

The Linguistic and the Learner Default May Converge in Some Null-Subject Languages

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1. Introduction

The claim that linguistic phenomena at the syntax-discourse interface are loci of developmental delays in child language acquisition has been asserted in the literature since the early 1990s. A substantial body of research has been carried out in children to test whether the innate principles that deal with anaphoric relations and the restrictions found between coreferents (Binding Theory), which are believed to hold universally, are revealed relatively early in the process of language development. Interestingly, whereas children show an early mastery of syntactic dependencies (e.g. in the comprehension of reflexive pronouns), adherence to the principle concerning the possible antecedent of non-reflexive pronouns is only seen at a later stage, not before age 6 (for a review, see Guasti 2004). This phenomenon, known as Principle B Delay, can be observed in sentences such as *Peter_i saw him^{*ij}*, in which English children interpret the non-reflexive *him* as coreferential with the preceding subject *Peter*, hence interpreting the sentence as equivalent in meaning to *Peter_i saw himself_i*. The asymmetry in the results between reflexives (Principle A) and non-reflexives (Principle B) seems to stem from the fact that the former can only enter into an anaphoric relation through a syntactic dependency (variable binding, i.e. bound variable anaphors), whereas such a requirement is not imposed for non-reflexive pronouns, which are resolved via coreference (cases in which two expressions corefer despite not being interpreted as bound variables) or variable binding. In terms of processing cost, variable binding has been considered to be less costly, since it entails immediately closing an open expression, while coreference involves a longer search for an appropriate antecedent (Fox 1998).

The observation of 'syntax-before-discourse' has been confirmed in the literature in recent years, thanks to the significant amount of research on the anaphoric dependencies of null-subject languages. The asynchronous development between the syntactic and discourse properties of subject pronouns

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has been observed in various bilingual developing grammars, including simultaneous bilingual children and near-native and attrited adult speakers. Convergence in the response patterns of such bilingual populations has promoted the Interface Hypothesis as a unifying approach for research on bilingual language development (for a review, see Sorace 2011, 2012). According to this hypothesis, an asynchronous development is expected between interface properties — those involving syntax and another cognitive domain such as discourse — and narrow syntactic properties (Sorace & Filiaci 2006). This finding is uniform across bilingual populations, where overt subject pronouns, specified as topic shift (Sorace 2000), are overextended to topic-continuity contexts in which null subject pronouns are expected. This pattern of deviance in bilinguals has been regarded as unidirectional because bilinguals perform in a native-like fashion with respect to null subject pronouns, which suggests that the syntactic conditions for licensing null subjects have been acquired. The overextension of the scope of overt pronouns to null pronoun environments makes the overt pronoun the learner-default option when the integration of syntactic knowledge and peripheral systems (such as discourse-pragmatics) fails. Inefficiency in the mapping between a particular pronominal form and the felicitous pragmatic considerations for contextual appropriateness has also been observed in monolingual adult speakers' antecedent preferences, which do not always mirror ceiling levels of accuracy (e.g. Carminati 2002, Filiaci, Sorace & Carreiras 2014).

In null-subject languages, the overt pronoun is regarded as the 'marked' option in the linguistic sense, and several attempts to capture its markedness have appeared in the literature. For example, according to Chomsky's Avoid Pronoun Principle, in languages in which an overt/null pronominal alternation is permitted, a null pronoun is preferred over an overt pronoun whenever possible (Chomsky 1981: 65). Thus, the null pronoun is preferred where a local coreferential or bound interpretation is intended. Consequently, in contexts where a coreferential or bound zero anaphor may occur, the use of an overt pronoun is assumed to elicit disjoint reference. According to Haegeman, this principle follows from a postulated general principle of economy, as "the omission of the subject pronoun requires less effort than the overt expression of the pronoun, and therefore, subject pronouns will only be present when the added effort of overtly expressing them has some yield" (Haegeman 1994: 217). A more recent version of Chomsky's (1981) Avoid Pronoun Principle is Cardinaletti and Starke's (1999a) Minimise Structure Principle — a version of the economy of representation (Chomsky 1995) — in which more deficient forms have less structure. According to this principle, the most deficient pronoun must be chosen if possible (Cardinaletti & Starke 1999a: 198) among the universal tripartite categorisation of pronouns: strong vs. non-strong (or deficient) pronouns, the latter category consisting of weak and clitic pronouns. The competition between pronominals ruled by the Choice Principle accounts for the choice ordering among strong and deficient forms: clitics are chosen over weak pronouns, and weak pronouns are in turn chosen over strong pronouns. In

Cardinaletti and Starke's account, the null argument in matrix subject position represented by *pro* is a weak pronoun, whereas the overt subject pronoun falls under the category of strong pronouns. The reference assignment of these pronominal forms is formulated under semantic asymmetry (Cardinaletti & Starke 1999a: 154), according to which deficient personal pronouns must have an antecedent that is prominent in the discourse. Thus, *pro* being a deficient element in Cardinaletti and Starke's classification, it "must associate to an antecedent prominent in the discourse (i.e. discourse-internal co-reference: 'sphericity', 'old information', etc., but also impossibility in most contrastive contexts, or with ostension)" (Cardinaletti & Starke 1999a: 192). This is not the case with a strong pronoun like the overt pronoun, which need not be associated with a prominent antecedent.

Interestingly, a discrepancy has been observed between the notions of linguistic vs. learner default in null-subject languages, as observed by Tsimpli (2011). The 'paradox' here lies in the observation that the linguistic-default option, the null pronoun (the weaker element, according to Cardinaletti & Starke 1999a), is not congruent with the learner-default option (the overt pronoun). That is, in a language with two forms in its pronominal system (both overt and null), the null pronoun, being the weaker element, functions as the linguistic default, whereas the bilingual learners in the studies reviewed above treat the strong element (the overt pronoun) as the default, exhibiting an overuse of the form — an extension of its scope. As Tsimpli (2011) hypothesises, the use of the overt pronoun as the default may be a result of its several interpretations being coreferent with a non-topic antecedent when unstressed, but at the same time coreferent with the preceding subject topic when emphasised or used as deictic.

Several proposals have been put forward to account for learners' difficulties at the syntax-discourse interface (for a discussion, see Sorace 2011). The initial attempts to account for the exact source of delays in bilinguals pointed to crosslinguistic influence at the level of representation, whereby the interpretable feature [topic] involved at the syntax-discourse interface remains underspecified. However, evidence against such an account has come from advanced speakers of two null-subject languages, who also extend the use of the overt pronoun to pragmatically inappropriate contexts (e.g. Bini 1993 for L1 Italian-L2 Spanish, Lozano 2006 for L1 Greek-L2 Spanish, Margaza & Bel 2006 for L1 Greek-L2 Spanish). An alternative explanation for this vulnerability at the syntax-discourse interface is provided by the processing deficit account, which postulates that integrating knowledge from different domains entails a processing cost. Differences at the level of processing between bilinguals and monolinguals would thus be the reason for bilinguals being less efficient than monolinguals. However, despite the publication of several studies arguing that there are differences between native and non-native language processing, the debate is far from resolved. Some studies have concluded that L2 processing is qualitatively different from L1 processing (e.g. Clahsen & Felser 2006), but others have provided evidence pointing to no fundamental differences between

L1 and L2 processing (e.g. Frenck-Mestre & Pynte 1997, Juffs 2006). More recently, non-linguistic factors such as quality and quantity of input have also been mentioned as possible causes for the deficits at the syntax-discourse interface. For instance, after observing that Mexican Spanish-speaking monolingual school-aged children at age 7 still accepted redundant overt pronouns referring to topical antecedents, Shin and Cairns (2012) conclude that the role of quantity of input in the acquisition of the discourse features of pronouns, especially in relation to the low frequency of overt pronouns, plays a decisive role in the development of reference selection.

The study presented here is intended to test whether the contradiction observed by Tsimpli (2011) with regard to the notions of linguistic and learner defaults in Romance languages such as Italian can be extended to Basque, a language in which overt referential devices fall beyond the scope of what are traditionally considered third-person pronouns, namely the demonstrative *hura* 'that' and the quasipronoun *bera* '(s)he (him/herself)' (de Rijk 2008). To this end, the results from two off-line tasks (a Picture Selection Task and an Acceptability Judgement Task) will be discussed with the aim of exploring the referential properties and discourse features of pronouns preferred by native (cL1) and non-native children (cL2) ($n = 143$) as well as native adults ($n = 44$). The structure of the article is as follows. Section 2 focuses on the description of overt referential forms acting as third-person pronouns; this is followed by a description of the criteria for antecedent choice in intrasentential anaphora. The main results obtained using the two methodologies are summarised in Section 3. Finally, Section 4 centres on the discussion of the data from Basque in relation to the universality of the discrepancy observed between the linguistic and learner defaults. Section 5 offers some conclusions.

2. Overt referential forms in Basque

In Basque, the omission of subjects is allowed in finite as well as non-finite clauses (for a discussion, see Duguine 2010). In addition to dropping subjects, Basque grammar also permits object omission, hence its categorisation as a *multi-drop language* (de Rijk 2008: 205) or *three-way pro-drop language* (Laka 1996, Ortiz de Urbina 1989). Thus, ergative, dative and absolutive free pronominal arguments of finite verbs are frequently omitted in non-contrastive, non-emphatic contexts, since the information missing is recovered from the rich inflectional morphology, i.e. the agreement markers on the finite verb.

The pronominal system of Basque consists only of the first and second persons; the language lacks genuine third-person pronouns (Eguzkitza 1986: 29, Laka 1996, Trask 2003: 151). Thus, it has been regarded as a *two-person language* (Bhat 2004). A null pronoun in subject position is possible if it is neither in focus nor a new topic and shows no case marking other than the absolutive, ergative or dative (de Rijk 2008: 795). When this is not the case, in order to express the subject explicitly, Basque speakers resort to demonstratives. Within the three-term demonstrative system consisting of the proximal *hau*

‘this’, the medial *hori* ‘that’ and the distal *hura* ‘that (over yonder/over there)’ (Trask 2003: 123), the distal *hura* (indicating remoteness from both the speaker and the addressee) is the least deictic and hence the most anaphoric demonstrative (Garzia 1996). In western varieties of Basque, the demonstrative *hura* alternates with *bera* ‘(s)he (him/herself)’, a word consisting of *ber-* ‘self’ and the article *-a* (historically, the distal demonstrative). Whereas *bera* is proximate, referring to antecedents that are usually but not necessarily within the same sentence, as in (1a), *hura* shows obviation effects, avoiding coreference with a referent in the immediate context (1b).

- (1) a. *Mikel-ek_i dio bera-Ø_{ij} txotxoloa dela.*
 Mikel-ERG says he-ABS stupid is-that
 ‘Mikel_i says he_{ij} is stupid.’
- b. *Mikel-ek_i dio hura-Ø_{*i/j} txotxoloa dela.*
 Mikel-ERG says he-ABS stupid is-that
 ‘Mikel_i says he_{*i/j} is stupid.’

(adapted from Eguzkitza 1986: 32)

These interpretative differences resulting from the distinct antecedent selection indicate that *hura* and *bera* belong to two different categories in the pronominal distribution proposed by Cardinaletti and Starke (1999b: 288), namely the Repartition of Pro-form Binding (Iraola 2014). The first pro-form of the language, *bera* in the case of Basque, is subject to Principle B and is thus “free within their governing category (and in the case at hand discourse bound)” (Eguzkitza 1986: 204), whereas the rest of the pronominals, such as *hura*, obey Principle C. *Hura*, being a lexical item, behaves like a noun and must therefore be free everywhere.

3. Evidence of the antecedent preferences of native (cL1) and non-native children (cL2)

Four separate experiments were conducted to reveal the pronoun resolution preferences of native adults, native children (cL1) and the successive early learners (cL2) of Basque whose exposure to Basque started at age 3 and was practically limited to school hours (Iraola 2014, Iraola, Santesteban & Ezeizabarrena 2014). To this end, the referential properties of null subject pronouns (henceforth, NSPs) in comparison to the overt subject pronouns (henceforth, OSPs) *hura* and *bera* were analysed in a Picture Selection Task, and the acceptability of NSPs and OSPs in topic-shift and topic-continuity contexts was tested in an Acceptability Judgement Task designed by Sorace, Serratrice, Filiaci and Baldo (2009).

In the Picture Selection Task (Experiments 1 and 2), participants’ preferences for coreference with the subject were tested using one-referent

sentences containing either NSPs or the OSP *hura* (Experiment 1) and either NSPs or the OSP *bera* (Experiment 2). The task consisted of choosing the picture (one of two shown) that was the better match for an auditorily presented sentence. In bi-clausal forward anaphora sentences with NSPs, such as *Mikel_i haserretu egin da ____i igo denean* ‘Mikel_i got angry when (he_i) got on (the bus)’, adults overwhelmingly selected the picture depicting the same character performing both actions (93%). Such a choice was interpreted as a coreferential reading between the preceding lexical subject (*Mikel*) and the embedded null subject pronoun. In contrast, adults clearly rejected coreference with the preceding subject for the OSP *hura* ‘that’ (only 6% coreference) in the same type of sentence. In such a context, Principle C as typically applied to demonstratives (Cardinaletti & Starke 1999b) prohibits the embedded *hura* from being bound by the c-commanding lexical argument *Mikel*.

The extrasentential referent not mentioned in the discourse but present in the picture (*Julen*) was also chosen as the antecedent for the OSP *bera* (only 32% coreference) in sentences such as *Mikel haserretu egin da bera igo denean* ‘Mikel got angry when he got on’ by adults (Experiment 2). Despite the lack of violation of the binding condition Principle B (since *bera* is “free” in its governing category), adults still preferred the non-coreferential interpretation. This preference for a disjoint reading of *bera* can be understood on the basis of Accessibility Theory (Ariel 1990), according to which the form of a linguistic expression used to refer to a discourse entity reflects the entity’s degree of salience. Here, the assumption is that in contexts of unity, the closer the relationship between the clauses in which the referring expression and the antecedent occur, the more likely it is that salient antecedents such as subjects will be referred to by minimal complex anaphora (i.e. NSPs). Less salient antecedents (in our case, the extrasentential referent) are referred to by morphologically more complex forms, the OSPs. These differences in the referential properties of *hura* and *bera* (the ‘rigidity’ of the former with respect to the unavailability of coreference vs. the ‘flexibility’ of the latter) are consistent with the idea that different types of referring expressions can be differentially sensitive to a number of constraints, as predicted by the Form-specific Multiple-Constraints approach (Kaiser & Trueswell 2008).

Developmental data gathered from 6- to 8-year-old children differed significantly from the response patterns of adults. Both child groups showed a general preference for the preceding subject antecedent for both NSPs and OSPs, regardless of the contrasting overt counterpart (*hura* or *bera*). However, the preference for coreference with the subject was statistically greater for NSPs than OSPs in the cL1 group in Experiment 1 (null 78% vs. *hura* 60%) and in the cL2 group in Experiment 2 (null 83% vs. *bera* 63%). When comparing the results of the two child groups, a stronger preference for the subject was observed in the NSPs vs. *hura* comparison in the cL2 group, and the opposite pattern was observed in the NSPs vs. *bera* comparison.

The Acceptability Judgement Task (Experiments 3 and 4) confirmed the divergence in adults’ antecedent biases regarding NSPs and the two OSPs (*hura*

and *bera*) observed in the Picture Selection Task. The effect of (topic-shift [+TS] and topic-continuity [-TS]) discourse contexts on the acceptability of NSPs and the OSP *hura* was tested in indirect speech contexts such as *Minniek___/hura erori dela esan du* 'Minnie has said that ___/she has fallen' (Experiment 3). The experimental setting forced the participants to choose the better option out of two sentences containing either a NSP or an OSP. In [-TS] contexts in which the character performed an action (e.g. falling) and simultaneously commented on what had occurred, adults preferred the NSP (90%). The opposite pattern was found in [+TS] contexts in which the action and the act of commenting were assigned to different characters. In this condition, the OSP *hura* was predominantly chosen (89%) by adults. A preference for the OSP *bera* was also seen in [+TS] contexts (74%) in adults (Experiment 4), but to a lesser degree than in the case of *hura*. With respect to the child groups, discourse context only had an effect on the selection between null vs. *hura* pronouns, with more of the former accepted in the [-TS] condition (25% acceptance of OSPs) and more of the latter in the [+TS] condition (39% acceptance of OSPs). However, in the competition between *bera* vs. NSPs, neither child group showed a preference for a particular pronoun type in the different discourse contexts. The comparison of results between cL1 and cL2 groups did not yield significant differences, which suggests that the response patterns of the two child groups were similar.

4. A paradox also in Basque?

The results of the two off-line tasks reported in the previous section provide empirical evidence regarding the extent to which the discrepancy observed between the linguistic- and learner-default options can be applied to Basque. In both tasks, adults' preferences with regard to antecedents differed for NSPs and OSPs. In contrast, children showed a preference for coreference with the subject antecedent regardless of pronoun type (NSP vs. OSP) in the Picture Selection Task; in the Acceptability Judgement Task, there were no clear preferences when the cL1 and cL2 groups were confronted with a choice between *bera* vs. NSPs, but a preference for NSPs regardless of discourse ([+TS]) context was observed in the competition between *hura* vs. NSPs. This last finding reveals that the learner-default option in Basque differs from that of other null-subject languages: learners do not show an overextension of the overt pronoun, as observed in Italian learners, but instead interpret the null pronoun more flexibly. Although at first it may seem that Basque children have expanded the contexts in which the null pronoun can be used in the target language, it should be noted that a small corpus-based study utilising 4 readings (Ikastolen elkartea 2002) typically found in the school materials of the child participants has suggested that the scope of the null pronoun may be much wider than that of the overt pronoun, corefering with both topic and non-topic antecedents (Iraola 2014).

No discrepancy is thus observed between the linguistic and the learner default in Basque, since the null pronoun performs both functions.

Consequently, Tsimpli's 'paradox' does not hold for this language. However, three characteristics of Basque should be taken into account for the data obtained. As mentioned in Section 2, in contrast to other null-subject languages (such as Italian) in which the grammar only allows subject omission, multiple (subject and object) argument drop is a frequently employed option in Basque. In addition, in narratives and story-telling contexts, the frequency of the OSPs *hura* and *bera* in the anaphoric use for establishing reference seems to be low; synonyms or associations are more often employed (Garcia-Azkoaga & Idiazabal 2004). Finally, the absence of true third-person pronouns in the target language encourages learners to a still weaker pronominal option: the null pronoun.

The delay observed in the selection of overt versus null third-person subject pronouns in both child groups (cL1 and cL2) and the similar patterns of results between the groups suggest that there are no age of onset effects (effects stemming from the age at which children are first exposed to the target language; here, from birth in the case of the cL1 group, and from age 3 onwards for the cL2 group). Rather, the effect of the extralinguistic factor — the amount of exposure to the language (i.e. the quantity of input to which children are exposed) — seems to be critical for the acquisition of referential properties of Basque pronouns. The (in)frequency of overt third-person subject personal pronouns in adult null-subject languages (input) plays a significant role in the development of these pronouns in child language, as hinted at by Shin and Cairns (2012). It is in some sense more difficult to acquire the 'marked' properties of the OSPs *hura* and *bera*, since the learner must encounter more evidence for the marked rule than he or she would need for its unmarked counterpart; this would explain delay or difficulty in the acquisition of the marked rule (Pinker 1984: 238). The response patterns obtained thus far from monolingual and bilingual children in the acquisition of phenomena at the syntax-discourse interface indicate that it is highly likely that both internal (the complexity of the phenomenon, already evident in the protracted development in monolingual acquisition) and external factors (e.g. usually input factors) are at play. In fact, Unsworth, Argyri, Cornips, Hulk, Sorace and Tsimpli (2011) have confirmed the close association between the late acquisition of a phenomenon in monolingual development and the key role of input (the requirement of more input) in the acquisition of the same phenomenon by bilingual children. These authors analysed Greek voice morphology and Dutch gender in simultaneous and successive bilingual children. The results from both language phenomena revealed no between-group differences for the bilingual children, but input factors constituted the most significant predictor variables for bilingual development.

The data obtained from Basque children could suggest that the learner default may vary crosslinguistically among null-subject languages depending on the specificities of the language; this might lead to a convergence between the notions of learner and linguistic defaults in certain languages like Basque. However, rather than discussing the validity of the paradox, we should perhaps

cast doubt on the existence of a pronominal form as the learner-default option. Although initial studies on the comprehension of pronouns in simultaneous bilingual children and near-native speakers (e.g. Serratrice 2007, Sorace & Filiaci 2006) have pointed to a unidirectional deviance pattern (a misinterpretation of OSPs but not of NSPs), more recent comprehension studies of 6- to 8-year-old monolinguals and simultaneous bilinguals acquiring Romance languages have not revealed any asymmetry in the results (Shin & Cairns 2012, Sorace et al. 2009). Instead, patterns of both redundancy (pragmatically inappropriate OSPs in topic-continuity contexts) and ambiguity (pragmatically inappropriate NSPs in topic-shift contexts) have been observed in the non-target-like performance of all these children, even though children show a sensitivity to the interpretation of OSPs as signalling topic shift earlier than the interpretation of NSPs as marking topic continuity. Therefore, the bidirectional target-deviant patterns in the present study, which are compatible with previous studies in child Italian and Spanish (Shin & Cairns 2012, Sorace et al. 2009), weaken the assumption that a learner-default option exists and hence the universality of the paradox. Authors such as Schwartz (2011) have also expressed uncertainty with respect to the default status of the overt pronoun: if the overt pronoun were the default form for bilinguals, they would be expected to use it at monolingual levels in topic-shift contexts, which is not the case (62-70% for bilinguals vs. 84% for monolinguals in Sorace et al. 2009).

The apparent learner-default option (the overt pronoun) proposed in the literature may be better explained in terms of locality, whereby pronouns look for the proximity of the antecedent (in the same minimal clause if possible, thus preferring local antecedents or an antecedent in the previous recent clause). In fact, O'Grady (2011) posits that the acquisition difficulty in the mapping between syntax and discourse could be explained in terms of a locality-based processing account. As mentioned in the introductory section, children assign a local antecedent to non-reflexive pronouns at the cost of violating syntactic constraints in local environments (Principle B Delay). Reflexive pronouns differ from non-reflexive pronouns in terms of the Prominence Requirement (that is, a reflexive pronoun must take a higher (i.e. c-commanding) NP as its antecedent) as well as in relation to the Locality Requirement (reflexives require an antecedent in their minimal domain) (O'Grady 1997). Nonetheless, children interpret non-reflexive pronouns as though they were reflexives and were subject to both conditions due to the general computational requirement that dependencies be resolved at the first opportunity (Efficiency Requirement), thereby reducing the burden on working memory (O'Grady 1997, 2005a). It is therefore quite reasonable for Basque children to prefer local coreference with the antecedent ranked highest in topicality (Givón 1984: 138, Kuno 1987: 159) and located in the immediate preceding clause (in order to reduce memory load; see Solan 1983: 119) in the Picture Selection Task. The results of Basque child learners are thus compatible with children's universal strategy or tendency to take an antecedent in the sentence itself rather than to resort to an extrasentential referent because of processing limitations. As O'Grady (1997: 241) claims,

“The development of pronoun-antecedent relations is one of the most complicated and intricate phenomena in the entire language acquisition process”. In order to perform more demanding computations, including anaphoric dependencies with no immediate resolution (as is the case for non-reflexive pronouns), the computational system must be capable of competing with other cognitive functions for processing space (O’Grady 2005b: 448).

5. Conclusions

The present study has revealed that in a phenomenon typically acquired late in monolingual acquisition, different factors — both internal (language-specific properties related to the phenomenon) and external factors such as input — play a crucial role in the acquisition of the discourse features of pronouns by bilingual Basque children. Although an initial overview of the results might lead us to conclude that the linguistic default and the learner default converge in Basque (in both cases, the null pronoun), there actually may not be any pronominal form as the default. Instead, a locality-based processing account whereby pronouns look for the most proximate antecedent available (O’Grady 2011) may better capture children’s universal preference for coreference with an antecedent in the discourse.

6. References

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