

SUBJECTS AND INTERFACE DELAY IN CHILD SPANISH AND CATALAN

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I observe that in an early stage of child Catalan and Spanish, no overt subjects are used. At this same age and MEAN LENGTH OF UTTERANCE (MLU), child speakers of overt subject languages such as French, German, Dutch, and English use at least some overt subjects optionally. I explain this crosslinguistic variation by suggesting that the adult target grammars vary with respect to the position in which overt subjects are realized. In the overt subject languages, subjects are realized in the canonical specifier-of-IP position, whereas in the null subject languages (such as Catalan and Spanish), subjects are located in a topic/focus position, which becomes accessible only later in development. As evidence for this, I show that overt subjects, fronted objects, and *wh*-questions begin to be used at the same point in development in child Catalan and Spanish. I also argue that subject agreement constitutes an incorporated pronominal subject in Catalan and Spanish and that children converge on this parametric option very early. The inability of child Spanish- and Catalan-speakers to use discourse-pragmatic information is explained as a delay in the development of the interface between grammar and discourse-pragmatics.*

1. INTRODUCTION. It has been suggested that the tremendous creativity of human thought is likely due to the creativity of grammar itself, in that ideas can be expressed in ever more complex ways in the same way that natural language grammars allow a potentially infinite set of expressions. It is important to note, however, that these thoughts incorporate ideas that do not come from the domain of grammar itself, but rather from a wide array of cognitive domains including numerical, musical, and spatial cognition. In adult language, the ability of grammar to interface with these domains is relatively well-developed; however, there appears to be a general delay in cognitive development in the interfaces between grammar and other domains of cognition.

In this article, I examine how the syntax of child Spanish behaves in the apparent absence of an ability to interface with discourse-pragmatic competence. While it appears that children are sensitive at least to discourse notions such as new vs. given information from infancy (cf. Baker & Greenfield 1988), the part of the clause that most interacts with discourse-sensitive information, namely the left periphery or complementizer phrase (CP), does not appear to be active in production from the beginning. Concretely, overt subjects, which I argue are discourse-sensitive left-peripheral constructions in adult Spanish and Catalan, do not occur in production until some time later, when other left-peripheral constructions begin to be used.

The status of the left periphery in recent generative syntactic theory has been much debated (e.g. Giorgi & Pianesi 1997, Rizzi 2000). In particular, it has been proposed by Ordóñez (1997) for Spanish and Catalan that overt subjects in these languages are left-peripheral constructions, contrary to predominant assumptions that they occur lower in the clause structure in the inflectional phrase (IP) (e.g. Belletti 1990, Cardinaletti 1996, Rizzi 1990). Ordóñez further argues that the element of the clause that receives nominative case and the subject's theta role is in fact an incorporated pronominal that has been assumed to be subject-verb agreement until now. In what follows, I attempt to show that overt subjects arise in production at close to the same time that less

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controversially left-peripheral constituents do. I take the position that this timing of emergence supports the argument of Ordóñez (1997) to the effect that overt subjects in Spanish are in fact left-peripheral, CP constituents. In this way, my aim is to contribute not only to a clearer understanding of child language development, but also to a sharpening of adult syntactic theory.¹

2. RESEARCH METHODS AND DATA COLLECTION. The data used in this study comes primarily from two sources. The source for the Catalan child data are the four monolingual Catalan-speaking children recorded in the Serra and Solé study in 1986, which now form part of the CHILDES database (MacWhinney & Snow 1985). These children were recorded during monthly visits which lasted approximately 30 to 45 minutes and were transcribed in CHAT format. The children (two boys and two girls) were studied for approximately two and a half years each in their homes as they interacted with their parents, caregivers, and the investigators.

The second source of data are three monolingual Spanish-speaking children that I have studied. My study was a longitudinal project following the grammatical development of these two boys and one girl, who were cared for by stay-at-home parents. Each child was followed over the course of a year. The study began when the subjects were all 1;6 and continued until the children reached 2;6. The subjects were videotaped once a week for approximately one hour while they played and interacted with their relatives and the investigator for the first year. Subsequent taping has occurred monthly for approximately one hour per session.

Approximately 60 of the roughly 140 hours of videotape-recorded data were transcribed and coded for this study. I then coded the transcripts for subject type (null, postverbal, or preverbal), verb tense, and clause type (interrogative, declarative, or imperative). For the majority of the analyses presented here, specific structures had to be manually searched for and counted. Where possible, a computer search program was used to facilitate culling and tallying the data. This program consisted of a routine written in PERL for use on a UNIX machine.²

3. THE OCCURRENCE OF OVERT SUBJECTS IN CHILD CATALAN AND SPANISH. In child Catalan, Spanish, and Italian, there is an early period during which no overt subjects are used. This phenomenon is interesting because it contrasts markedly with the early stage of overt subject languages such as English, Dutch, German, and French, where overt subjects are used from the very beginning. Thus, as shown in Figures 1, 2, 3, and 4 for four Catalan-speaking children, Figures 5, 6, and 7 for three Spanish-speaking children, and Figure 8 for one Italian-speaking child, all of these children pass through an early period during which many verbal utterances are produced, none of which includes an overt subject.³ These figures include the numbers both of overt subjects and of null subjects produced in a recording session. Chronologically, these children appear to begin to use overt subjects around 2 years old. There is, nonetheless, individual variation, as indicated by the ages below the points in the figures when overt subjects first begin to be used.

¹ Though my main theoretical goal is to contribute to generative linguistic theory, I have benefited from important work done in many theoretical frameworks, which I hope will be obvious to the careful reader.

² My thanks to Joe Allen for his patience and help in this regard.

³ A similar early no-overt-subject stage is reported in Berman 1990 and Armon-Lotem 1997 for child Hebrew, but the kind of quantitative data necessary to compare child Hebrew to the languages reviewed here is not available, to my knowledge.

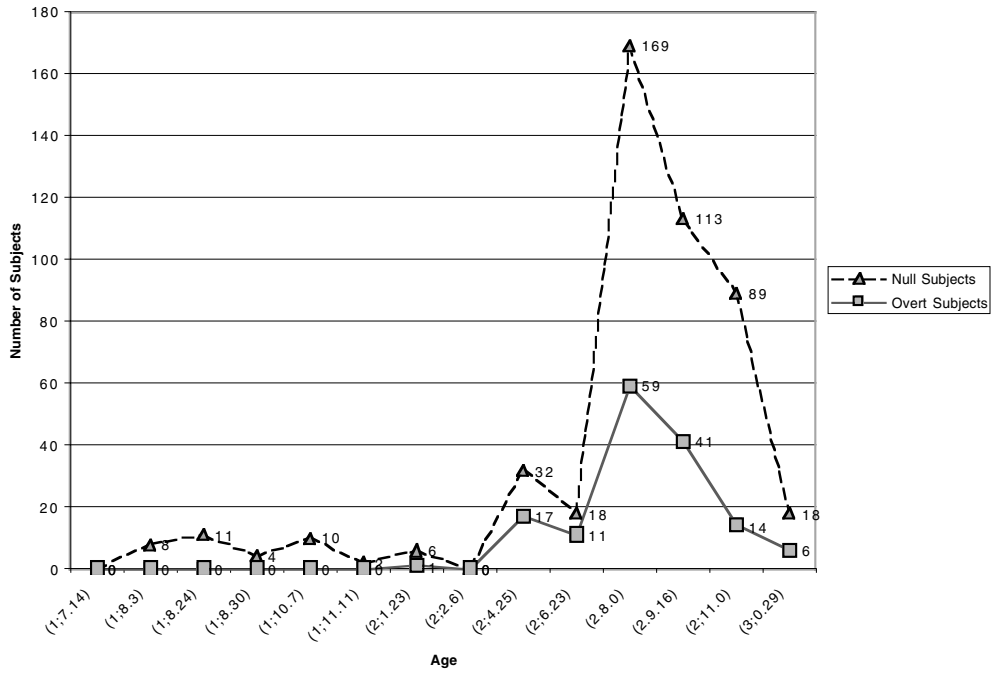


FIGURE 1. Gisela's use of null and overt subjects (Catalan).

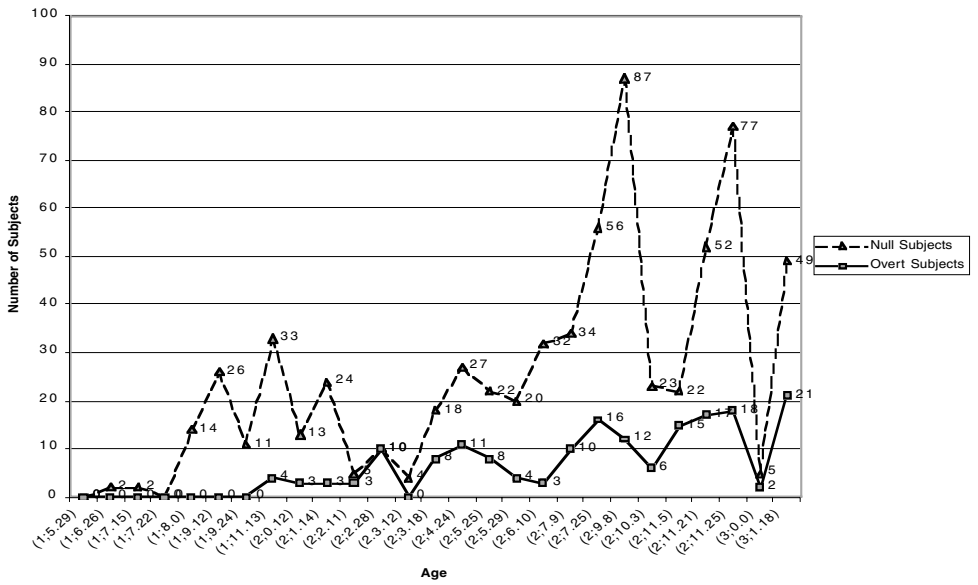


FIGURE 2. Guillem's use of null and overt subjects (Catalan).

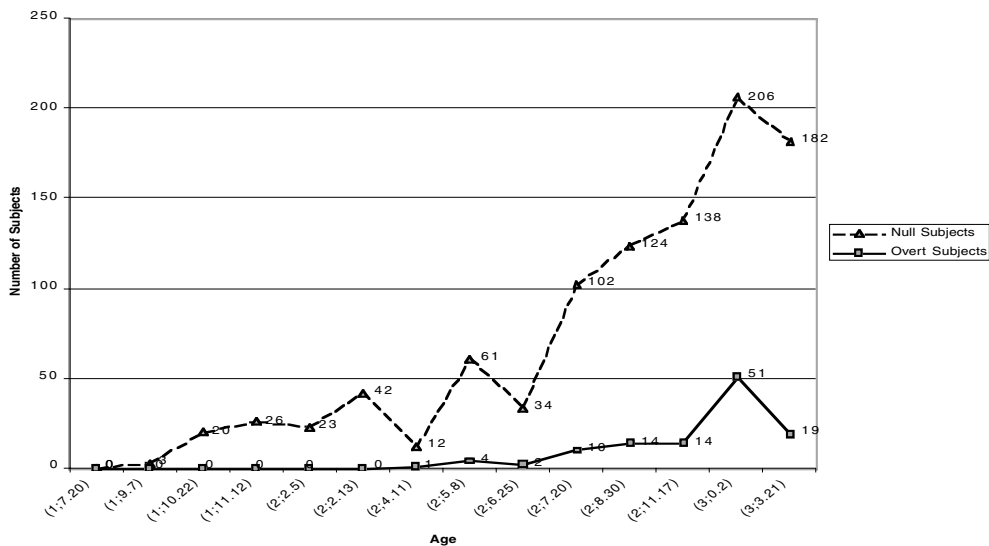


FIGURE 3. Laura's use of null and overt subjects (Catalan).

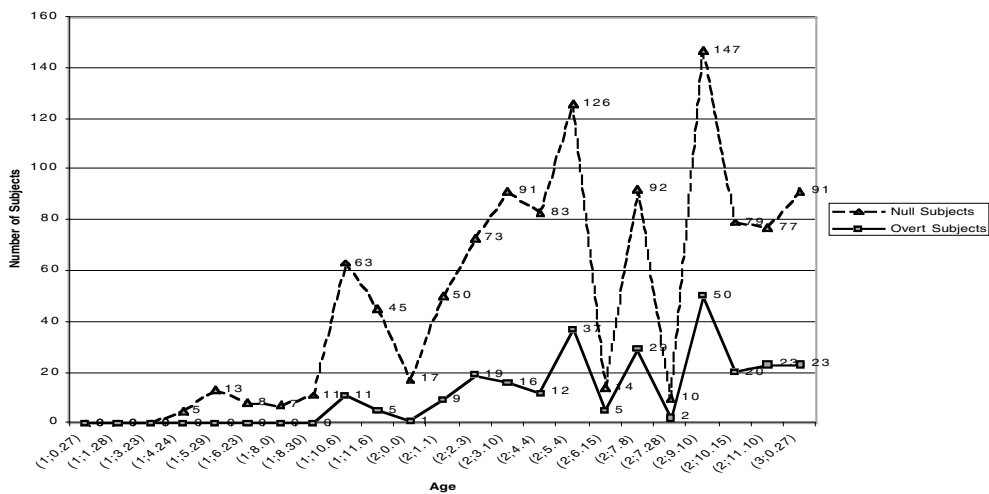


FIGURE 4. Pep's use of null and overt subjects (Catalan).

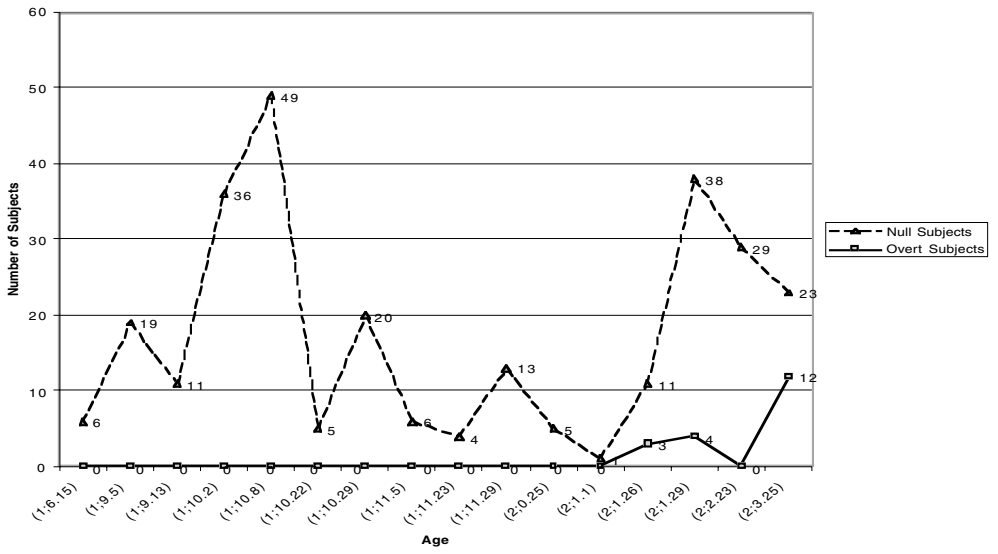


FIGURE 5. Graciela's use of null and overt subjects (Spanish).

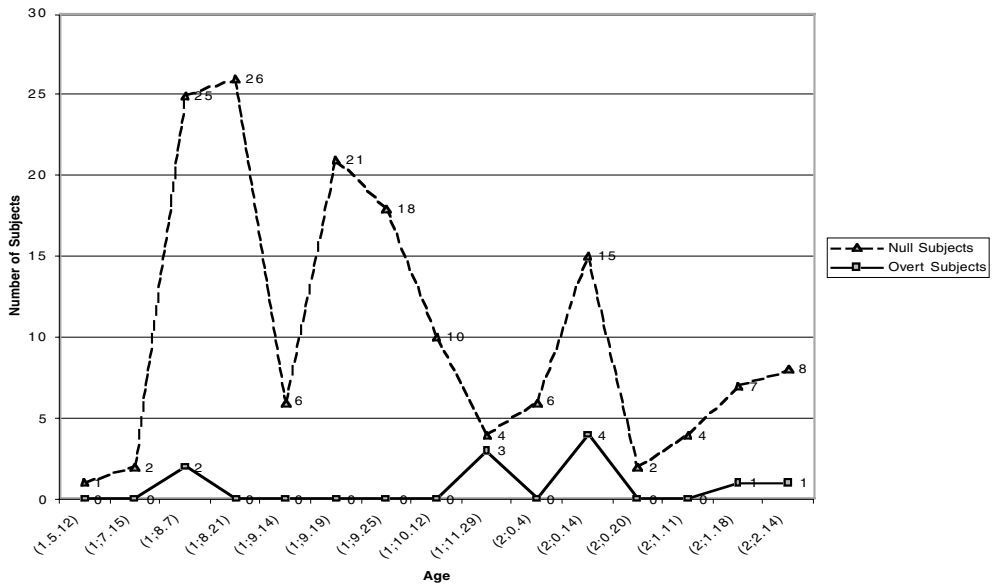


FIGURE 6. Eduardo's use of null and overt subjects (Spanish).

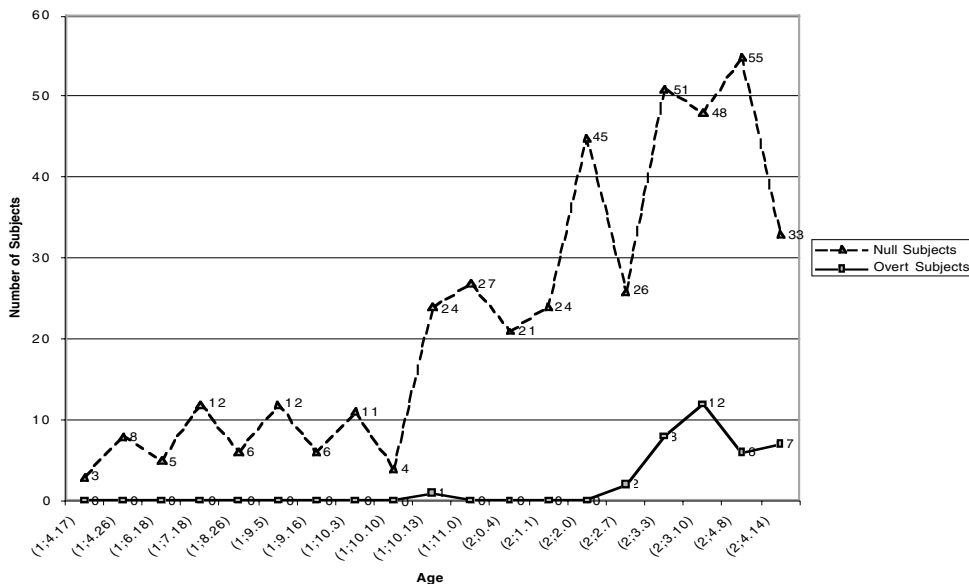


FIGURE 7. Carlos's use of null and overt subjects (Spanish).

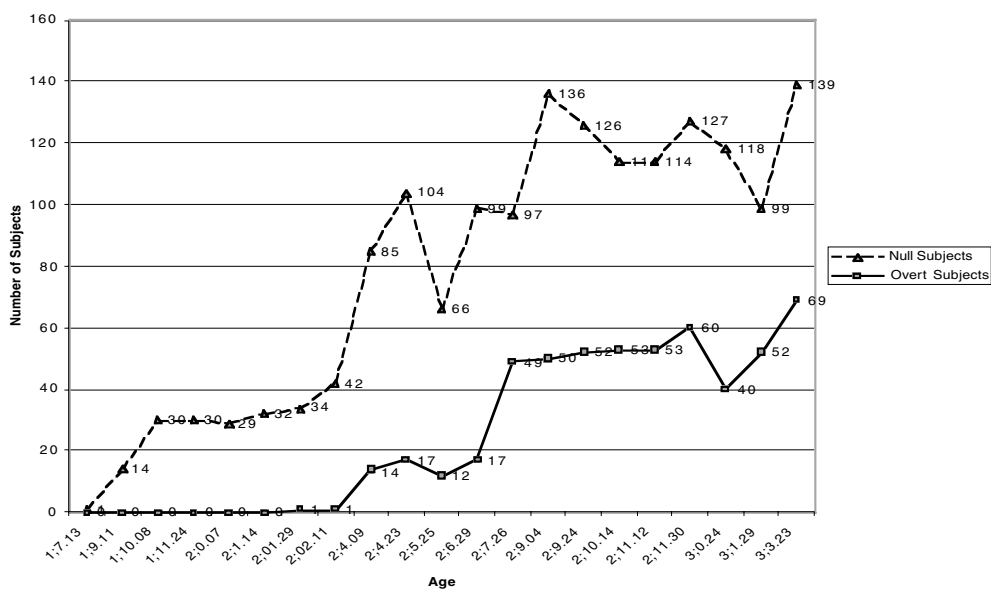


FIGURE 8. Rosa's use of null and overt subjects (Italian).

3.1. SUBJECTS OF NON-VERBAL PREDICATES. While overt subjects with verbs are not produced early on, it is not the case that there is any sort of general ban on subjects. Thus, during the period in which verbs do not occur with lexical subjects, lexical subjects are found with other constituents, such as the locative adverbs in 1–4 and 8–10, the temporal adverb in 5, and the participials in 6 and 7.

Catalan

- (1) Pep (1;8.0)
Una coseta aquí.
'A little thing here.'
- (2) Gisela (1;8.24)
Aquest aquí.
'This here.'
- (3) Gisela (1;8.30)
Aquí llapis.
'Here pencil.'
- (4) Gisela (1;10.7)
Aquí la iaia.
'Here the granny.'
- (5) Gisela (1;10.7)
Ara això.
'Now this.'
- (6) Laura (2;2.13)
Boca oberta.
'Open mouth.'
- (7) Pep (1;6.23)
Llapis perdut.
'Pencil lost.'

Spanish

- (8) Graciela (2;1.1)
Aquí la chu-chu.
'Here the choo-choo.'
- (9) Carlos (1;10.3)
Aquí ratón.
'Here mouse.'
- (10) Eduardo (1;10.12)
Uno aquí.
'One here.'

These utterances support the contention that early verbal utterances that lack overt subjects are not missing overt subjects because of a general grammatical prohibition on overt subjects.⁴ Rather it is only verbs that appear to follow this restriction.

4. THE OCCURRENCE OF OVERT SUBJECTS IN CHILD OVERT SUBJECT LANGUAGES. Unlike these child speakers of null subject languages, child speakers of overt subject languages use overt subjects from the very beginning. More precisely stated, at similar MEAN LENGTHS OF UTTERANCE (MLUs), child speakers of overt subject languages use overt subjects while child speakers of null subject languages do not. While the validity of MLU as a crosslinguistic indicator of language development has not been demonstrated,

⁴ See Grinstead 2000a for evidence against a processing explanation of the absence of overt subjects based on utterance length (as in Bloom 1990, 1993 and Valian 1991) in child Catalan and Spanish.

it is for the moment the best means available. Furthermore, the utterances presented below from child overt subject languages were the earliest available in their corpora, and the children consistently used overt subjects even in these earliest recording sessions.⁵

The MLUs of the four Catalan-speaking children in the recording sessions just preceding the ones in which overt subjects appeared are listed in Table 1. The corresponding MLUs for the three Spanish-speaking children are given in Table 2.

| | AGE | MLU |
|---------|---------|------|
| Gisela | 1;11.11 | 1.25 |
| Guillem | 1;9.12 | 1.43 |
| Laura | 2;2.13 | 1.67 |
| Pep | 1;8.30 | 1.56 |

TABLE 1. The MLUs of the recording sessions just preceding the sessions in which overt subjects first appeared in child Catalan (average = 1.48).

| | AGE | MLU |
|----------|---------|------|
| Eduardo | 1;10.12 | 1.60 |
| Graciela | 2;1.1 | 1.66 |
| Carlos | 1;10.10 | 1.35 |

TABLE 2. The MLUs of the recording sessions just preceding the sessions in which overt subjects first appeared in child Spanish (average = 1.53).

As can be seen, their MLUs range from 1.25 to 1.67 (average = 1.48). Consequently I tried to find overt subject language-speaking children whose MLUs are close to this average or range in order to make a fair comparison.

Nina, for example, from the Suppes Corpus retrieved from the CHILDES database (MacWhinney & Snow 1985), has an MLU of 1.78 for her earliest recording session and therefore is comparable to the Catalan children studied here. In that recording session, 36% of the verbs she produced occurred with overt subjects, as illustrated in Table 3. In general, it seems clear that a substantial number of her verbal utterances contained overt subjects.⁶

| SESSION NAME | AGE | NULL SUBJECTS | | OVERT SUBJECTS | | TOTAL |
|--------------|---------|---------------|-----|----------------|-----|-------|
| nina01.cha | 1;11.16 | 93 | 64% | 52 | 36% | 145 |
| nina02.cha | 1;11.24 | 41 | 64% | 23 | 36% | 64 |
| nina03.cha | 1;11.29 | 88 | 53% | 77 | 47% | 165 |
| nina04.cha | 2;0.3 | 83 | 67% | 40 | 33% | 123 |
| nina05.cha | 2;0.10 | 39 | 21% | 43 | 79% | 82 |
| nina06.cha | 2;0.17 | 26 | 62% | 16 | 38% | 42 |
| nina07.cha | 2;0.24 | 99 | 58% | 72 | 42% | 171 |
| nina09.cha | 2;1.6 | 58 | 41% | 85 | 59% | 143 |
| nina10.cha | 2;1.15 | 77 | 35% | 143 | 65% | 220 |
| nina11.cha | 2;1.22 | 53 | 29% | 131 | 71% | 184 |
| nina12.cha | 2;1.29 | 66 | 31% | 148 | 69% | 214 |
| TOTAL | | 723 | 47% | 830 | 53% | 1553 |

TABLE 3. Overt vs. null subjects in Nina's first 12 recording sessions.

⁵ Some sort of grammatical vs. chronological index of development is of course necessary because, as illustrated by Figs. 1–8, there was substantial variation regarding the AGE of onset of overt subject use (e.g. 1;8 in the case of Pep and 2;2 in the case of Laura) in the children studied here.

⁶ Notice that while Spanish has richer inflectional morphology than English, it has many fewer overt subjects. Consequently, MLU comparisons between these two languages may be roughly on the right track, while this is less obviously the case between Spanish and German, which has overt subjects and rich inflection.

Percentages like these contrast dramatically with the complete absence of overt subjects in child Catalan, Spanish, and Italian.

While Nina's first recordings occur at 1;11 with an MLU of 1.78, there is a younger English-speaking child, with a lower MLU, who also uses overt subjects. Eve from the Brown corpus (CHILDES database, *ibid.*) used overt subjects at least optionally in her earliest recording session, in which her age was 1;6 and her MLU was 1.52. This MLU falls in the middle of the range of child Catalan-speakers' MLUs (1.25, 1.43, 1.56, 1.67), making her extremely comparable to them. Some of her utterances are illustrated in 11.

- (11) Eve (Age: 1;6.0, MLU:1.52)
- a. Block broke.
 - b. I did it.
 - c. Eve find it.
 - d. Neil sit?
 - e. Car coming.
 - f. Doll eat celery.

In this recording session, Eve used overt subjects 40% of the time (42/106), in contrast with null subjects which she used 60% of the time (64/106). It thus seems clear that overt subjects are used frequently at an MLU in child English at which overt subjects do not occur in child Catalan.

Similarly, child speakers of French and Dutch appear to use overt subjects at similar MLUs. For example, Gregoire from the Champaud corpus (CHILDES database, *ibid.*) used overt subjects in his earliest recording sessions, as in 12.⁷

- (12) Gregoire (1;9.18)
- a. Est bobé [= tombé] éfant.
'Is fallen elephant.'
 - b. Est pas là Zounours.
'Is not there Zounours.'
 - c. Où il est?
'Where is he?'

Gregoire was quite young at the time of the recording session in question, and he is the youngest French-speaking child in the CHILDES database. His MLU in his earliest session in the database was 2.11, the lowest of the French-speaking children in CHILDES. This MLU is somewhat higher than that of the Catalan-speaking children, but it nonetheless suggests that the child was using overt subjects at a very early age.

Similarly, Katrina, a child speaker of German, (Wagner 1985, CHILDES, *ibid.*) also used overt subjects from a very early age (1;5.15; see ex. 13). In this recording session, her earliest, Katrina's MLU was 2.01; this is also somewhat higher than that of the Catalan children, but it is close.

- (13) Katrina (1;5.15)
- a. Papa eibt.
'Papa is writing.'
 - b. Ei ißt Papa.
'Egg, eats Papa.'
 - c. Datin macht baput.
'Katrina makes broken.' [Katrina breaks it.]

⁷ Phillipe of the Suppes et al. 1973 corpus had an MLU of 3.01 in his earliest recording session and was thus not an appropriate choice for comparison with the grammatically younger Catalan children.

In child Dutch, there is a very close MLU match to the Catalan-speaking children in the speech of Peter (Groningen corpus, CHILDES, *ibid.*). Peter's MLU was 1.68 at the age of 1;9.20. In this recording session, he produced many verbal utterances with overt subjects, some of which are illustrated in 14.

- (14) Peter (1;9.20)
- a. Peter doen.
Peter do.INF
'Peter to do.'
 - b. Mama roere.
Mama stir.INF
'Mama to stir.'
 - c. Peter duwen.
Peter push.INF
'Peter to push.'
 - d. Peter vangen.
Peter catch.INF
'Peter to catch.'

In summary, it appears to be the case that at similar MLUs, children speaking overt subject languages use overt subjects while children speaking Spanish and Catalan do not. I take this to be evidence of fundamentally different developmental sequences in the two language groups.

5. A PREVIOUS ACCOUNT AND THE CURRENT PROPOSAL. One proposal for explaining the facts in child Catalan, Spanish, and Italian within the framework of generative grammar was advanced in Grinstead 1994 and 2000a; it argues that overt subjects are missing in the early stage because nominative case-checking is impossible. This seemed plausible in light of the fact that overt subjects seemed to emerge at the same point at which tense and number morphology began to be used in much more adult-like ways. There are, however, two important problems with this earlier formulation.

The first problem is that, as shown above, overt subjects begin to be used much earlier in overt subject languages, in spite of the fact that tense and number appear to be similarly unspecified early on (see Grinstead 2000a for details). Consequently, the account of the absence of overt subjects in Spanish, Catalan, and Italian cannot be extended to the overt subject languages, which appear to have at least some overt subjects present from the earliest moments of two-word speech. A language-particular theory of subject-licensing is clearly undesirable if there is one universal subject-licensing principle, as is frequently assumed (Chomsky 1981, 1995, Schütze 1997, Rothstein 1983, Marantz 1991).

A second weakness in the case-based account is that the early ban on overt subjects does not follow naturally from the null subject nature of the adult target grammar. Such a formulation would be desirable because it would capture the generalization that this phenomenon is limited to null subject languages.

In what follows, I attempt to construct an account along these lines by claiming that the early absence of overt subjects results from the child grammar possessing only a subset of the adult system. Thus, the adult grammar consists of the child grammar plus an additional component. What child and adult grammars have in common is that they are both pronominal argument subject languages. In languages of this type, the incorporated pronominal subject in the head of agreement satisfies the case and theta

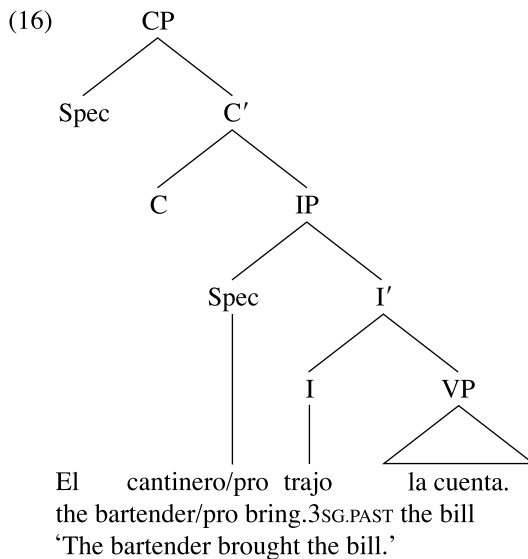
requirements of the subject. I refer to this parametric option as the PRONOMINAL ARGUMENT SUBJECT PARAMETER (PASP).⁸

- (15) PRONOMINAL ARGUMENT SUBJECT PARAMETER: Overt subject licensing may permit subjects either in the specifier of IP or in its head.

I propose that, like Arabic and other languages, Spanish and Catalan realize overt subjects pronominally on the verb and that this pronominal subject is licensed by the same mechanism that licenses subjects in [Spec, IP] in English and French.⁹ I assume, by economy, that if the subject can be expressed in the head of agreement, it cannot be expressed in its specifier as well. I assume that children set this parameter to the adult value very early and are, consequently, like adults in that their grammars cannot express overt subjects in [Spec, IP]. I further argue that in adult Catalan and Spanish, the nonpronominal correlate to the pronominal argument subject (referred to as the overt subject in Catalan and Spanish up until now) occurs in topic or focus position in the left periphery of clause structure. This is the aspect of the adult grammar that I claim children lack. Thus, the child A-bar system is generally unavailable to host topicalized or focused constituents, including correlates of the pronominal argument subject. Once the A-bar system becomes generally available, these subjects and other topicalized and focused constituents begin to be used.

6. SUBJECTS AS LEFT-PERIPHERAL ELEMENTS IN CATALAN AND SPANISH.

6.1. PRELIMINARIES. Why should one believe that overt subjects are left-peripheral (CP) constituents? Ordóñez (1997) presents arguments from ellipsis, negative quantifier extraction, and quantifier scope against the predominant idea in generative syntax (Belletti 1990, Rizzi 1990, Cardinaletti 1996) that overt subjects occupy the specifier of IP, as in 16.



⁸ This follows in the spirit of Ordóñez 1997, Fassi-Fehri 1993, Baker 1996, and Jelinek 1984.

⁹ For more on the consequences of this claim for the status of 'optional infinitives' in child southern Romance, see Grinstead 1998.

This predominant approach assumes that when direct objects and indirect objects are preposed, as in 17 and 18, these constituents are IP-external and that [Spec, IP] is occupied by *pro* or the overt subject.

- (17) Las llaves [_{IP} *pro* se las dio Juan a Pedro.]¹⁰
 the keys cl.DAT cl.ACC give.3SG.PAST Juan to Pedro
 ‘It was the keys that Juan gave Pedro.’
- (18) A Pedro [_{IP} *pro* le dio Juan las llaves.]
 to Pedro cl.DAT give.3SG.PAST Juan the keys
 ‘It was Pedro that Juan gave the keys to.’

While the preverbal objects in 17 and 18 are assumed to be IP-external, the preverbal overt subject of a sentence such as 19 is taken to be IP-internal.

- (19) [_{IP} Juan/*pro* le dio las llaves a Pedro.]
 Juan/*pro* cl.DAT give.3SG.PAST the keys to Pedro
 ‘Juan/*pro* gave the keys to Pedro.’

Ordóñez argues that this asymmetrical treatment of subjects and objects conflicts with evidence from ellipsis and extraction of quantificational elements.

6.2. ELLIPSIS. Following Brucart (1987), Ordóñez points out that VP ellipsis under certain particles (*también* ‘also’, *tampoco* ‘neither’, *sí* ‘yes’, and *no* ‘no’) seems to treat the first position of the sentence the same way regardless of whether the element in the first position is a subject, as in 20, a direct object, as in 21, or an indirect object, as in 22 (the material deleted by ellipsis appears within square brackets).

- (20) Él le dio unos libros a Pía y Pepe también [le
 he cl.DAT.SG give.3SG.PAST some books to Pía and Pepe also cl.DAT.SG
 dio unos libros a Pía].
 give.3SG.PAST some books to Pía.
 ‘He gave some books to Pía and Pepe did, too.’
- (21) Unos libros le dio Juan a Pía y unos cuadros
 some books cl.DAT.SG give.3SG.PAST Juan to Pía and some paintings
 también [le dio Juan a Pía].
 also cl.DAT.SG give.3SG.PAST Juan to Pía.
 ‘Juan gave some books to Pía and some paintings, too.’
- (22) A Pía le dio Juan unos libros y a Sara también
 to Pía cl.DAT.SG give.3SG.PAST Juan some books and to Sara also
 [le dio Juan unos libros].
 cl.DAT.SG give.3SG.PAST Juan some books
 ‘Juan gave some books to Pía and (some) to Sara also.’

If the same constituent is elided in every example, as seems plausible, then it would appear that the subject is as IP-external as objects are. That is, ellipsis does not appear to treat first position as if it were IP-internal for subjects, as in 23, and IP-external for objects, as in 24, but rather as if it were the same for both subjects and objects, as in 25. Ordóñez indeed proposes that, when preposed, all of these elements move to a single IP-external topic position, as in 25.

- (23) Preposed subjects: [_{IP} subject [_{VP} . . .]]
- (24) Preposed objects: [_{Topic} DO/IO [_{IP} subject [_{VP} . . .]]
- (25) [_{Topic} XP(subject/DO/IO) Top] V

¹⁰ Here and throughout ‘cl’ stands for clitic (a weak pronoun).

Evidence from ellipsis thus supports the proposal that preverbal subjects occur external to IP in the left periphery.

6.3. NEGATIVE QUANTIFIER EXTRACTION. Additional evidence provided by Ordóñez for the proposition that preverbal overt subjects do not inhabit [Spec, IP] comes from negative quantifiers. Negative quantifier subjects, direct objects, and indirect objects can all occur in preverbal position, as in 26 through 28.

- (26) Nadie le debe la renta a María.
no.one cl.DAT.SG owe.3SG.PRES the rent to María
'No one owes rent to María.'
- (27) Nada les debe Juan a sus amigos.
nothing cl.DAT.PL owe.3SG.PRES Juan to his friends
'Juan does not owe anything to his friends.'
- (28) A nadie le debe Juan la renta.
to no.one cl.DAT.SG owe.3SG.PRES Juan the rent
'Juan owes rent to no one.'

Again, the predominant assumption has been that overt subjects occupy [Spec, IP]. This assumption implies that the structure of the fronted negative quantifier sentences in 26–28 would be as in 29–31, where the fronted objects in 30 and 31 are IP-external and the fronted subject in 29 is IP-internal.

- (29) [_{IP} Nadie le debe la renta a María]
no.one cl.DAT.SG owe.3SG.PRES the rent to María
'No one owes rent to María.'
- (30) Nada [_{IP} pro les debe (Juan) a sus amigos.]
nothing cl.DAT.SG owe.3SG.PRES (Juan) to his friends
'There is nothing that Juan owes to his friends.'
- (31) A nadie [_{IP} pro (le) debe (Juan) la renta.]
to no.one (cl.DAT.SG) owe.3SG.PRES (Juan) the rent
'There is no one to whom Juan owes the rent.'

If the structures in 30 and 31 were correct, it would be difficult to explain 33 and 35, where negative quantifier objects cannot occur with a preverbal subject. Examples 32 and 34 illustrate that such utterances are possible with postverbal subjects.

- (32) Nada le debe Juan a sus amigos.
nothing cl.DAT.SG owe.3SG.PRES Juan to his friends
'Juan owes nothing to his friends.'
- (33) *Nada Juan le debe a sus amigos.
nothing Juan cl.DAT.SG owe.3SG.PRES to his friends
'Juan owes nothing to his friends.'
- (34) A nadie le debe Juan la renta.
to no.one cl.DAT.SG owe.3SG.PRES Juan the rent
'Juan owes the rent to no one.'
- (35) *A nadie Juan le debe la renta.
to no.one Juan cl.DAT.SG owe.3SG.PRES the rent
'Juan owes the rent to no one.'

The examples in 32–35 can be explained as cases in which there is one left-peripheral position to which both preverbal subjects and fronted objects move. Now let us turn to evidence from quantifier scope from Ordóñez 1997 which strengthens the case that overt subjects are in a left-peripheral position.

6.4. QUANTIFIER SCOPE. English and Spanish contrast with respect to the availability of narrow and wide scope readings between a subordinate clause universal quantifier and a WH-element that has been extracted from that subordinate clause. Thus, both readings are available in English, as illustrated in 36, where the interpretation may be either that there is one thing that everyone bought (narrow scope) or that each person bought a different thing (wide scope).

(36) What do you think that everyone bought? (May 1985)

In Spanish, however, both readings are available only when the universal quantifier subject is postverbal (as pointed out in Uribe-Etxebarria 1992).

(37) ¿A quién dices que amaba cada
to whom said.2SG.PRES that love.3SG.PAST each
senador?—**wide and narrow**
Senator

‘Who did you say each Senator loved?’

(38) ¿A quién dices que cada senador
to whom said.2SG.PRES that each Senator
amaba?—**narrow only (1 loved person)**
love.3SG.PAST

‘Who did you say each Senator loved?’

This is explained if the universal quantifier in preverbal position is in an A-bar position, given the fact that wide scope interpretations are frequently denied to elements that have been topicalized. In 39, from Lasnik & Uriagereka 1988, there exists, marginally, a wide scope interpretation meaning that for each problem Mary solved, a different person thinks she did so.

(39) Someone thinks that Mary solved every problem.—**wide and narrow**

(40) Someone thinks that every problem, Mary solved.—**narrow only (one someone)**

This marginal, but possible, wide scope interpretation is completely impossible in 40. This contrast constitutes further evidence that preposed subjects in Spanish occur in A-bar position.

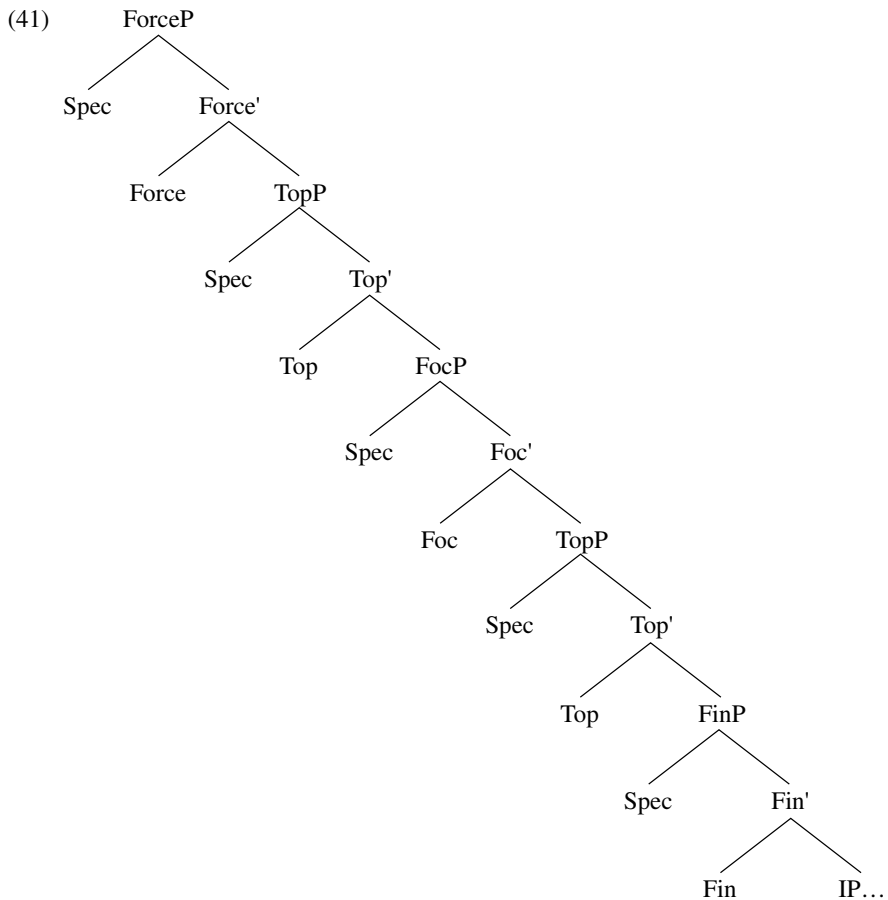
The predominant assumption in generative approaches to southern Romance syntax, that overt subjects occur in [Spec, IP], is thus unsupported by the parallel ellipsis facts between constructions with preverbal subjects and constructions with preverbal objects. Moreover, I have presented evidence that the position occupied by overt subjects displays the same properties as that of left-dislocated objects, lending credence to Ordóñez’s proposal that all of these arguments occupy a left peripheral (A-bar) position when they occur in the preverbal environments described.

7. SUBJECTS AS TOPICS. The evidence just presented leads to the conclusion that overt, preverbal subjects are IP-external in Spanish. Ordóñez suggests that the same holds true for Catalan. So now the question becomes: where on the left periphery do these constituents reside? Let us begin by laying out our assumptions regarding the structure of the left periphery.

Rizzi (2000) postulates that the functional projection referred to as CP is in fact made up of four separate projections, much in the same way Pollock (1989) argued that IP should be broken down into smaller atomic units. The LEFT PERIPHERY (LP) in this view serves as a kind of interface between the clause and its superordinate structure (either a matrix clause in the case of subordinate clauses or the larger discourse for

root clauses). The LP is made up of two obligatory projections (Force P and Finiteness P) as well as two optional projections (Topic P and Focus P). Force P is the outward-facing projection that indicates the clause's type, as in Cheng 1991, and Finiteness P is the projection that more directly reflects clause-internal properties, such as whether or not a clause is tensed. In between these two obligatory projections, Rizzi proposes that there are a Topic P and a Focus P, which are projected only when the clause contains either a focused element or a topicalized element. The basic structure of the left-periphery in this view is as in 41.

According to Rizzi, topicalized elements move to the specifier of TopP, a functional projection which takes a 'comment' as its complement. Focused elements, similarly, move to the specifier of the FocP, a functional projection that takes a presupposition as its complement. WH-elements also move to the specifier of FocP. Movement to these positions is forced by the economy principle *LAST RESORT*, hypothesized in Chomsky 1995, in order to satisfy criteria such as the *WH-CRITERION* in Rizzi 1991, the *NEGATION CRITERION* in Hægeman 1995, and the *CLITIC CRITERION* in Sportiche 1992.¹¹



¹¹ The fact that TopP occurs twice in 41 results from the fact that more than one topic per sentence is possible, while only one focus is possible.

Assuming Rizzi's framework for concreteness, let us return to the question of where in the left periphery overt subjects sit. Ordóñez argues on the basis of the quantifier scope data that they appear to be in an A-bar position, which he assumes to be the topic position. The status of subjects occurring in topic position, however, is disputed.

As Rizzi (1986) points out, topics do not appear to support quantifiers, as illustrated in 42, 43, and 44.

(42) Italian

*Nessuno, lo ho visto.
no.one cl.ACC have.1SG.PRES see.PART
'No one, I saw him.'

(43) Catalan

*A ningú, el vaig veure.
no.one cl.ACC go.1SG.PRES see.INF
'No one, I saw him.'

(44) Spanish

*A nadie, lo vi.
no.one cl.ACC see.1SG.PAST
'No one, I saw him.'

Rizzi distinguishes topics from focus constructions on the basis of two further diagnostics: the occurrence of a clitic and intonation. According to Rizzi, topics carry a clitic and have an unmarked intonational pattern. Their focus counterparts, as in 45–47, on the other hand, require increased phonological prominence on the focused constituent and exclude the possibility of a clitic.

(45) Italian

NESSUNO ho visto.
no.one have.1SG.PRES see.PART
'NO ONE I saw.'

(46) Catalan

A NINGÚ vaig veure.
no.one go.1SG.PRES see.INF
'NO ONE I saw.'

(47) Spanish

A NADIE ví.
no.one see.1SG.PAST
'NO ONE I saw.'

Rizzi accounts for the ungrammaticality of 42–44 by claiming that topics cannot be quantificational. If this is true, then Ordóñez's proposal that preverbal subjects are topics seems less plausible in light of the fact that negative quantifiers may occur in preverbal subject position, as in 48.

(48) Nadie comió las manzanas.
no.one eat.3SG.PAST the apples
'No one ate the apples.'

In response to this objection, Ordóñez argues that the ungrammaticality of 42–44 results not from the inability of quantifiers to occur in topic position, but rather from the incompatibility of accusative clitics and negative quantifiers, citing analogous evidence of the incompatibility of accusative clitics with negative quantifiers in clitic-

doubling constructions in Romanian (Dobrovie-Sorin 1990) and River Plate Spanish (Suñer 1988).

Thus, Ordóñez presents evidence that overt subjects occur IP-externally and claims that they move to topic position. While this claim is not uncontroversial, the evidence from ellipsis, negative quantifier extraction, and quantifier scope suggests that topic position is a likely landing site for subjects.

8. THE EMERGENCE OF THE LEFT PERIPHERY IN CHILD SPANISH AND CATALAN. The hypothesis being put forward here, then, is that overt subjects do not show up in child Catalan, Spanish, or Italian because these languages do not have overt subjects, where OVERT SUBJECT is defined as the element that occurs in [Spec, IP]. Rather, the overt nominal elements that are used in a subject-like way in these languages are located in the left periphery in Rizzi's (2000) topic-focus field, which is not active in the beginning. Perhaps this should not come as a surprise given that these projections are optional even in adult clause structure by Rizzi's hypothesis. I claim that these projections are inactive in child Catalan and Spanish as a result of child grammars being generally unable to access discourse competence.

If overt subjects occur in the topic-focus field and if their absence in early language results from the initial inactivity of this field, then one would expect other topic and focus-related constituents to be absent at the same time. Further, if there is one underlying discourse deficit bleeding the occurrence of these constituents, then one might expect the emergence of discourse sensitivity to precipitate the emergence of all topic-focus constructions at the same time, all else being equal. We turn now to an empirical investigation of this prediction.

The first constructions whose emergence is compared with overt-subject emergence are topicalized objects. When searching the child Spanish and Catalan data for topicalized objects, I used cooccurrence with a coreferent clitic, following Rizzi 2000, as the criterion for determining whether a fronted object was topicalized (in which case it cooccurred with a clitic) or was focused (in which case it did not cooccur with a coreferent clitic). However, for reasons presented below, I instead refer to topicalized objects more neutrally as 'fronted objects with clitics'. Some examples are given in 49–53.

Fronted objects with clitics

(49) Guillem (2;9.8)

Aquest ho trec, vale?
 this one cl.ACC.SG.M take out.1SG.PRES okay
 'This one I'll take out, okay?'

(50) Gisela (2;8.0)

A mi no m'agrada.
 to mi not cl.DAT please.3SG.PRES
 'I don't like it.'

(51) Gisela (2;11.0)

A l'altra noia li donarem un bebe.
 to the-other girl cl.DAT.3SG give.2PL.FUT a baby
 'To the other girl, we will give a baby.'

(52) Pep (2;5.4)

Això ja ho hem fet!
 that already cl.ACC.SG.M have.1PL.PRES do.PART
 'That, we have already done.'

(53) Laura (3;5.13)

Es que a mi no em va be aquest
be.3SG.PRES that to me not cl.BEN.1SG go.3SG.PRES well that
espinete.

espinete (name of doll)

'It's that that "espinete" doesn't work well for me.'

(54) Graciela (2;3.25)

Ese, no lo agarre.
that not cl.ACC.1SG grab.2SG.IMP

'That, don't grab.'

Thus, direct objects have been fronted in 49, 52, and 54, indirect objects in 50, 51, and 53. All include a clause-initial DP as well as a coreferent clitic lower in the clause.¹²

| | OVERT SUBJECTS | FRONTED OBJECTS WITH CLITICS |
|---------|-------------------|---------------------------------|
| Gisela | 2;1.23 | 2;8.0 |
| Guillem | 1;11.13 | 2;9.30 |
| Laura | 2;4.11 | 3;5.13 |
| Pep | 1;10.6 | 2;5.4 |

TABLE 4. The emergence of overt subjects and fronted objects with clitics in child Catalan.

| | OVERT SUBJECTS | FRONTED OBJECTS WITH CLITICS |
|----------|-------------------|---------------------------------|
| Eduardo | 1;11.29 | — |
| Graciela | 2;1.26 | 2;3.25 |
| Carlos | 1;10.13 | — |

TABLE 5. The emergence of overt subjects and fronted objects with clitics in child Spanish.

In Tables 4 and 5, one may compare the point of emergence of fronted objects with that of clitics with overt subjects.¹³ The criterion used to determine emergence in this instance was first occurrence of a nonrepeated topicalization. It seems that overt subjects appear significantly earlier than do these fronted objects with clitics.

The question arises, however, as to whether these constructions in fact constitute the first occurrence of topicalizations. It could be that topicalizations occur earlier, but do not appear to be topicalizations because they lack object clitics, which are our only means of distinguishing topicalizations from focalizations in the transcripts.¹⁴ In such a view the development of object clitics would be seen as independent of the ability to topicalize.

What do we know about the early occurrence of clitics in southern Romance languages? Guasti (1994) and Grinstead (2000b) note that child speakers of Catalan, Spanish, and Italian appear to use clitics correctly from the beginning in the sense that they do not commit errors of commission, such as using an accusative in the place of a dative, as in the unattested 55.

¹² In 53, the topicalized DP occurs in the left periphery of the subordinate clause.

¹³ Only one of the Spanish-speaking children, Graciela, used a fronted object of any kind. When more of this database is transcribed, the results for Spanish may be made clearer.

¹⁴ This is so because the transcripts provide no indication of increased phonological prominence of any of the fronted constituents, making it impossible to use prosodic information as a further diagnostic of whether a fronted object has been topicalized or focused.

- (55) Lo di el chocolate a Miguel.
 cl.ACC.SG.M give.1SG.PAST the chocolate to Miguel
 'I gave the chocolate to Miguel.'

Nonetheless, it has also been shown that Italian-speaking children do not always use object clitics where they are required. Hence, children do commit errors of omission. For instance, Schaeffer (2000) conducted an elicited-production experiment in which the youngest group of children (2-year-olds) failed to produce accusative clitics in obligatory contexts 64% of the time. These same children used a full DP without a clitic as an alternative strategy 14% of the time and correctly produced accusative clitics 22% of the time. These results suggest that for 2-year-old Italian speakers, object clitics are optional and, in fact, not preferred.

In light of this optionality of clitic use, what might one expect 2-year-old topicalizations to look like? In the absence of prosodic information regarding the loudness of the fronted object, topicalizations without clitics would look just like focused object constructions, as in 56–60.

Fronted objects without clitics

- (56) Laura (2;4.11)
 Un gorro ara trec.
 a hat now take out.1SG.PRES
 'A hat, I'll take out now.'
- (57) Pep (1;10.6)
 Lleteta vol.
 milk want.3SG.PRES
 'Milk, he wants.'
- (58) Pep (2;3.10)
 Pernil dolç menja el tigre.
 ham sweet eat.3SG.PRES the tiger
 'Ham, the tiger eats.'
- (59) Guillem (2;7.25)
 Això no vull jo.
 that not want.1SG.PRES I
 'That, I don't want.'
- (60) Graciela (2;3.25)
 Eso, no agarre.
 that not grab.2SG.IMP
 'That, don't grab.'

The examples in 56–60 are of fronted objects with no lower coreferent clitic. Such utterances are significant because they begin to be used in PRECISELY the same recording session as overt subjects do for three of the four Catalan-speaking children studied, as illustrated in Table 6. For the one child who had fronted objects arise four months later (and not in exactly the same session as the first overt subject), I used a binomial test to determine the probability of a fronted object occurring before the onset of overt subjects, given the relative frequencies of overt subjects and fronted objects, once fronted objects began to be used. This test, for Laura, showed that there was no significant difference between the onset of fronted objects and the onset of overt subjects in her speech ($p = 0.596$). Because four children in the study were evaluated, a Bonferroni

correction was applied, though the result would also be nonsignificant if alpha equaled 0.05.¹⁵

| | OVERT SUBJECTS | FRONTED OBJECTS WITHOUT CLITICS |
|---------|-------------------|------------------------------------|
| Gisela | 2;1.23 | 2;1.23 |
| Guillem | 1;11.13 | 1;11.13 |
| Laura | 2;4.11 | 2;8.30 |
| Pep | 1;10.6 | 1;10.6 |

TABLE 6. The emergence of overt subjects and fronted objects without clitics in child Catalan.

These results provide strong confirmation of our hypothesis. The close correlation between the emergence of overt subjects and fronted objects is suggestive of a single underlying cause. I assume that this is the result of the emergence of the topic and/or focus projections, to which both constituents move.

In Table 7, we see that Graciela, the one Spanish-speaking child to use any fronted objects, produced her first fronted object two months after she produced her first overt subject.¹⁶ This relatively longer delay between the onset of overt subjects and the onset of fronted objects may be due the low frequency of fronted objects in the child Spanish data (Graciela produced four fronted objects as compared to approximately ten per Catalan child).

| | OVERT SUBJECTS | FRONTED OBJECTS WITHOUT CLITICS |
|----------|----------------|------------------------------------|
| Eduardo | 1;11.29 | — |
| Graciela | 2;1.26 | 2;3.25 |
| Carlos | 1;10.13 | — |

TABLE 7. The emergence of overt subjects and fronted objects with clitics in child Spanish.

While one cannot say definitively that the fronted objects that begin to be used at the same time as overt subjects are topics and not focused elements, it remains a distinct possibility in light of the clitic-development facts.

Further evidence that at least some of the fronted objects without clitics are actually topicalizations with unrealized clitics comes from the fact that topicalizations with clitics appear at the point at which clitic use in general becomes much more frequent. According to Schaeffer's experimental results, clitic OMISSION by the child Italian-speaker she studied plummeted from 64% at 2 years old to 15% at 3 years old. Similarly, correct usage of an overt accusative clitic rose from 22% at 2 years old to 62% at 3 years old. Keeping in mind that chronological ages vary with respect to grammatical development, one would therefore expect the occurrence of clitics in topicalizations to dramatically increase between 2;0 and 3;0. Indeed, we see in Table 8 that fronted objects with clitics begin to be used between 2;0 and 3;0. This contrasts with fronted objects without clitics, which begin to be used substantially earlier, as seen in Table 9. Again, Graciela's four fronted objects all occur in one recording session, which I attribute to the overall infrequency of fronting in her sample.

¹⁵ The Bonferroni correction divides alpha (.05) by 4 (for the four children), producing 0.125 as the threshold below which the probability would have to fall before being considered significant. This is necessary to ensure that the likelihood of any of the four children reaching significance purely by chance is only 0.05. My thanks to William Snyder for his help with this test.

¹⁶ Because Graciela's one fronted object was produced in the very last recording session considered here, the binomial test, which requires information about later fronted object use, could not be used.

| | FRONTED OBJECTS WITHOUT CLITICS | FRONTED OBJECTS WITH CLITICS |
|---------|------------------------------------|---------------------------------|
| Gisela | 2;1.23 | 2;8.0 |
| Guillem | 1;11.13 | 2;9.30 |
| Laura | 2;8.30 | 3;5.13 |
| Pep | 1;10.6 | 2;5.4 |

TABLE 8. The emergence of fronted objects with and without clitics in child Catalan.

| | FRONTED OBJECTS WITHOUT CLITICS | FRONTED OBJECTS WITH CLITICS |
|----------|------------------------------------|---------------------------------|
| Eduardo | — | — |
| Graciela | 2;3.25 | 2;3.25 |
| Carlos | — | — |

TABLE 9. The emergence of fronted objects with and without clitics in child Spanish.

But how can one discern whether fronted objects without clitics are topicalized or focused? If early fronted-object constructions include at least some topicalizations with unrealized clitics in the early stages of development, fronted objects should occur without clitics only in the beginning and should begin to be used with clitics later. For three of the four children in question, this prediction is borne out. Thus, Guillem (Figure 9), Laura (Figure 10), and Pep (Figure 11) all have early occurrences of fronted objects without clitics which are later joined by occurrences of fronted objects both with and without clitics.

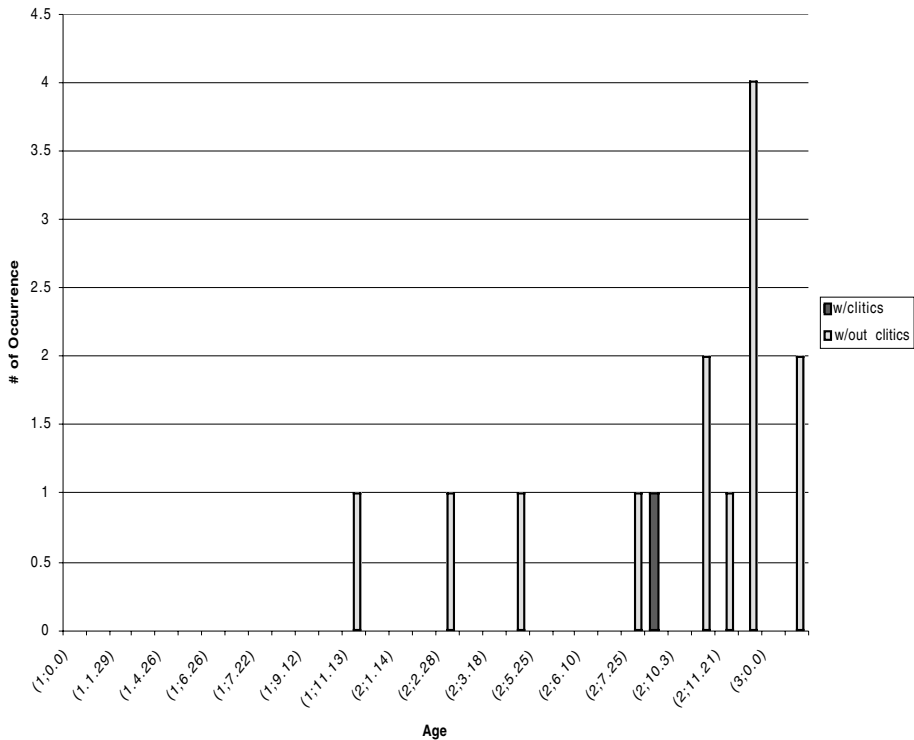


FIGURE 9. Guillem's use of fronted objects (Catalan).

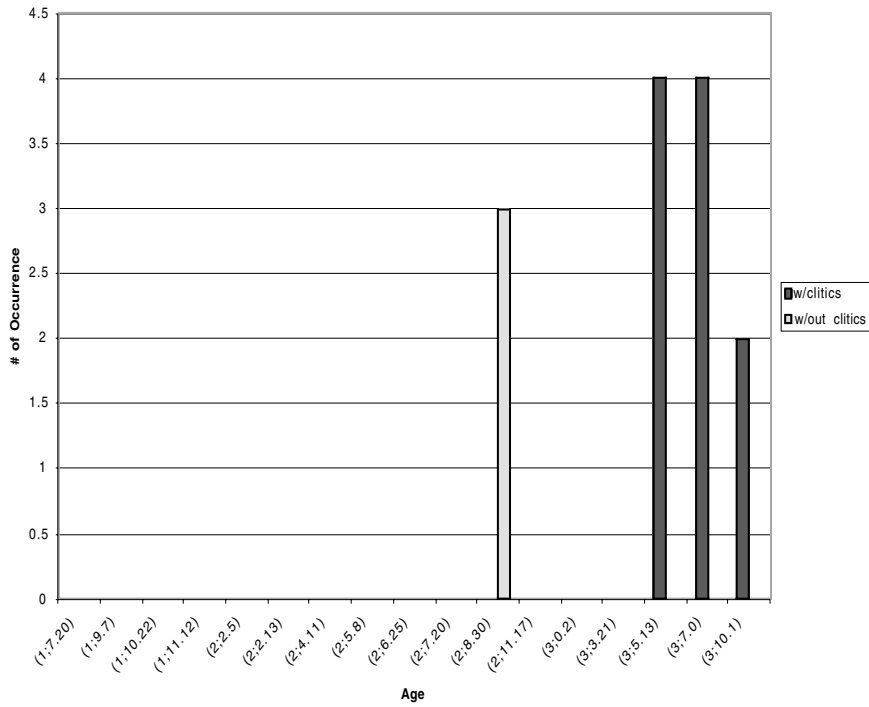


FIGURE 10. Laura's use of fronted objects (Catalan).

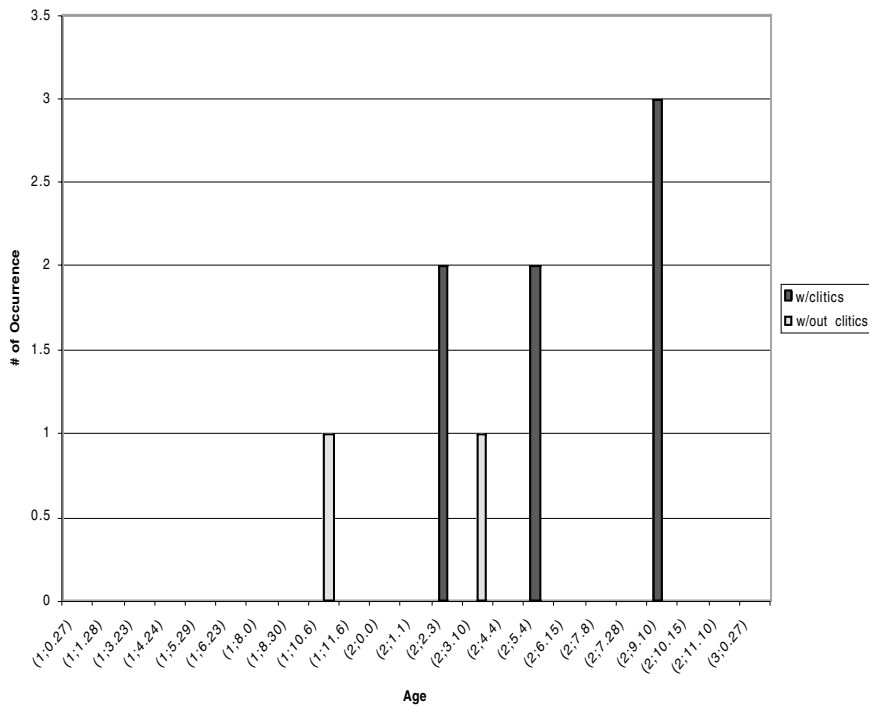


FIGURE 11. Pep's use of fronted objects (Catalan).

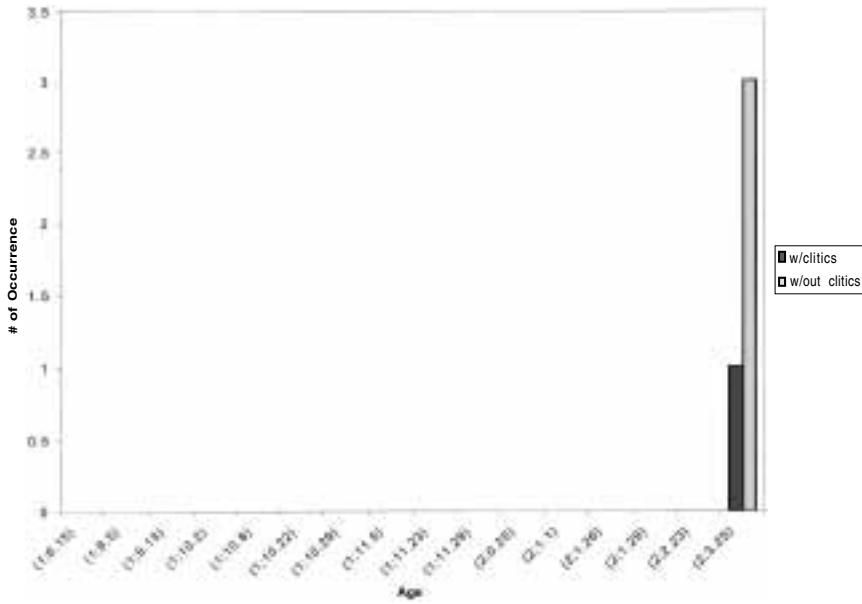


FIGURE 12. Graciela's use of fronted objects (Spanish).

Graciela (Figure 12), the lone Spanish speaker to produce fronted objects, and Gisela (Figure 13) begin to produce fronted objects both with and without clitics in the same session. Notice that they both produce twice as many fronted objects without clitics as fronted objects with clitics in the first session. This can be seen as consistent with the trend established by the other three children.

In summary, the available data confirms the hypothesis that children begin to use topicalized objects at the same time that they begin to use overt subjects. The initial impression that topicalized objects begin to be used before focused objects appears to be mistaken in light of the fact that more adult-like clitic use coincides with the onset of fronted objects with clitics, and that early uses of fronted objects without clitics appear to precede and later be joined by fronted objects with clitics. If this assumption is correct and topicalizations are used early and are simply clitic-less, then a left-peripheral topic position may begin to be used for fronted objects at the same time that overt subjects begin to occupy the same position.¹⁷

Another construction that Rizzi assumes to involve movement to the left periphery is WH-movement. Rizzi assumes that WH-elements move to the specifier of Focus P.¹⁸ WH-questions also emerge at the same time as overt subjects, though not as closely as

¹⁷ Note that Rizzi (2000) assumes that Topic P is recursive. In this way the simultaneous occurrence of a fronted object and an overt subject in a single sentence, as in (i), is possible.

(i) Això nosaltres no vam menjar.
that we not aux.1PL eat.INF
'That we didn't eat.'

¹⁸ Intuitively, this seems consistent with Rizzi's assertion that Focus P takes a presupposition as its complement. Thus, WH-questions all involve a certain kind of presupposition, as in the following examples.

WH-questions and their presuppositions

- (i) Who left?—Someone left.
- (ii) Why did you hit me?—You hit me.
- (iii) What did he say?—He said something.

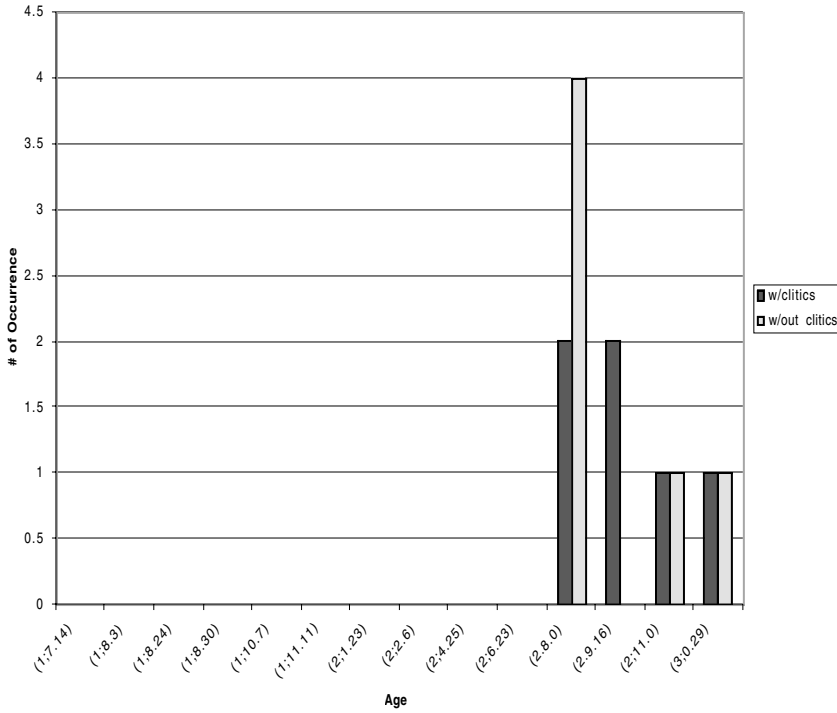


FIGURE 13. Gisela's use of fronted objects (Catalan).

| | OVERT SUBJECTS | WH-MOVEMENT |
|---------|----------------|-------------|
| Laura | 2;4.11 | 2;4.11 |
| Pep | 1;10. | 1;11.6 |
| Guillem | 1;11.13 | 2;2.28 |
| Gisela | 2;1.23 | 2;8.0 |

TABLE 10. Onset of left-peripheral elements in child Catalan.

fronted objects do. Table 10 shows that with the exception of Gisela, the onset of WH-questions was quite close to the onset of overt subject use in the four Catalan-speaking children. Given that one of the four children (Laura) used her first overt subject in the same recording session as her first WH-question, I applied the same binomial test mentioned earlier (again with the Bonferroni correction) to the remaining three children: Pep, Guillem, and Gisela. For Pep, there was no significant difference between the onset of overt subject use and the onset of WH-question use ($p = 0.248$), nor was there for Guillem ($p = 0.051$). For Gisela, however, there was a significant difference ($p < 0.00001$).

In the child Spanish data, all of the interrogatives produced were yes-no questions and as such do not involve XP movement to the left periphery. Thus, they are not informative regarding the question at hand.¹⁹

¹⁹ The one WH-question produced by all three of the Spanish-speaking children was '¿Dónde está?' or 'Where is it?'. The fact that it was the same question for all the children in all cases makes it likely that these were lexicalized units and not syntactically generated. Consequently, they were not counted as WH-questions.

If *WH*-elements move to the specifier of Focus P while overt subjects and fronted objects (topics) move to the specifier of Topicalization P, then it appears that these two projections emerge at roughly the same time. It may be that TopP is activated slightly before FocP. Because the evidence is not completely clear in this regard, however, I simply assume that the topic-focus field is initially inactive.

Thus far, I have attempted to show that overt subjects and less-controversially left-peripheral constituents such as *WH*-questions and fronted objects begin to be used at the same time in child Catalan and Spanish. I have also shown that overt subjects appear to be used at a much earlier grammatical and chronological age in the overt subject languages English, French, Dutch, and German. This argument would be strongest, of course, if I could show that in the overt subject languages overt subjects begin to be used before *WH*-elements and fronted objects. While I am unable to demonstrate this in a careful manner for all of these languages here, it appears to be the case that the two monolingual child Dutch-speakers described in van Kampen 1997 do indeed begin producing overt subjects well before *WH*-elements or topicalized objects (van Kampen, p.c.).

9. TOPIC-FOCUS DELAY AND THEORIES OF DELAY. In support of the proposal that topicalized subjects, objects, and *WH*-elements begin to move to the left periphery at the same time, we have seen that their onsets are very close in time, and that prior to this emergence, these elements are not used. There are a number of current theoretical proposals that might plausibly account for the early absence of these elements. The first is what one might call the *NO-CP* hypothesis, variants of which have been proposed by Radford (1990), Clahsen (1990), and Meisel and Müller (1992). What these proposals hold in common is the idea that the entire C projection is initially absent from clause structure. If this is correct, we would have an explanation for the parallel absence and simultaneous emergence of overt subjects, focused objects, and *WH*-questions, because there would be no landing sites for these elements to move to.

Another theoretical account that might explain the phenomenon in question is Rizzi's (1994) *TRUNCATION* hypothesis. This hypothesis is geared toward explaining the occurrence of root infinitives in child language, which it accounts for by suggesting that children may truncate their clause structure at any point below CP. The IP and CP layer are thus optionally absent in child grammar. This explains the appearance of verbs without inflectional material, as in root nonfinite verbs. In support of this analysis, Rizzi points out that if children did possess a higher node in their clause structure in root infinitive constructions, one might expect to find at least some root infinitives occurring in *WH*-questions. However, these are unattested (Roeper & Rohrbacher 1994). It is important to point out that, unlike the *no-CP* proponents, Rizzi does not argue that the C-system is categorically unavailable. Rather, children may produce either a truncated clause or a full clause at the same stage of development. This point is crucial because root infinitives occur in child grammars at the same time that finite verbs do.

In evaluating the relevance of these theoretical accounts to the left peripheral delay observed here, we should look at imperatives in early Catalan, Spanish, and Italian. Imperatives are relevant because, at least in the analysis presented by Rivero and Terzi (1995), imperatives move to C in adult southern Romance languages. This movement is visible in clitic constructions. To illustrate, notice that imperative verbs precede clitics, as in 61 and 63, while declarative verbs normally follow clitics, as in 62 and 64.

- (61) ¡Termina-lo!
 finish-cl.ACC.SG
 'Finish it!'
- (62) Lo terminé.
 cl.ACC.SG finish.1SG.PAST
 'I finished it.'
- (63) ¡Dá-me-lo!
 give.2SG.IMP-cl.1SG.DAT-cl.ACC.SG
 'Give it to me!'
- (64) Me lo dio.
 cl.1SG.DAT cl.ACC.SG gave.3SG.PAST
 'He gave it to me.'

Under the assumption that clitics have a stable, left-edge of IP position, as in Sportiche 1992, imperatives are assumed to move over clitics, while declarative verbs stay lower in clause structure.

Thus, if children display correct positioning of imperatives relative to clitics, this would argue against the no-CP analysis. Indeed, imperatives are placed correctly with respect to clitics from the very beginning of verb usage in child Catalan, Spanish, and Italian.²⁰ In the first two recording sessions in which Guillem begins to use verbs, for example, he places a clitic correctly after the imperative verb in 65 and the infinitive verb in 66, while correctly placing a clitic before the verb in finite, present tense utterances such as 67.

- (65) Guillem (1;9.12)
 Ajuda'-m.
 help-cl.1SG.ACC
 'Help me.'
- (66) Guillem (1;8.0)
 Papa, vull probar-ho.
 Papa want.1SG.PRES try.INF-cl.ACC.SG.M
 'Papa, I want to try it.'
- (67) Guillem (1;9.12)
 Et rento.
 cl.ACC.SG.M clean.1SG.PRES
 'I am cleaning you.'

Graciela, a Spanish-speaking child, similarly uses enclitics correctly with imperatives, as in 68, and proclitics correctly with finite verbs, as in 69.

- (68) Graciela (1;10.2)
 Da-me.
 give.2SG.IMP-cl.DAT.1SG
 'Give me (that).'
- (69) Graciela (1;10.2)
 ¿La pone aquí?
 cl.ACC.F.SG put.3SG.PRES here
 'Will you put it here?'

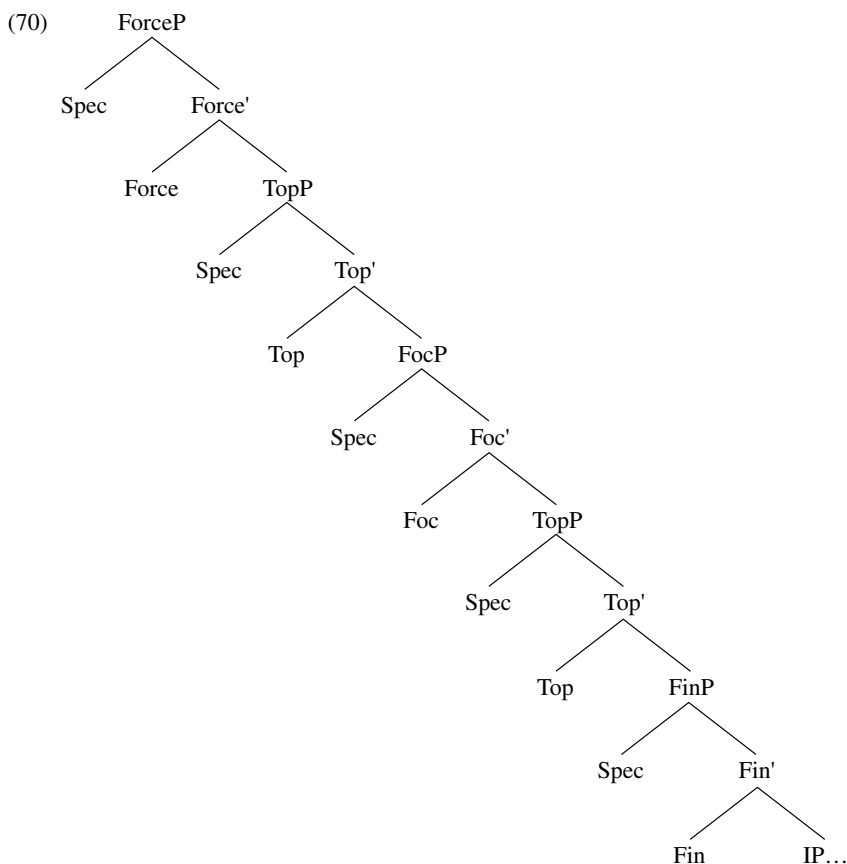
The fact that imperatives occur to the left of clitics while finite verbs occur to the right of clitics in early child Spanish and Catalan is evidence that this movement is adult-

²⁰ See Guasti 1994 for facts and analysis of child Italian clitic use.

like. If Rivero and Terzi are correct with regard to the position to which imperatives move, then the categorical claim made by the no-CP hypothesis that (no part of) the C projection is available must be mistaken.²¹

According to Rivero and Terzi, imperatives move to check imperative 'illocutionary force' features in C. Translating this proposal into a split CP framework in which clause structure would be represented as in 70, imperatives move to check imperative illocutionary force features in the head of ForceP.²²

If Rizzi's truncation hypothesis is correct, and if Rivero and Terzi are correct about imperatives moving to check force features, then the imperative utterances found in child Catalan, Spanish, and Italian imply the projection of the entire left periphery, at least in imperative sentences. Notice that the existence of these sentences does not imply that any part of the left periphery must ALWAYS be present in Rizzi's theory. Because Rizzi's proposal allows OPTIONAL truncation anywhere below CP, his account could permit the projection of CP in imperatives, for example, while optionally allowing CP not to project in the cases in which truncation would explain the absence of overt subjects and WH-questions.



²¹ See Grinstead 2000b for more on this question.

²² This is similar in spirit to Cheng's (1991) clause-typing hypothesis for WH-questions.

Perhaps the most serious problem for the truncation hypothesis posed by this data is precisely the nonoptionality of the phenomenon in question. That is, if children were optionally able to project all of the functional categories of the left periphery, then one might expect at least one overt subject, WH-question, or fronted object in this early period. The fact that examples of these constructions are not found at all implies that something more categorical is at work.

In summary, I have argued that overt subjects occur in the topic-focus field in null subject languages, and that the topic-focus field is inactive in early development. This explains why overt subjects are available from the very beginning in child overt subject languages, while they are absent in the beginning in child null subject languages. Two basic approaches to explaining the absence of the left peripheral constituents in child language were examined. The no-CP hypothesis is empirically challenged by the fact that imperatives are used productively and correctly from the beginning of child Spanish and Catalan, which, following Rivero and Terzi (1995), implies that at least some part of the left periphery is available from the very beginning. On the other hand, Rizzi's (1994) truncation hypothesis predicts the OPTIONAL projection of clause structure up to the level of CP, which is not consonant with the fact that the occurrence of left peripheral constituents appears not to be optional, but rather to be completely prohibited at the early stage.

10. LEFT-PERIPHERAL DELAY AS AN INTERFACE DELAY. Generative linguistics has traditionally assumed that the mind is constructed in a modular fashion (Chomsky 1957, Fodor 1983). Thus, grammar, though an autonomous module, interacts with other mental faculties. For example, sentence processing research has provided insight into the relation between grammar and memory (e.g. King & Just 1991, Gibson 1998). Similarly, work has been done on the interface between spatial cognition and grammar (e.g. Landau & Jackendoff 1993) as well as on the interface between the mental modules of grammar and number (e.g. Grinstead et al. 1998). The essential insight from much of this work is that nongrammatical domains of the mind, though autonomous from grammar, may affect the way in which grammatical principles are manifested, and conversely that grammar may represent knowledge from other domains of the mind only in limited, particular ways. In the case of the interface between discourse-pragmatics and grammar, it appears to be the case that discourse-pragmatics facilitates certain kinds of grammatical representations that would be impossible in its absence. The argument thus far has been that in the early development of Catalan and Spanish, there indeed exists a grammar that operates with very limited access to discourse-pragmatic information.

In previous work, apparent grammatical delays and deficits have been attributed, not to a problem with the interface between grammar and discourse-pragmatics, but rather to a delayed development of children's discourse-pragmatic competence itself. For example, Maratsos claimed that children's use of definite articles in contexts in which an indefinite article is required is due to 'difficulty in the exacting task of keeping track of their listener's referential knowledge' (1974:454), that is, the child's inability to understand that the definite article is used only after the noun to which it refers has been made specific to both listener and hearer. The locus of the deficit is, therefore, not in grammar, but in the discourse-pragmatic domain. Similarly, Schaeffer (2000) argues that children's delay in developing adult-like scrambling of DPs in Dutch and clitic production and past participle agreement in Italian is due to 'an immature pragmatic system'. Avrutin (1994) makes similar claims to explain the delay in the development of adult-like use of pronouns in child English and Russian, phrased in terms of

children's 'limited inferential resources'. There is thus a core of research that argues that apparent expressive and receptive grammatical delays in typical child language are due to some sort of failure in the domain of discourse-pragmatics and not in the domain of grammar.

The hypothesis I have been arguing for thus far is slightly different from this line of argument, however. I claim that children likely possess the discourse-pragmatic competence they need for adult-like language use but are unable to access it. This claim is based on evidence from developmental psychology that claims that children possess an understanding of discourse-pragmatics before they come to use it in language for the adult-like expression of overt subjects, clitics, pronouns, and so on. For example, Baker and Greenfield (1988) argue that children's ability to attend and habituate to a stimulus and then switch attention to a newly presented stimulus constitutes the cognitive underpinnings of information structure. They review evidence that supports the position that infants' early vocalizations (Muir & Field 1979), as well as early one-word speech (Lempert & Kinsbourne 1985, Wachs & Chan 1986), result in children's abilities to distinguish new vs. given information in their linguistic environments.²³ In the spirit of the work of Schaeffer and Avrutin, I also claim that the syntax of the children studied here appears to be relatively adult-like. That is, with respect to subject use, there is no reason to suspect that the incorporated pronominal subjects they use are other than adult-like. So, if there is reason to believe that the cognitive abilities underlying the discourse-pragmatic competence of these children are relatively adult-like and their syntactic competence also seems relatively adult-like, how do we then explain the delay in adult-like use of constructions that crucially involve discourse-pragmatic competence?

I claim that the answer to this question is that there exists an immature interface between grammar and the discourse-pragmatic domain. Along these lines, returning to the topic-focus field, Rizzi notes that these categories are projected IN THE ADULT LANGUAGE on an 'as needed' basis. My proposal is that child grammars do not have ACCESS to discourse-pragmatic knowledge of new vs. old information or an understanding of presupposition, and that as a consequence, their topic-focus field is not realized. This is not a grammatical deficit per se, but rather a deficit that is manifested in the part of clause structure that interfaces with the aspect of cognition that regulates understanding of presupposition and information structure. Once the grammar-discourse interface begins to handle this information, the topic-focus field can be projected and the movement of subjects, objects, and WH-elements can take place.

An interface delay explanation of this kind gains plausibility relative to the discourse-pragmatic deficit hypotheses when one considers that other mental faculties appear to have similar difficulties integrating at early stages of cognitive and linguistic development. Take the example of grammar and spatial cognition. It appears to be the case that children have highly developed spatial cognition from very early in their development. For example, von Hofsteden (1980) argues that even 4-month-old infants are capable of predicting the trajectories of moving objects, and Landau (1999:358) states that 'multiple representations of objects exist early in development, probably prior to lan-

²³ This argument goes on to attempt to explain two-word speech patterns crosslinguistically in terms of information structure and not in terms of the adult syntactic system being acquired, which seems less plausible given the depth of knowledge children appear to have of their syntax from the beginnings of two-word speech. However, that part of the argument may be mistaken while the former part, implying that children do indeed have the cognitive machinery necessary to distinguish new from given information, remains correct.

guage learning'. Children thus appear to have relatively advanced spatial competence early on, but they are delayed in learning the language-particular ways in which these geometric shape and location concepts are expressed. Landau (1999) cites numerous studies in which children's abilities to express shape and location improve over time, implying that it is initially difficult for grammar to use this information that is apparently already available.

Similarly, it has been shown that even infants have highly developed numerical competence and can, for example, distinguish arrays of two objects from arrays of three objects and arrays of three objects from arrays of four objects (Antell & Keating 1983, Starkey & Cooper 1980, Strauss & Curtis 1984). However, there is evidence that integrating this numerical competence with language to the point where children can count, in language-particular ways, may take children until they are 3;6 (Wynn 1990, 1992). As before, children appear to use quantifiers and other aspects of grammar necessary for counting in very adult-like ways before they begin counting reliably. Consequently, it appears that there is again some sort of delay in the development of the ability of grammar to recruit resources from the numerical domain for use in the counting process. In summary, the INTERFACE DELAY HYPOTHESIS of the relationship between syntax and discourse-pragmatics in development gains plausibility by virtue of its status as a subcase of this more general phenomenon of interface delay.

11. CONCLUSION. To summarize, I have presented evidence from production data collected from a previous study of spontaneous child Catalan and from data collected from a new study of spontaneous child Spanish that there is an early period during which overt subjects do not appear to be used. Further, I have shown that this contrasts with early stages of child overt subject languages such as English, Dutch, German, and French in which children appear to use overt subjects from the beginning of two-word speech. In an attempt to explain this crosslinguistic contrast, I have adopted the framework presented in Ordóñez 1997, which hypothesizes that overt subjects are left-peripheral constituents, as are fronted objects and *WH*-elements. This framework further argues that languages such as Spanish express subjects through incorporated subject pronouns, heretofore considered to be subject agreement. Thus, children converge on the language-particular strategy for expressing overt subjects from the very beginning. Overt subject language-speakers use [Spec, IP], while null subject language-speakers use agreement itself as a referentially specified subject.

Adopting this theory allows us to explain the early absence of overt subjects in the southern Romance child languages and also to explain why no apparent examples of 'optional infinitives' appear in these languages, namely, because finite third-person present tense verbs with incorporated pronominal subjects are homophonous with nonfinite bare stem verbs.²⁴ I have presented evidence that overt subjects emerge in the development of child Catalan at the same time as certain other left-peripheral elements, such as fronted objects and *WH*-questions, to support Ordóñez's contention that overt subjects are left-peripheral constituents. In this way, child language evidence is brought to bear on a question of adult syntactic theory and supports Ordóñez's hypothesis.

In conclusion, a theory of GRAMMAR-DISOURSE INTERFACE DELAY was presented, and the inability of children's grammars to recruit information from the discourse-pragmatic domain was seen as a subcase of a more general phenomenon of interface delay, which implicates multiple areas of cognition and their relationships with linguistic cognition.

²⁴ See Grinstead 1998 for more on this proposal.

A further implication of this theory is that, given the numerical, spatial, and other abilities of nonhuman animals, the aspect of our nature that sets us apart is certainly grammar; in order to have anything to say, however, this grammar must be able to interface with other domains of cognition. Consequently, the development of this system of interfaces, in which domain-specific representations of color, hue, angle, frequency, amplitude, shape, and trajectory, among others, must somehow be translated into a linguistically representable form, is perhaps the most important step in cognitive development. What are the symbols and computations that carry this information from musical cognition, for example, into grammar, presumably through the lexicon? How can information from perceptual systems designed to compute angle and hue be converted into something that can be included in a grammatical computation? The lexicon would again seem to be the obvious place to locate this interface. But these and other questions must await further research.

REFERENCES

- ANTELL, S., and D. P. KEATING. 1983. Perception of numerical invariance in neonates. *Child Development* 54.695–710.
- ARMON-LOTEM, SHARON. 1997. Agreement mismatches and the economy of derivation. *University of Massachusetts Occasional Papers in Linguistics* 22.27–35.
- AVRUTIN, SERGEY. 1994. Psycholinguistic investigations in the theory of reference. Cambridge, MA: MIT dissertation.
- BAKER, MARK. 1996. *The polysynthesis parameter*. Oxford: Oxford University Press.
- BAKER, NANCY, and PATRICIA GREENFIELD. 1988. The development of new and old information in young children's early language. *Language Sciences* 10.3–34.
- BELLETTI, ADRIANA. 1990. Generalized verb movement. Turin: Rosenberg and Sellier.
- BERMAN, RUTH A. 1990. On acquiring an (S)VO language: Subjectless sentences in children's Hebrew. *Linguistics* 28.1135–66.
- BLOOM, PAUL. 1990. Subjectless sentences in child language. *Linguistic Inquiry* 21.491–504.
- BLOOM, PAUL. 1993. Grammatical continuity in language development: The case of subjectless sentences. *Linguistic Inquiry* 24.721–34.
- BRUCART, JOSÉ MARÍA. 1987. *La elisión*. Barcelona: Publicacions de la Universitat Autònoma de Barcelona, Bellaterra.
- CARDINALETTI, ANNA. 1996. Subjects and clause structure. *University of Venice Working Papers in Linguistics* 6.55–95.
- CHENG, LISA LAI-SHEN. 1991. On the typology of WH-questions. Cambridge, MA: MIT dissertation.
- CHOMSKY, NOAM. 1957. *Syntactic structures*. The Hague: Mouton.
- CHOMSKY, NOAM. 1981. *Lectures on government and binding*. Dordrecht: Foris.
- CHOMSKY, NOAM. 1995. *The minimalist program*. Cambridge, MA: MIT Press.
- CLAHSEN, HARALD. 1990. Constraints on parameter setting: A grammatical analysis of some acquisition stages in early German child language. *Language Acquisition* 1.361–91.
- DOBROVIE-SORIN, CARMEN. 1990. Clitic doubling, WH-movement and quantification in Romanian. *Linguistic Inquiry* 21.351–98.
- FASSI-FEHRI, ABDELKADER. 1993. *Issues in the structure of Arabic clauses and words*. Dordrecht: Kluwer.
- FODOR, JERRY A. 1983. *The modularity of the mind*. Cambridge, MA: MIT Press.
- GIBSON, EDWARD. 1998. Linguistic complexity: Locality of syntactic dependencies. *Cognition* 68.1–76.
- GIORGI, ALESSANDRA, and FABIO PIANESI. 1997. *Tense and aspect: From semantics to morphosyntax: Oxford studies in comparative syntax*. New York: Oxford University Press.
- GRINSTEAD, JOHN. 1994. *The emergence of nominative case assignment in child Catalan and Spanish*. Los Angeles: University of California, Los Angeles M.A. thesis.
- GRINSTEAD, JOHN. 1998. *Subjects, sentential negation and imperatives in child Spanish and Catalan*. Los Angeles: University of California, Los Angeles dissertation.
- GRINSTEAD, JOHN. 2000a. Tense, number and nominative case assignment in child Catalan and Spanish. *Journal of Child Language* 27.119–55.

- GRINSTEAD, JOHN. 2000b. Constraints on the computational component vs. grammar in the lexicon: A discussion of Bates & Goodman. *Journal of Child Language* 27.737–43.
- GRINSTEAD, JOHN; JEFFREY MACSWAN; SUSAN CURTISS; and ROCHEL GELMAN. 1998. The independence of language and number. Paper presented at Boston University Conference on Language Development, Boston, November 1998.
- GUASTI, MARIA TERESA. 1994. Verb syntax in Italian child grammar: Finite and non-finite verbs. *Language Acquisition* 3.1–40.
- HAEGEMAN, LILIANE. 1995. Root infinitives, tense and truncated structures. *Language Acquisition* 4.205–55.
- JELINEK, ELOISE. 1984. Empty categories, case and configurationality. *Natural Language and Linguistic Theory* 2.39–72.
- KING, J., and M. A. JUST. 1991. Individual differences in syntactic processing: The role of working memory. *Journal of Memory and Language* 30.580–602.
- LANDAU, BARBARA. 1999. Multiple geometric representations of objects in languages and language learners. *Language and space*, ed. by Paul Bloom, M. A. Peterson, L. Nadel, and M. Garrett, 317–63. Cambridge, MA: MIT Press.
- LANDAU, BARBARA, and RAY JACKENDOFF. 1993. 'What' and 'where' in spatial language and spatial cognition. *Behavioral & Brain Sciences* 16.217–26.
- LASNIK, HOWARD, and JUAN URIAGEREKA. 1988. *A course in GB syntax: Lectures on binding and empty categories*. Cambridge, MA: MIT Press.
- LEMPERT, H., and M. KINSBOURNE. 1985. Possible origin of speech in selective orienting. *Psychological Bulletin* 97.62–73.
- MACWHINNEY, BRIAN, and CATHERINE SNOW. 1985. *The CHILDES project*. Hillsdale, NJ: Lawrence Erlbaum.
- MARANTZ, ALEC. 1991. Case and licensing. Paper presented at the Eastern States Conference on Linguistics, Baltimore, October 1991.
- MARATSOS, MICHAEL. 1974. Preschool children's use of definite and indefinite articles. *Child Development* 45.446–55.
- MAY, ROBERT. 1985. *Logical form*. Cambridge, MA: MIT Press.
- MEISEL, JÜRGEN, and NATASCHA MÜLLER. 1992. Finiteness and verb placement in early child grammars. *The acquisition of verb placement*, ed. by Jürgen Meisel, 109–38. Dordrecht: Kluwer.
- MUIR, D., and J. FIELD. 1979. Newborn infants orient to sound. *Child Development* 50.431–36.
- ORDÓÑEZ, FRANCISCO. 1997. *Word order and clause structure in Spanish and other romance languages*. New York: CUNY dissertation.
- POLLOCK, JEAN-YVES. 1989. Verb movement, universal grammar, and the structure of IP. *Linguistic Inquiry* 20.365–424.
- RADFORD, ANDREW. 1990. *Syntactic theory and the acquisition of English syntax: The nature of early child grammars in English*. Oxford: Blackwell.
- RIVERO, MARÍA LUISA, and ARHONTO TERZI. 1995. Imperatives, v-movement and logical mood. *Journal of Linguistics* 31.301–32.
- RIZZI, LUIGI. 1986. On the status of subject clitics in romance. *Studies in romance linguistics*, ed. by Osvaldo Jaeggli and Carmen Silva-Corvalán, 391–419. Dordrecht: Foris.
- RIZZI, LUIGI. 1990. *Relativized minimality*. Cambridge, MA: MIT Press.
- RIZZI, LUIGI. 1991. Residual V2 and the WH-criterion. Geneva: University of Geneva, ms.
- RIZZI, LUIGI. 1994. Some notes on linguistic theory and language development. *Language Acquisition* 3.371–93.
- RIZZI, LUIGI. 2000. *Comparative syntax and language acquisition*. London: Routledge.
- ROEPER, THOMAS, and BERNHARD ROHRBACHER. 1994. *Null subjects in early child English and the theory of economy of projection*. Philadelphia: University of Pennsylvania, and Amherst: University of Massachusetts, ms.
- ROTHSTEIN, SUSAN. 1983. *The syntactic forms of predication*. Cambridge, MA: MIT dissertation.
- SCHAEFFER, JEANETTE. 2000. *The acquisition of direct object scrambling & clitic placement syntax & pragmatics*. Amsterdam: John Benjamins.
- SCHÜTZE, CARSON. 1997. *INFL in child and adult language: Agreement, case and licensing*. Cambridge, MA: MIT dissertation.

- SERRA, MIQUEL, and ROSA SOLÉ. 1986. Language acquisition in Catalan and Spanish children. Barcelona: La Universitat de Barcelona and La Universitat Autònoma de Barcelona, MS.
- SPORTICHE, DOMINIQUE. 1992. Clitic constructions. Los Angeles: University of California, Los Angeles, MS.
- STARKEY, PRENTICE, and ROBERT G. COOPER, JR. 1980. Perception of numbers by human infants. *Science* 210.1033–35.
- STRAUSS, MARK S., and LYNNE E. CURTIS. 1984. Development of numerical concepts in infancy. *Origins of cognitive skills*, ed. by C. Sophian, 131–56. Hillsdale, NJ: Erlbaum.
- SUÑER, MARGARITA. 1988. The role of agreement in clitic doubled constructions. *Natural Language and Linguistic Theory* 6.391–434.
- SUPPES, PATRICK; R. SMITH; and MADELEINE LEVEILLÉ. 1973. The French syntax of a child's noun phrases. *Archives de Psychologie* 42.207–69.
- URIBE-ETXEBARRIA, MYRIAM. 1992. On the structural position of the subject in Spanish, their nature and their consequences for quantification. *Syntactic theory and Basque syntax*, ed. by J. Lakarra and J. Ortiz de Urbina, 447–91. Donostia, San Sebastián: Supplements of the ASJU.
- VALLIAN, VIRGINIA. 1991. Syntactic subjects in the early speech of American and Italian children. *Cognition* 40.21–81.
- VAN KAMPEN, JACQUELINE. 1997. First steps in WH-movement. Wageningen: Ponsen & Looijen.
- VON HOFSTEN, C. 1980. Predictive reaching for moving objects by human infants. *Journal of Educational and Child Psychology* 30.369–82.
- WACHS, T. D., and A. CHAN. 1986. Specificity of environmental action, as seen in environmental correlates of infants' communication performance. *Child Development* 57.1464–74.
- WAGNER, KLAUS. 1985. How much do children say in a day? *Journal of Child Language* 12.475–87.
- WYNN, KAREN. 1990. Children's understanding of counting. *Cognition* 36.155–93.
- WYNN, KAREN. 1992. Children's acquisition of the number words and the counting system. *Cognitive Psychology* 24.220–51.

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