with bare nouns by a subset of speakers.

Table 1: Summary of inferences attributed to *se* in optional *se* constructions across verb types

WHICH INFERENCE?	WITH WHICH VERBS?	ACCORDING TO WHOM?
#1. Telicity	consumption verbs	Nishida 1994 a.o.
	COS & non-consumption ACT verbs	Sanz & Laka 2002
#2. Enriched agency	COS & non-consumption ACT verbs	Amstrong 2013
#3. Affectedness	cognition verbs	Rigau 1994
	COS and ACT verbs	D'introno et al. 2007
#4. Counter-expectation	consumption verbs	de la Mora 2011
	cognition and COS verbs	Strauss 2003

4. Experiments

4.1 *Experiment 1*

Experiment 1 was an exploratory online acceptability judgement task for the examples presented in sections 2-3, for which the judgements reported in the literature are not homogeneous.[4]

Our subjects were 72 speakers of Peninsular Spanish (PS) and 42 speakers of American Spanish (AS). Subjects had to rate each sentence 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.

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); the third indicates whether according to the proposal presented in section 5, the reflexive *se* serves as the argument of a low applicative (Low) or a high one (High). In this column, −*se* indicates the absence of the reflexive in the test sentence. Columns 5 to 8 give the average of ratings and percentage of speakers accepting the sentence once the ratings are broken down to a binary decision, both for subjects who are native speakers of American vs. Peninsular Spanish.

Results confirm that in optional *se* constructions built with consumption verbs, the reflexive loses its optionality for most speakers with an inanimate subject (see block 1). They are also suggestive that *se* does not play a significant role in the availability of a cumulative reading for the VP (see block 2), and does not block bare nouns for all speakers (see block 3). 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 indicate that they are acceptable for roughly a third of speakers tested when the subject is animate (see block 4).

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, 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

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[4]All data are available `osf.io/cfvjb/?view_only=fe2f5e27fda94a77ad1ffdf83b25ea93`.

Table 2: Experiment 1: summary of results (1 = completely acceptable, 7 = completely unacceptable)

Ex.	Subject	Appl.	Verb	PS average	% accepting PS speakers	AS average	% accepting AS speakers
With consumption verbs and an inanimate subject							
(3)	I	Low	*comer*	2,2	84	2,1	91
(5)	I	Low	*comer*	2,1	82	2,8	67
(4)	I	−se	*comer*	4,6	30	4,1	42
(6)	I	−se	*comer*	5,8	13	4,8	28
With consumption verbs and a durative adverbial							
(14)	A	Low	*comer*	4,3	40	2,9	69
(16)	A	Low	*beber*	4	33	3,5	52
(15)	A	−se	*comer*	4	44	3	64
(17)	A	−se	*beber*	3,9	44	2,7	69
With consumption verbs and a bare noun							
(19)	A	High	*beber*	4,1	45	4,2	35
(21)	A	High	*comer*	5	24	3,7	48
(22)	A	High	*beber*	5	27	4,1	38
(23)	A	High	*comer*	5,1	28	4,7	28
(20)	A	−se	*beber*	2,2	83	2,1	78
With change-of-state verbs or activity verbs different from consumption verbs							
(8)	A	High	*planchar*	5,2	22	5,4	21
(9)	A	High	*lavar*	4,6	34	4,7	26
(7)	A	High	*cocinar*	4,9	29	4,3	40
(12)	I	High	*hundir*	6,2	10	5,6	21

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 across groups is 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. Another possibility is that American Spanish speakers are more often HIGH/LOW-APPL speakers (while Peninsular Spanish speakers are more often speakers accepting optional *se* constructions hosting a low applicative only). However, the data does not seem to confirm this possibility, since there is in fact more convergence between the two groups for the average percentage of speakers accepting high applicative sentences (33,7% for AS against 29,8% for PS) than for the low applicative ones (69,7% of acceptance for AS against 59,7% for PS).

4.2   *Experiment 2*

4.2.1   *Methodology*

Experiment 2 was a YES/NO truth value judgement task. We showed 44 Spanish speakers (87% of which were speakers of American Spanish) the video clips used by Arunachalam and 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',

Table 3: Experiment 2. Results for Spanish test items compared to results for English test items in Arunachalam and Kothari (2010, 2011)

	−*se*	+*se*
FULL	97	70
PART	61	46

(a) percentage of 'true' responses across 7 verbs

	comer	*comerse*	*eat*	*eat up*
FULL	100	100	100	100
PART	88	73	83	17

(b) percentage of 'true' responses for *comer(se)* vs. *eat (up)*

cubrir 'cover', *apagar* 'extinguish', *cerrar* 'close', *llenar* 'fill'). In the partial completion condition, the event was completed from 50% to 80% percent. Each verb was associated to a pair of video clips, e.g., an actor eating a cookie, a different actor eating a chocolate bar. Test sentences were built with the verb used in the simple past (*pretérito*) combined with a definite (quantized) object, see for instance (25).

(25) Ella (se)   comió   la galleta.
      she   REFL   eat.PVF.3SG the cookie
      'She ate ('herself') the cookie.'

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*).

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. The verb *comer* is the single one for which the reflexively marked variant is fully accepted in the FULL condition. In the PART condition, *comerse* is much more accepted than *eat up* was according to Arunachalam and Kothari's (2011) results for English (73% vs. 17%), see Table 3b.

These results suggest that 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 behave as a marker of exhaustivity, differently from *up* (see also D'Introno et al. 2007, Moreno 2021), since sentences with *comerse* combined with a quantized object were more often judged true in the PART condition than English *eat up* sentences were.

For verbs which were not verbs of consumption, we had norming data with grammaticality judgements suggesting that all test sentences were acceptable. Nevertheless, some participants 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 response 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 and Kothari (2010, 2011) (*fill, cover, draw, pluck*). The pattern for these 4 verbs is similar than with all 7 verbs, albeit less strong. Again, the

Table 4: Results for *fill, cover, draw, pluck* (Arunachalam and Kothari 2011) and their Spanish counterparts *llenar, cubrir, dibujar, arrancar*

	-se	*+se*	*-up*	*+up*
FULL	98	64	98	96
PART	59	49	88	77

reflexively marked variant is dispreferred across verbs both in the PART and FULL conditions in 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 *se* does not convey event completion in optional *se* constructions built with verbs which are not consumption verbs. In other words, with these verbs, the *se*-variant does not differ from the unmarked one along the dimension of telicity or event completion.

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, see (26). The reflexive clitic can be the argument of a low applicative (Campanini and Schäfer 2011), attached below the verb, or a high applicative attached just above *v*P, below Voice (Pylkkänen 2008). We propose that the high applicative in optional *se* constructions introduces an experiencer *of the verbal event*, and is in this respect different from Bosse et al.'s (2012) affected experiencer, which introduces an experience event *in addition to* the verbal event (we come back to the distinction betwee the two high applicatives in section 5.2).

(26)
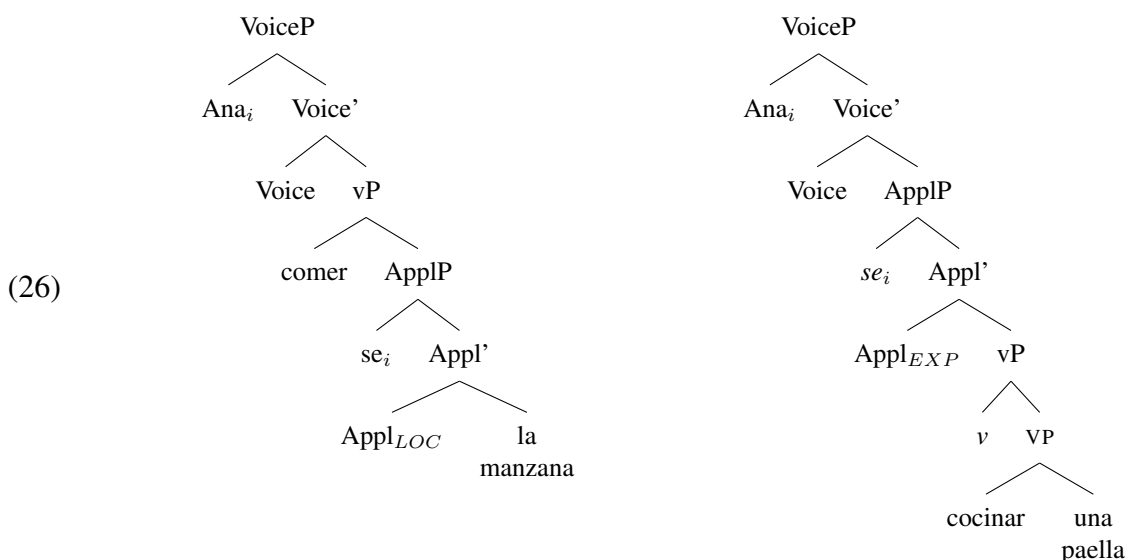
In optional *se* constructions, *se* can be merged as the indirect argument in the specifier of a low applicative head expressing an internalization of the theme by the dative argument

in the context of a consumption verb only. The low applicative introduces a locative relation between the binder of the reflexive clitic (the *internalizer*) and the theme DP (Campanini and Schäfer 2011), see (27), where '**in**(x,y,s)' means that *x* is in *y* in *s*. For a first set of speakers – that we call 'LOW-APPL speakers' – the applicative in optional *se* constructions can be low only. When *se* serves as the argument of a low applicative, the event structure of the VP is augmented by the applicative with a state caused by the verbal event.

(27) $[\![\mathbf{Appl}_{LOC}]\!] \rightsquigarrow \lambda x \lambda y \lambda P.\mathbf{theme}(e, x) \wedge P(e) \wedge \exists s(\mathbf{cause}(e, s) \wedge \mathbf{in}(x, y, s))$

Campanini and 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 knowlege 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 (28b) of (28a).

(28) a. Ana se comió una manzana.
      b. ≈ 'Ana ate an apple and thereby caused the apple to be in her.'

We propose that the translation of the ingestion 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 #4 of counter-expectation) — 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 through the syntax, the sentence conveys incredulity or unexpectedness with regard to this ingestion process. Secondly, the 'syntactization' by the low applicative of the incorporative 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 incorporative 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 deny via exhaustivity 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, (29a) is strange because it yields the implicature (29c).

(29) a. Ana comió la manzana.
      b. ⤳NOT (Ana se comió la manzana)   (via Exhaustivity)
      c. ⤳ It is not the case that the eating event caused some state of the apple to be in Ana.

Another empirical fact that follows straightfowardly from Campanini and Schäfer's (2011) proposal concerns inanimate subjects. We saw that *se* loses its optionality across most spearkers with an inanimate subject. This is because causer (inanimate) subjects require a bi-eventive structure (Folli and Harley 2005, Schäfer 2012, 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.

  Verbs that do not have an incorporative meaning do not combine with the low applicative, for they are not semantically compatible with its semantics (Campanini & Schäfer

2011). 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 (7) repeated below) is still far from negligible, ranging from 20% to 40% of acceptance rate in our Experiment 1.

(7) (Ayer)   Juan se   cocinó   una paella para sus invitados.
    yesterday J.   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 an experiencer of the verbal event, see (30). We assume, furthermore, that for an entity x to be the experiencer of some event e, x must participate in e. Thus for instance if Juan cooked for us and I'm happy about this, I am not the experiencer of Juan's cooking e (I wasn't part of the cooking). Rather, I am the experiencer of an experience event e' which has e as its source. On the other hand, Juan, *qua* direct participant of the cooking e, is possibly the experiencer of e (in fact, he necessarily is). We call the applicative in (30) the 'direct experiencer applicative', because the experiencer it introduces directly takes part to the verbal event.

(30) $[\![\mathbf{Appl}_{EXP}]\!] \rightsquigarrow \lambda P \lambda x \lambda e. P(e) \wedge \mathbf{experiencer}(e, x)$

The agent performing an action by definition (directly) experiences their action. This means that the subject's referent is the single participant in the event e which can be identified with the experiencer of e.[5] 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 hosting the direct experiencer applicative in (30) do not impose lexical restrictions as when they host a low applicative — in principle, any kind of event predicate (including consumption verbs) is compatible with the high applicative (30) as long as it combines with an animate subject.

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 captures the inference #3 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 Experiment 2 for the reflexively marked

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[5]The theme of e also directly participates in the event e, but it is virtually always inanimate in optional *se* constructions, and thus cannot be identified with the experiencer introduced by the applicative.

variant with all verbs except *comer* 'eat' plausibly follows from the fact that the agent in the video clips used in Arunachalam and 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 the high applicative (30) and the low applicative (27). The ethical dative, to which we turn next, is a particular case, since it is known that it more easily combines 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 in (30) hosted in optional *se* constructions such as (7) should not be confused with Authier and Reed's (1992) and Bosse et al.'s (2012) higher *affected dative* AFF found in what Bosse et al. (2012) *affected experiencer constructions*. Following Bosse et al.'s (2012) analysis, the AFF head introduces an experience event e' besides the verbal event e, and projects an NP in its specifier denoting the experiencer of this experience event e'. The German sentence (31) is an example of the affected experiencer construction, where the dative NP 'dem Chris' is understood as psychologically affected by the verbal event.

(31) Alex zerbrach   dem   Chris Bens Vase.   (German)
      Alex break.SP.3SG the.DAT Chris Ben's vase

      'Alex broke Ben's vase on Chris.'

We repeat in (32) the semantics Bosse et al. (2012) attributes to AFF; 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 experiencer event is also part of the non at issue component.

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

Thus while the experiencer in (30) 'directly' participates in the verbal event, the experiencer x projected by AFF in (32) does not; rather, in (32), x is the experiencer of a psychological event e' which has the verbal event e as its source. Thus the experiencer x only has an *indirect* relation to the verbal event. To distinguish AFF from the (direct) experiencer applicative in (30), we label AFF the 'indirect experiencer applicative'.

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 e — it suffices that x perceives e, or even just entertains some thoughts about e in order to be the experiencer of the experience event e' introduced by AFF. This is a crucial difference between the indirect experiencer applicative AFF and the direct experiencer applicative (30) (whose argument is necessarily coreferent with the subject).

Coreference between AFF and the nominative DP is therefore not required. But in fact, it seems that coreference is not even possible. We observe indeed 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, (33) is not acceptable; the only way to save this example is to interpret the reflexive as a benefactive argument, as in (34).[6] We will see that on this respect, Spanish is similar to German.

(33) #Alex hat   sich Marias Vase zerbrochen/gebrochen.   (German)
      Alex   break.SP.3SG REFL Maria's vase

      Intended: 'Alex broke Maria's vase on himself.'

(34) 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.PS.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 and Huidobro (2008) typology, also called *dativos de afectación* in Maldonado (1994), correspond to the affected experiencers in Bosse et al.'s (2012) typology. One of the Spanish examples provided by Fernández (2019) is repeated in (35). Thus in (35), the speaker is *not* the experiencer of the verbal (breaking the vase) event e, but rather of an experience event e' whose source is e.

(35) 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 (36) (from Paulina Parra-Miranda, p.c.) shows the same point.

(36) Juan me/#se   chocó   el   auto.
      Juan CL.1SG.DAT/REFL.3SG   crash.PFV.3SG the car

      'Juan crashed the car on me/himself.'

We take this to show that optional *se* constructions in Spanish are not the reflexive version of Bosse et al.'s (2012) affected experiencer constructions.

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 (37) 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, (37) thus hosts the two applicative heads (30) and (32), and as a result presents the addressee as the agent *and* the experiencer of the cooking event e, and the

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[6]We thank Theresa Löchel for the contrast in (33)-(34).

speaker as the experiencer of an experiencer event e' having the verbal (cooking) event e as its source.

(37) Te   me   les   cocinaste   todo.
      REFL.3SG 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 VP and Voice, or above Voice. In the former case, AFF is in exactly the same position as the direct experiencer applicative (30) (recall the right tree in (26)). We hypothesize that among LOW/HIGH-APPL speakers (who accept optional *se* constructions hosting the direct experiencer applicative (30)), those that reject sentences like (37) attach AFF in the same position as (30) 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) high applicative (30).

We expect the low applicative to be in principle even more compatible with the indirect experiencer dative AFF, since, firstly, they do not compete for the same position, independently of whether AFF is attached low, between VP and Voice, or high, above Voice, and, secondly, because the low applicative and the indirect experiencer applicative seem to be accepted across all dialects. And indeed, such combinations as in (38)-(39) have not only been reported to be possible (see, e.g., Gutiérrez Ordóñez 1999), 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 (39).

(38) No   te   me   fumes   los cigarrillos.
      NEG REFL.2SG CL.1SG.DAT smoke.PSRT.2SG the cigars

'Do not smoke 'yourself' the cigars on me.'

(39) 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 Espinal and McNally's (2011) proposal that bare nouns are property-denoting and combine with the verb via pseudo-incorporation. We observe that this suffices to account for the incompatibility of bare nouns in optional *se* constructions hosting a low applicative: bare nouns cannot feed the first argument of this head, which is individual denoting, as seen in (27).[7] This accounts for the unacceptability of bare nouns in the

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[7]By contrast, nothing impedes property-denoting bare nouns to combine with consumption verbs without *se* via pseudo-incorporation. The assumption is, of course, that consumption verbs do not necessarily take an individual argument (while the low applicative (27) does).

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 the direct experiencer applicative (30). 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 (23) repeated below) are LOW/HIGH-APPL speakers. For these speakers, *se* can be merged as the argument of a direct experiencer applicative. The type mismatch mentioned above can then be avoided for these speakers.

(23) ¡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 and 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 (23) obviously does. This indeed suggests that with bare nouns, *se* does not serve as an argument of the low applicative, but rather of the high (direct experiencer) applicative.

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   *Incompletive interpretations for the marked and unmarked variants of optional se constructions*

Experiment 2 showed that *comerse* 'eat=REFL' is judged true in the PART condition by 73% of our Spanish subjects, while Arunachalam and 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. Relatedly, we reported in section 3.1 that sentences such as (14)-(16), 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 (15)-(17)). By contrast, *eat up* strongly rejects incompletive uses and durative adverbials (Smollett 2005).

(16) El niño se   bebió   la leche durante una hora.
      the child REFL drink.PFV.3SG the milk during   an hour   52%/33%
      'The child drank 'himself' the milk during one hour.'

(17) El niño ∅   bebió   la leche durante una hora.
      the child REFL drink.PFV.3SG the milk during   an hour   69%/44%
      'The child drank the milk during one hour.'

We first aim to account for the availability of incompletive readings for both types of VPs, i.e., *comerse la pizza* or *comer la pizza*, as well as for the possiblity to combine felicitously with *for* adverbials in Spanish, and then turn briefly to English. In a nutshell, the idea is that in Spanish, these uses hinge on the *non-maximal* reading of the DP serving

as the theme of the verb, a reading to which we turn now.

It has already been observed that singular definites *the N* (see e.g. Križ 2016: 23) 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 μ yielding degrees d_o as values. The degree d_o tracks the degree of completion of objects, as in (40).

(40) $\textbf{pizza}_{\mu}(x)$ '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 (41a/b) respectively, and more generally, Piñón 2008 on incremental theme verbs and Piñón 2009 on gradable accomplishments).

(41)   a. $\textbf{pizza}_{\mu}^{+}(d_o, x) := \textbf{pizza}_{\mu}(x) = d_o \wedge d_o > 0$
       b. $\textbf{pizza}(x) := \textbf{pizza}_{\mu}(x) = d_o \wedge d_o = 1$

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 (42b)), as in the PART condition of our Experiment 2, or completely (see (42c)). The same two readings obviously also exist for the reflexively unmarked variant *comer una pizza*.

(42)   a.   ⟦John comerse una pizza⟧ ⤳
       b. $\lambda e. \exists d_o(\textbf{eat}(e) \wedge \textbf{agent}(e, \textbf{john}) \wedge \textbf{theme}(e, x) \wedge \textbf{pizza}_{\mu}^{+}(d_o, x) \wedge$
            $\exists s(\textbf{cause}(e, s) \wedge \textbf{into}(x, \textbf{john}, s))$
            'a predicate of events *e* such that John is the agent of *e*, *x* is the theme of *e*, *x* is a pizza to a positive degree $d_o > 0$, and *e* causes some state of *x* to be in John.'
       c. $\lambda e. \exists d_o(\textbf{eat}(e) \wedge \textbf{agent}(e, \textbf{john}) \wedge \textbf{theme}(e, x) \wedge \textbf{pizza}(x) \wedge$
            $\exists s(\textbf{cause}(e, s) \wedge \textbf{into}(x, \textbf{john}, s))$
            'a predicate of events *e* such that John is the agent of *e*, *x* is the theme of *e*, *x* is a pizza (to degree $d_o = 1$), and *e* causes some state of *x* to be in John.'

The preference by default for the completive reading can be accounted for by the Gricean principle of informativeness (see Kennedy and Levin 2008, Piñón 2008). Since the completive reading asymmetrically entails the incomplete one (if $d_o = 1$, then $d_o > 0$; but if $d_o > 0$, it is not necessarily the case that $d_o = 1$). The completive is reading therefore by default preferred as the strongest meaning, which accounts for why subjects of Experiment 2 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 what he calls *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 *e* in the denotation of this predicate can be exhaustively divided in two disjoint proper subevents e' and e'' 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 (40) bound by the positive degree operator, as in (41a)). Take an event e of eating x such as x is a pizza to $d_o > 0$. Then e can be exhaustively divided into two disjoint proper subevents e' and e'' 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 and Kothari's (2010) experimental results also showed that incompletive 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 (43). According to this analysis, *eat up* denotes *pairs* of eventualities whose second member is an *event boundary*.

(43)   a.   ⟦John eat up the pizza⟧ $\rightsquigarrow$ (Piñón 2011)
       b. $\lambda\langle e, b\rangle.\mathbf{eat}^+(\langle e, b\rangle) \wedge \mathbf{agent}(\langle e, b\rangle), \mathbf{john}) \wedge \mathbf{theme}(\langle e, b\rangle), \mathbf{the\text{-}pizza})$
       c. $\forall\langle e, b\rangle(\mathbf{V}^+(\langle e, b\rangle) \rightarrow b = \mathbf{right\text{-}boundary\text{-}of}(e) \wedge b \sqsubset e)$

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 (44) (where x is a variable for objects, and f is a variable for object boundaries).

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

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 **N+** (e.g., 'bounded' pizzas), these objects are necessary N to the maximal degree (e.g., pizzas to degree 1). Thus (45) holds:

(45) $\forall\langle x, f\rangle.\mathbf{N+}(\langle x, f\rangle) \rightarrow \mathbf{N}_\mu(x) = 1$
       'If an object x of type N is bounded (i.e., forms an ordered pair of object with it boundary f), then x is an 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 da-

tive argument (with consumption verbs only). In the LOW-APPL dialect, the applicative can only be low, whereas in the (less widespread) LOW/HIGH-APPL dialect, 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 experiments 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.

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