### Boundaries at play:

# Inchoative reading of the se morpheme in the Spanish psych-domain

### 1 Introduction

The experiencer argument of psychological verbs (henceforth psych-verbs) participates in a well-known alternation appearing as the subject (i.e. experiencer-subject ES) or as the object of the sentence (i.e. experiencer-object EO) (Landau 2010; Pesetsky 1995). In Spanish the reflexive morpheme *se* can be used on the one hand to alternate the experiencer from a basic transitive EO verb (cf. (1)) to an intransitive ES verb (cf. 2). On the other hand, it can be used with a true reflexive reading (cf. 3).

- (1) Ana<sub>STM</sub> divierte / asusta a Carlos<sub>EXP</sub>. Ana entertain.3.sG frighten.3.sG to Carlos 'Ana entertains / frightens Carlos.'
- (2) Carlos<sub>EXP</sub> se divierte / asusta (con Ana<sub>STM</sub>). Carlos REFL entertain.3.sg frighten.3.sg with Ana 'Carlos gets entertained / frightened (by Ana).'
- (3) Carlos<sub>EXP</sub> se divierte / asusta (a sí mismo<sub>AG</sub>). Carlos REFL entertain.3.sG frighten.3.sG to him self 'Carlos entertains / frightens (himself).'

The literature has analyzed the *se*-morpheme attached in the derived item as: anti-causativizer (Schäfer, 2008), inchoativizer (De Miguel & Fernández, 2000), and recently as a left-boundary marker for the so-called inchoative states (Marín & McNally, 2011). Following Marín & McNally (2005, 2011)'s sub-classification of Spanish "inchoativized" psych-verbs between punctual stative verbs and non-punctual stative verbs, Spanish data shows that the ambiguity between (2) and (3) is persistent throughout the former group (e.g. *asustarse* 'get frightened'). Non-punctual stative verbs show variation with respect to the acceptability of the true reflexive reading (e.g. *divertirse* 'get entertained' vs. ??deprimirse 'get depressed'). Empirical studies have shown that there is a correlation between the different readings and the agentivity of the stimulus argument of the psych-verb. No ambiguity is assessed with other subtypes of psych-verbs such as *amar* 'love', deriving only true reflexives; and with *gustar* 'like' that does not accept the *se*-morpheme in any case (see Section 2).

The goal of this paper is to model the use of the reflexive morpheme in Spanish psych-verbs and its different readings in HPSG building on a neo-Davidsonian analysis (cf. Copestake 2006). We will show how to model the different subtypes of psych-verbs and derive the inchoativized alternants by means of a lexical rule (LR). This LR takes only the causative psych-verbs as input, not allowing the inchoativization of the subtypes such as *amar* 'love' and *gustar* 'like'.

#### 2 Event structure and boundaries

Starting with the basic transitive form of the verbs, only two classes out of the traditional three-fold classification (cf. Belleti & Rizzi 1988) accept modification of the *se*-morpheme. Class 2 (e.g. *divertir* 'entertain', cf. 2) and class 3 (e.g. *amar* 'love', cf. 5) are felicitous with *se*, whereas class 1 (e.g. *gustar* 'like') is not (cf. \**gustarse* 'like oneself'). From the former two groups, class 3 allows only a true reflexive reading (Arad, 1998). Class 2 is ambiguous between an inchoative reading and a true reflexive one (cf. 2 & 3).

- (4) Carlos<sub>EXP</sub> ama a Ana<sub>STM</sub>. Carlos love.prs.3.sg to Ana 'Carlos loves Ana.'
- (5) Carlos $_{\text{EXP}}$  se ama (a sí mismo $_{\text{AG}}$ ). Carlos Refl love.PRs.3.sg to him self 'Carlos loves himself.'

The inchoative reading of class 2 has been further specified in terms of a left boundary (Marín & McNally, 2011). This left boundary refers to a particular point in time, with the condition that it is not immediately preceded by an eventuality of exactly the same kind (Piñón, 1997). Then, Marín & McNally (2005, 2011) argue

that these verbs refer to the onset (i.e. left boundary) of the state they are associated with, without making any reference to the change that produces such state. The authors distinguish two aspectual subclasses: (a) inchoative states, which refer to the left boundary and some part of the state (cf. *divertirse* 'get entertained' in 2); and (b) punctual psych-verbs, which only make reference to the left boundary of the state (cf. *asustarse* 'get frightened' in 2).

The progressive captures differences in readings for punctual and non-punctual stative verbs. Since the progressive needs the predicate to have some duration in order to be felicitous, non-punctuals are compatible with it. In (6), the subject is in the state described by the verb. In the case of punctuals, these are also acceptable in progressive structures; however, with a different inference: a 'preliminary circumstance' reading (Marín & McNally, 2011) as when combining with achievement verbs (e.g. *arrive*). In (7), the subject is still not in the described state, but in a preliminary circumstance. The lack of duration of these verbs makes this reading possible.

- (6) Carlos<sub>EXP</sub> se está divirtiendo. Ana REFL be.3.SG entertain.GER 'Carlos is (already) being entertained.'
- (7)  $Carlos_{EXP}$  se está asustando. Carlos REFL be.3.sG frighten.GER 'Carlos is getting (but not yet) frightened.'

However, data shows that punctual psych-verbs are also felicitous with a true progressive interpretation. In (7), the experiencer has already started the state of being scared and what the progressive does is to refer to the continuum of the state. This boundary distinction can be modelled in HPSG lexically as explained in the next section.

## 3 Analysis

The goal of our approach is to provide an HPSG analysis of the reflexivization in the psych domain in Spanish that yields the so called "inchoative reading". As already mentioned, in the psych domain, this reading is only possible with verbs of class 2 (i.e. eventive EO verbs), but not with the other sub-classes of psych verbs. This specific sub-class (cf. *cause-psych-v-lxm* in (8)) has the following properties:

- It has two arguments with structural case.
- The first argument in the ARG-ST list is interpreted as a causer and the second one as an experiencer.
- The predication is a happening event (following Bach 1986) caused by the first argument the causer. This happening is a beginning of a state, which is being experienced by the second argument. Furthermore, the state has a left boundary (following Piñón 1997).

Since the transitive causative verb class is the only sub-class of psych-verbs allowing the inchoativization, we link this class by means of a lexical rule to the inchoative. By means of *se* morpheme, we get two sub-classes of psych verbs *punct-inch-psych-v-lxm* and *npunct-inch-psych-v-lxm*. They both share the following properties:

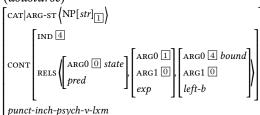
- They have only one argument, which is interpreted as an experiencer and bearing structural case.
- The predication has a left bounded state.

The distinction between these two classes is related to the type of predication of the resulting eventuality: while *punct-inch-psych-v-lxm* structure-shares the ARGO value of the *left-boundary* yielding a punctual eventuality (the beginning point of a state); the *npunct-inch-psych-v-lxm* structure-shares the ARGO value of the stative predication yielding a (left-bounded) state.

(8) Constraints for Spanish causative psych-verbs (asustar, aburrir)

$$\begin{bmatrix} \operatorname{CAT}|\operatorname{ARG-ST}\left(\operatorname{NP}[str]_{\boxed{3}}\,,\,\operatorname{NP}[str]_{\boxed{1}}\right) \\ \operatorname{CONT}\begin{bmatrix} \operatorname{IND} \boxed{2} \\ \operatorname{RELS}\begin{bmatrix} \operatorname{ARG0} \boxed{0} \ state \\ pred \end{bmatrix}, \begin{bmatrix} \operatorname{ARG0} \boxed{1} \\ \operatorname{ARG1} \boxed{0} \\ exp \end{bmatrix}, \begin{bmatrix} \operatorname{ARG0} \boxed{2} \ hpng \\ \operatorname{ARG1} \boxed{0} \\ beg-pred \end{bmatrix}, \begin{bmatrix} \operatorname{ARG0} \boxed{4} \ bound \\ \operatorname{ARG1} \boxed{0} \\ left-b \end{bmatrix}, \begin{bmatrix} \operatorname{ARG0} \boxed{3} \\ \operatorname{ARG1} \boxed{2} \\ left-b \end{bmatrix}$$

(9) Constraints for Spanish punctual stative verb (asustarse)



(10) Constraints for Spanish non-punctual stative verb (*aburrirse*)

$$\begin{bmatrix} \operatorname{CAT}|\operatorname{ARG-ST}\left(\operatorname{NP}[str]_{\boxed{1}}\right) \\ \operatorname{CONT}\begin{bmatrix} \operatorname{IND} \boxed{0} \\ \operatorname{RELS}\begin{bmatrix} \operatorname{ARG0} \boxed{0} \text{ state} \\ \operatorname{pred} \end{bmatrix} \begin{bmatrix} \operatorname{ARG0} \boxed{1} \\ \operatorname{ARG1} \boxed{0} \\ \operatorname{exp} \end{bmatrix} \begin{bmatrix} \operatorname{ARG0} \boxed{4} \text{ bound} \\ \operatorname{ARG1} \boxed{0} \\ \operatorname{left-b} \end{bmatrix} \end{bmatrix}$$

Verbs of type *cause-psych-v-lxm* are semantically more complex – e.g. an event beginning a state – but morphologically simpler – without *se* morpheme. Derivational approaches dealing with this phenomenon tend to derive the inchoative verb from the stative, and the causative (transitive) verb from the inchoative (intransitive) by means of phrasal structure and a phonologically empty inchoativizer (cf. Kratzer 2000; Piñón 2001). In our approach, we relate the "inchoative" forms with the causatives by means of a lexical rule. We analyse the transitive causative form, which is morphologically simpler, as the input of the lexical rule, and the morphologically more complex "inchoative" form as the output. Similarly to passivisation, we reduce the ARG-ST list, but also the RELS list, such that there is no semantic implication of a causer in the output and the experiencer argument is realised in nominative.

This solution goes inline with analyses of true reflexives in Romance languages that treat the clitic form se (or its Romance counterparts) lexically and not phrasal (cf. Abeillé & Godard 2000; Crysmann 2003; Bildhauer 2007 a.o.), and with analyses treating the manipulation of the argument structure lexically (cf. Müller & Wechsler 2014). Furthermore, our analysis takes the elaborated formal analyses proposed in Piñón (1997) and Marín & McNally (2011) and implement them in an HPSG fashion, enriching the type hierarchy for eventualities (e.g. by means of boundaries), but also showing the advantage of the LR solution over the derivational approach, i.e. the possibility of deriving the morphologically complex (but semantically simpler) form from the morphologically simpler (but semantically more complex) one.

The analysis proposed can be extended to other Romance languages, and can be compared to other functions of the reflexiviser *se* in Spanish as well as to its counterparts in other languages, e.g. *sich* in German.

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