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Information Structure in Language Acquisition
32 DGfS Berlin, 23-26 February 2010

L1 and L2 differences in the acquisition of information structure: examining an interface-based account

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0. Goal:

- To examine the L2 acquisition of subject inversion in Spanish.
- To show, using evidence from L1 and L2 acquisition of word order variation, that (syntax-pragmatics) interface phenomena are not more unstable than non-interface phenomena.

1. Focus and Word Order

- Focus: conveys new, not presupposed, information (Chomsky, 1971, Chomsky, 1976, Jackendoff, 1972) and must be aligned with main sentence stress:

(1)   Q: (Where) did you put the book?

        A: I put the book [$_F$ on the <u>shelf</u>]

    Assertion Structure: 'the *x*, such that I put the book on *x*, is the shelf'

- **Pragmatic well-formedness**: each linguistic representation is subject to discursive requirements (i.e. what portion of the sentence is within the scope of the assertion is selected by the discourse). In languages with flexible word orders this requirement can alter the canonical word order:

(2)   a.   [$_F$ Ese jugador marcó   <u>un gol</u>]   S-V-O
                that player   scored-3-sing a goal
                "That player scored a goal"

        b.   [$_{TP}$ S   [$_T$ V   [O]]]

(3)   a.   Marcó un gol [$_F$ ese <u>jugador</u>]   V-O-**S**

        b.   [$_{TP}$ … [$_T$ V$_i$ O$_j$ [$_{VP}$ S t$_i$ t$_j$]]]

- Focus=main stress→ the focus contains the rhythmically most prominent element (Chomsky and Halle, 1968, Cinque 1993)

- Given two nodes Ci and Cj that are symmetrical sisters, the one lower in the asymmetric c-command ordering is more prominent (Zubizarreta, 1998).

(4)

V   O   →   V   **O**
                      [w   S]
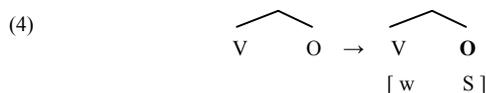
(5)   a.   [$_F$ Los alumnos se enfrentaron con la <u>policia</u>]   SVO
                "The students confronted the police"

        b.   [Se enfrentaron]$_i$ [con la policia]$_j$ [$_F$ los <u>alumnos</u>] $_{ti}$ $_{tj}$ VO**S**

- Alternative option: Clitic-left dislocations (CLLD) (Cinque 1993):

(6)   El gol, lo marcó [$_F$ ese <u>jugador</u>]   O#, Cl-V-**S**
        the goal it scored   that played
        "The goal, that player scored it"

- **Syntactic-licensing of subjects**: verbs always raise to T and subjects can check their Nom feature postverbally in their base [Spec, VP] position in Spanish (Koopman and Sportiche 1991)

2. Intransitives in Spanish

- Perlmutter's (1978) Unaccusative Hypothesis: two types of intransitives

(7)   Unergative: NP(**agent**)$_i$ [$_{VP}$ V t$_i$]   *El león gritó*
                                                            the lion shouted

(8)   Unaccusative: __ [$_{VP}$ V NP(**theme**)]   *Salen   los jugadores*
                                                            come-out   the players

- Burzio's (1986) generalization: pro checks Nom case in TP and subject stays in [VP, Comp]

(9) [pro$_i$ [$_T$ salen$_i$ [$_{VP}$ t$_i$ los jugadores$_i$]]]

- Unergatives allow SV and VS configurations depending on the information status of the subject
- Unaccusatives always display VS orders regardless of the information status of the subject
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Children have to figure out both the syntactic (postverbal licensing) and discourse-pragmatic constraints (focus marking) of their L1 during the acquisition process.

3. L1 Acquisition of Information Structure

- Pragmatics is acquired later than narrow Syntax (Avrutin and Wexler 1992, Batman-Ratyosyan and Stromswold 2002, Chien an Wexler 1990, Hyams 1996, Schaeffer 1995, 2000)

- Since postverbal subjects appear in final position to fulfill a discourse-pragmatic function they may be acquired later than preverbal subjects.

However, recent empirical evidence does not support this hypothesis:

1. Preverbal and postverbal subjects emerge concurrently in Mexican Spanish and Catalan (Grinstead 1998, 2000) and in Peninsular Spanish (Snyder and Villa-Garcia 2009):

Child	Onset Preverbal Subjects	Onset Postverbal Subjects
Emilio	01;11,12	01;09,19
Inés	01;06,12	01;06,05
Irene	01;07,22	01;07,05
Juan	01;09,02	01;09,02

(Snyder and Villa-Garcia 2009)

2. DeCat (2003, 2004): French children's understanding of information structure (encoding of new referents and topic licensing) is adult-like.

3. Gordishevsky and Avrutin (2004) , (Westergaard 2005): Information structure in place earlier than first hypothesized.

Alternative account of optionality: interface-based operations (i.e. reference-set computations) are costly operations (Reinhart 2006)

- They impose a processing load higher than other complex strategies of the CS regardless of how they are implemented.

- They exceed the memory capacity of children who use bypassing strategies instead, like guessing in the case of coreference and a default disambiguating strategy in the case of focus structures.

- This is why results around fifty per cent (optionality) only being observed when reference-set computations are involved, indicating a processing failure.

4. L2 Acquisition of Spanish Word order

- Unlike children, non-convergence with native rules has been found in very advanced grammars (Hertel 2003, Lozano 2006).

- Pragmatic deficit (Lozano 2006): knowledge of core syntax is unimpaired, only long-lasting problems with pragmatics constraints on subject inversion.

- In line with the Interface Hypothesis (IH) (Sorace 2005, Sorace and Filiaci 2006): morphosyntactic structures which are regulated by discourse-pragmatics are more prone to instability than those within core Syntax.

- 'Optionality' as evidence to support the IH: violations of conditions at the syntax-pragmatics interface typically lie on a gradient of acceptability (optionality) whereas violations of syntax with other interfaces give rise to clear ungrammaticality (Sorace and Serratrice 2009).

However:

- Children's knowledge of postverbal subjects does not support the IH.

- Optionality can be caused by memory, processing limitations.

- More empirical evidence is needed to check the status of syntactic and pragmatic conditions in non-native grammars.

5. Our study

Aims:

- To test nonnative knowledge of syntactic and pragmatic constraints of inverted structures in Spanish by native speakers of English.

- To test whether a gradient of acceptability exists with syntax only and syntax-pragmatics interface structures.

Participants

L2 Spanish	Typical	Approx no hours of Spanish	Educational level

level	age	instruction	(English system)
Beginners N=19	13-14	c 180 hours	Lower secondary school **(Year 9)**
Intermediate N=20	17-18	c 750 hours	Sixth form college **(Year 13)**
Advanced N=20	21-22	c 895 hours	4th Year University **(UG)**
Native speakers N=20	17-18		High school (final year)

Structures Targeted

	Broad Focus *What happened?*	**Narrow Focus** *Who has V-ed?*	**Narrow Focus CLLD**
Unergative Verbs	**SV** [F Juan ha roncado] 'Juan has snored'	**VS** Ha roncado [F **Juan**] 'Juan has snored'	
Unaccusative Verbs	**VS** [F Ha llegado Juan] 'Juan has arrived'	**VS** Ha llegado [F **Juan**] 'Juan has arrived'	
Transitive Verbs	SVO [F Juan ha traído el perro] 'Juan has brought the dog'	VOS Ha traído el perro [F **Juan**] 'Juan has brought the dog'	Obj#, Cl-V-**S** El perro, lo ha traído [F **Juan**] 'The dog, Juan brought it'

Procedure

- Context-dependant word order preference test:
- 28 situations according to two sets of variables:
    - a) Syntactic: unergative, unaccusative, transitive
    - b) Discourse-Pragmatic: narrow or broad focused subject
- Three possible answers: a. inverted   b. non-inverted   c. both

Predictions:

1. A syntactic deficit will result in low acceptance of VS inversion with unaccusatives in broad focus contexts.

2. A pragmatic deficit will result in a gradient of acceptability in narrow focus contexts with both unaccusative and unergative verbs.

3. If learners have a pragmatic deficit, they will also show a gradient of acceptability in other constructions affected by focus, such as CLLDs.

4. Only lower proficiency learners will reject the option not available in their L1 (i.e. VS).

Results:

1. Y13 and UG show similar preference rates for inverted structures in unergative and unaccusative contexts (difference not significant) therefore the type of verb does not affect the acceptance of the inverted structure. In contrast, NS show significantly higher acceptance rates for unaccusatives (as expected).

2. The acceptability of inverted clauses is in strict correlation with the level of proficiency of the participants, with the lowest acceptance scores in the Y9 group and the highest in the UG group:
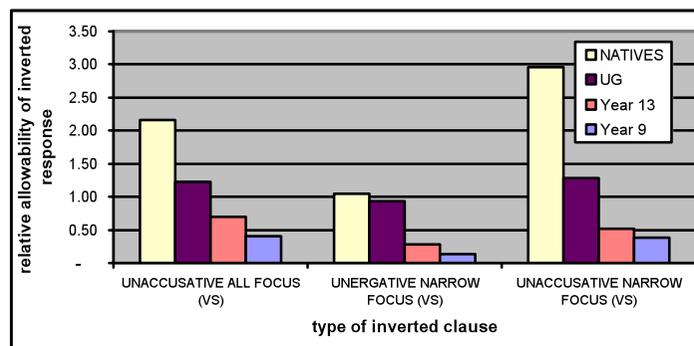

Fig1. Relative allowability of inverted clauses by clause type and proficiency level

- Y10 had a lower rate of acceptability than the other learner groups

- Y13 learners had significantly lower rates of acceptability than native speakers in all scenarios and than UG learners in all scenarios except in the unaccusative narrow focus context.

- UG learners had significantly lower rates than NS in the unaccusative all focus (only-syntax scenario) and narrow focus but not in the unergative narrow focus (syntax-pragmatics scenario).

3. Only native speakers and the advanced group preferred the correct inverted option over the non-inverted in all structures regardless of the syntax of the verb (i.e. unaccusative or unergative):
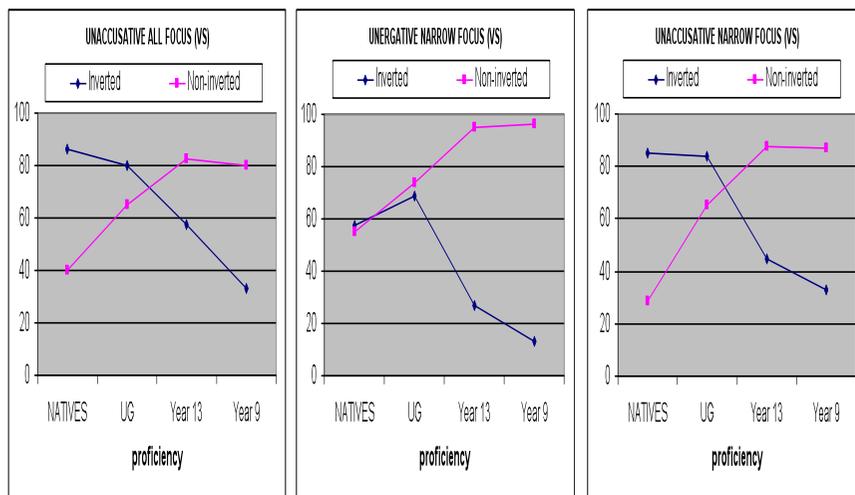
Figs 3.4.5 Percentage of acceptability of correct inverted answers in three different clause types by three groups of learners and natives

- Y13 and Y10 are not affected by the type of structure in their preference for non-inverted options.
- The difference in acceptance rates of VS and VS structures is not significant in any of the contexts (optionality).
- Differences between NS and UG are not significant.

4. The advanced group performed most native-like in questions where clitic left dislocations, which always required inversion, where involved. Unlike other inverted types, these structures do not have a non-inverted counterpart (i.e. *O#,Cl-S-V)
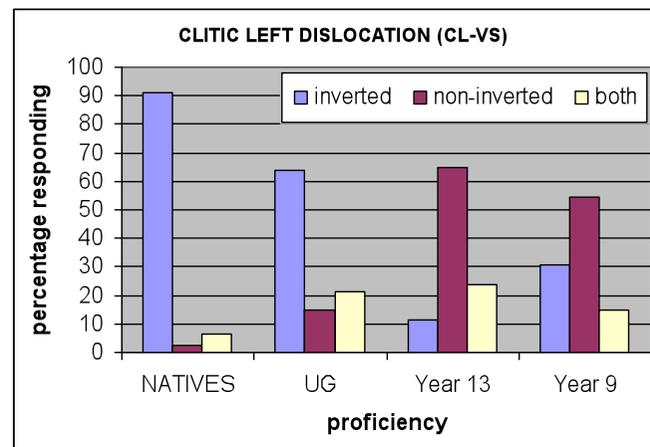

Fig 6. Percentage of responses for clitic left dislocations.

- Native speakers and undergraduates were significantly more likely to accept the inverted form than the non-inverted or both (there was no significant difference for these groups between selection of the non-inverted and both).

6. Discussion

- Y10 and Y13show behavior consistent with the rules of their L1 preferring the non-inverted option in all syntactic and pragmatic contexts. This shows that knowledge of word order pattern is acquired late (Hypothesis 4 confirmed).
- UG consistently accept the inverted option (beyond L1 transfer) over the non-inverted option but their pattern of responses is not affected by the type of verb (unergative or unaccusative) (Hypothesis 4 confirmed).
- Although UG accept both options as possible, they consistently do so in all contexts including those where pragmatic effects don't force the subject to appear postverbally (i.e. unaccusative broad focus) (Hypothesis 1 and 2 not confirmed)
- Clear preference for the inverted option in CLLD scenarios by UG shows that word order variation is not always problematic due to a pragmatic deficit (Hypothesis 3 not confirmed).

7. Results

- Our data do not support the hypothesis that structures at the interface syntax-pragmatics are more unstable than the structures within core syntax (against the IH)

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- This is also supported by research on L1 acquisition showing that pragmatically marked structures are not delayed in children's grammars.
- Observed gradient of acceptability (i.e. optionality) is not a reliable indicator of interface instability

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