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Megan Gotowski

1 Introduction

In French, subject pronouns are often clitic pronouns (as in (1)), which are a type of “deficient” pronominal element (Cardinaletti and Starke 1999). They are referred to as such because they need a verbal host to attach to, and are thus unable to stand alone (as in (2)). The clitic must remain with its host and, consequently, only other clitic pronouns may intervene between the subject clitic and the verb; (3) is grammatical, but (4) is not. The French subject clitics are listed in Table 1.

(1) Je dessine une image.  
SCL.1SG draw.PRES.1SG a picture  
“I draw a picture.”

(2a) Qui aime l’image ?  
who like.PRES.3SG the-picture  
“Who likes the picture?”

(2b) *Je SCL.1SG  
(“I.”)

(3) Je la chanter-ai.  
SCL.1SG it sing-FUT.1SG  
“I will sing it.”

(4) *Je vraiment aime la musique.  
SCL.1SG really like.PRES.1SG the music  
(“I really like the music.”)

<table>
<thead>
<tr>
<th></th>
<th>Singular</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Person</td>
<td>Je</td>
<td>Nous</td>
</tr>
<tr>
<td>Second Person</td>
<td>Tu</td>
<td>Vous</td>
</tr>
<tr>
<td>Third Person</td>
<td>Il (m), Elle (f), On</td>
<td>Ils (m), Elles (f)</td>
</tr>
</tbody>
</table>

Table 1: French Subject Clitics.

The status of subject clitics in Colloquial French is controversial. Certain linguists, notably De Cat (2005), claim that subject clitics are syntactic arguments. This interpretation is the syntactic analysis. However others, namely Culbertson (2010) and Legendre et al. (2010), maintain that subject clitics are actually preverbal inflectional affixes. This interpretation is the morphological analysis. The claim that French subject clitics are affixes is supported by constructions in which there is a strong pronoun or other full DP directly before the subject clitic (as in (5)); this has been referred to as “subject doubling.”

(5) Moi je veux une pomme.  
PRON.1SG SCL.1SG want.PRES.1SG an apple  
“Me, I want an apple.”

It should be recognized that these constructions have also been referred to as examples of left-dislocation by those who maintain the syntactic interpretation. However, for the sake of consistency, I will refer to any and all instances of these constructions as subject doubling, or “doubled constructions,” and differentiate between the analyses of the clitic pronoun instead, as that is what is
truly at the crux of this debate. Subject doubling, nevertheless, provides evidence as to how clitic pronouns are functioning in French; the strong pronoun, or other full DP, could theoretically be analyzed as the syntactic argument instead of the clitic pronoun, which would be represented as an affix denoting agreement with the verb.

To this end, Legendre et al. (2010) have found high rates of doubling in corpora on CHILDES (MacWhinney 2000), and this has intensified the discussion as how to analyze these subject pronouns. This research is an attempt to follow up on the findings by Legendre et al. 2010 by analyzing the Palasis corpus found on CHILDES (Palasis 2010); it is also an attempt to compare child and adult French as separate systems. There are three specific research questions that are motivating this study: (1) Do French-speaking children often produce doubled constructions? (2) How might the production of doubled constructions indicate how subject clitics are represented in Colloquial French? And how might other areas of French syntax support that interpretation? (3) Do French-speaking children have a different representation of subject clitics than adults? While previous research has attempted to answer the first two, it has not, to my knowledge, been attempted to answer the last one; it is this particular question that will be the focus of my analysis.

1.1 Preview of Results

The results of the research to be presented here illustrate that subject doubling is more common in child French than in adult French. For this reason, I argue that subject doubling corresponds to a stage in the acquisition process; I will argue that French-speaking children represent subject clitics as inflectional affixes, whereas adults seem to represent them as syntactic arguments. Additional support for a stage in the acquisition process comes from examining other areas of French syntax, notably subject-verb inversion and ne-retention in negation. As will become evident in Section 2, these aspects of French syntax have been taken to be two “litmus tests” for determining the status of French clitic pronouns. If the subject clitic is behaving as an affix, then rates of inversion and ne-retention should be low, and this is indeed the case for the children in the corpus I consulted.

2 The Status of French Subject Clitics

In this section I will provide a brief outline of the syntactic and morphological analyses, focusing on certain claims of both interpretations. I will then propose an alternative analysis of subject doubling in child French, which I will refer to as the developmental hypothesis.

2.1 A Syntactic Interpretation of Subject Clitics

The syntactic interpretation of French subject clitics assumes that they are theta-bearing syntactic arguments found in [spec, IP], the canonical subject position (Rizzi 1986); they would be represented with the syntactic structure found in Figure 1, taken from Culbertson 2010. Any strong pronouns or other full DPs before them are claimed to be dislocated topics (De Cat 2005). Subject doubling is not obligatory, but produced to place additional emphasis on the subject.

![Figure 1: Location of the Subject Clitic (Syntactic Analysis).](image)

This interpretation claims that there are several reasons to doubt that clitic pronouns are not functioning as affixes. De Cat (2005) argues that the ability for the subject clitic to invert with the
verb during question formation (as in (6-7)) indicates that the subject clitic must be an argument, as this kind of movement is not characteristic of affixes.

(6) **Peut-tu** voir la caméra?
    able.PRES.2SG-SCL.2SG see.INF the camera?
    “Can you see the camera?”

(7) Où **est-il**?
    where be.PRES.3SG-SCL.3SG
    “Where is he?”

De Cat (2005) also points out that material may intercede between the clitic and the verb, specifically in negation, where *ne* is placed before the finite verb (as in (8)).

(8) **Je ne** veux pas une pomme.
    SCL.1SG NEG want.PRES.1SG not an apple
    “I don’t want an apple.”

Since *ne* is believed to be a clitic pronoun, its ability to intercede between the subject and the verb indicates that the subject pronoun is also a clitic (see Section 1).

For these reasons, the syntactic analysis maintains that subject clitics are syntactic arguments, and that “true” subject doubling is not attested (De Cat 2005).

### 2.2 A Morphological Interpretation of Subject Clitics

The morphological analysis, conversely, claims that subject clitics are affixes denoting agreement with the verb. Accordingly, this analysis has the clitic located in Infl., as shown in Figure 2 taken from Culbertson 2010.

![Figure 2: Location of the Subject Clitic (Morphological Analysis).](image)

Legendre et al. (2010) do not dispute the claim that *ne* is not an affix, but argue that the rate of *ne*-retention is low in Colloquial French; the claim is that negation in modern conversational French is signaled by *pas* alone, as in (9).

(9) **Je veux pas** une pomme.
    SCL.1SG want.PRES.1SG not an apple
    “I don’t want an apple.”

The argument that subject-verb inversion is a problem for an affixal analysis is nullified, because Legendre et al. (2010) argue that inversion is also lacking from modern Colloquial French, resulting in questions as in (10-11).

(10) **Tu peux voir la caméra?**
    SCL.2SG able.PRES.2SG see.INF the camera
    “Can you see the camera?”
(11) Où il est?
where SCL.3SG be.PRES.3SG
“Where is he?”

As inversion and ne-retention are not robustly attested, the morphological analysis claims that the subject clitic is now indicating agreement with the finite verb; the strong pronoun or other full DP is behaving as the argument, not as a topic, when it is included (Culbertson 2010, Legendre et al. 2010). This of course implies that when a clitic is not “doubled” the subject is null. This implication will be discussed in more detail in the following subsection. As mentioned, Legendre et al. (2010) point to high rates of doubling as support for this particular interpretation.

2.3 An Alternate Analysis: The Developmental Hypothesis

The debate over the status of French subject clitics has been framed as a dichotomy thus far: either subject clitics are arguments or they are affixes in both child and adult French. I argue that there is a third possibility, which I will refer to as the developmental hypothesis: subject clitics are initially represented as verbal affixes in child French but, after the adult grammar is acquired, are later reanalyzed as syntactic arguments. This analysis assumes that subject clitics are syntactic arguments in adult French. It also assumes that French is a non-null subject language, based on the production of expletive subjects (cf. Hyams 1989): French allows for expletive subjects to be dropped at times, but this optionality is not characteristic of null subject languages in general.

Following the criteria proposed in Zwicky and Pullum 1983, French subject clitics display both properties that are characteristic of clitics (i.e., arguments) (cf. Kayne 1969) and properties that are characteristic of affixes (cf. Bonami and Boyé 2007), resulting in a rather hybrid nature. The ambiguity of French subject clitics may cause children to consider two different representations of them: one in which they are arguments, consistent with the target grammar, and one in which they are verbal affixes.

The developmental hypothesis relies on the variational model of language acquisition, put forth by Yang (2002). This model assumes that a child is faced with competing grammars during the acquisition process and must decide which of these grammars corresponds to the target grammar by analyzing the input; the input will either reward or punish each of the competing grammars following the process described in (12) from Yang (2002:26-27). Each grammar is associated with a probability; this probability will fluctuate depending on whether the grammar is rewarded or punished. Eventually, the grammar with the greatest probability will “win out.”

(12) Upon the presentation of an input datum s, the child
   a. selects a grammar Gi with the probability Pi
   b. analyzes s with Gi
   c. •if successful, reward Gi by increasing Pi
        •otherwise punish Gi by decreasing Pi

In this case, the child has to determine whether the input that they receive supports an affixal interpretation, or if it indicates that clitic pronouns are arguments. French-speaking children may initially assume that subject clitics are inflectional affixes, as a result of this competition, before the target grammar is eventually associated with the greatest probability. In other words, it is possible that subject clitics are represented differently in the grammar of child French. If French-speaking children initially analyze the subject clitic as an affix, but understand that French requires an overt subject to satisfy the EPP, they may then search for an element to fill the argument position; this may cause them to analyze strong pronouns or other full DPs before the clitic pronoun, which are Topics in adult French, as overt subject pronouns. This initial analysis may be connected to their understanding of tense. When determining whether or not tense must be overtly specified, they pass through a Root Infinitive (RI) stage, during which time they produce both RIs and finite verbs; interestingly, however, during this stage French-speaking children tend to only include a subject clitic with a finite verb (Guasti 2002). This indicates that they associate the clitic with verbal agreement. It is possible that they persist in associating the subject clitic with finiteness. This representation would cause them to keep the clitic with the finite verb, dropping ne in
negated phrases and preferring to produce questions without inversion, consistent with the morphological analysis.

The developmental hypothesis predicts a difference in the rates of subject doubling between child and adult French, as well as in the rates of subject-verb inversion and ne-retention. Specifically, it predicts that rates of doubling will be comparatively higher in child French, but that rates of the latter phenomena should be lower in child French than in adult French. However, because there are two grammars competing in child French, this hypothesis does not predict that rates of subject doubling will be at ceiling or that French-speaking children will produce zero instances of ne or subject-verb inversion. Unlike parameter-setting models of language acquisition, the variational model of acquisition does not claim that the transition from one grammar to another will be instantaneous; rather it expects it to be a gradual process (Yang 2002). In this respect, it is predicted that the children in the Palasis corpus will produce both doubled and non-doubled constructions, just as children produce both RIs and finite verbs during the RI stage, and both null and overt subjects during the early null subject stage; such competition is normal and anticipated.

2.4 Overview: Competing Hypotheses

There are, therefore, three competing analyses in regard to how subject clitics should be interpreted: the syntactic analysis (de Cat 2005), the morphological analysis (Culbertson 2010, Legendre et al. 2010) and the developmental hypothesis.

The syntactic analysis predicts that rates of “subject doubling” are the same in child and adult French, and the rates of subject-verb inversion and ne-retention are predicted to be high in both child and adult French. The morphological analysis also predicts that rates will be consistent between child and adult French, but it predicts that rates of doubling will be high, and rates of inversion and ne-retention will be low. The developmental hypothesis predicts that rates of doubling will be different. The rate of doubling should be higher in child French, whereas the rates of ne-retention and inversion should be lower, when compared to adult French.

In order to test these hypotheses, I conducted two separate analyses. The first examines the rate of subject doubling, while the second explores subject-verb inversion and ne-retention for further indications as to how these clitics are being represented in the child and adult language.

3 Corpus Analysis #1: Subject Doubling in Child French

For this research, I consulted the Palasis corpus found on CHILDES, which includes twenty-two children (2;5-3;10) and the adult with whom they interacted (Palasis 2010). Two of the children were excluded from the analysis, however, because they are non-native French speakers. The corpus contains 112 files with transcripts, which I hand-coded for instances of subject clitics with and without a strong pronoun or other full DP beforehand. Because the children in this corpus rarely produced plural subjects, I focused only on singular subject clitics. Only utterances where a strong pronoun or other full DP that came directly before the subject clitic, as in (13), were considered to be examples of doubling; any utterance in which an element intervened between the strong pronoun/DP and the verb, as in (14), or in which the DP was a dislocated object, was considered a non-doubled construction.

(13) **Toi** tu aimes le jeu.
    PRON.2SG SCL.2SG like.PRES.2SG the game
    “You, you like the game.”

(14) **Toi** alors tu aimes le jeu.
    PRON.2SG well SCL.2SG like.PRES.2SG the game
    “You, well, you like the game.”

I also excluded any phrase that was ambiguous, in that that it could not be determined through context whether the subject clitic was doubled by the preceding pronoun in the phrase. I discarded any clitic pronouns that were preceded by an unknown element in the transcript (marked with X’s), as well as those found in quotations. Only referential subject clitics were included in this particular
analysis. Repetitions of an entire phrase were counted, but any perseverations of a clitic pronoun during the production of a single phrase were not.

After all of the aforementioned discards had been made, I determined the number of doubled and non-doubled constructions for both the children and for the adult through the use of CLAN; the rate of doubled subjects was found by dividing the number of doubled constructions by the total number of utterances with a subject clitic (doubled + non-doubled). Statistical significance was determined through the use of a one-sample t-test.

3.1 Results

The results of this analysis indicate that subject doubling is in fact more common in child French than in adult French (see Table 2), and that the contrast in rates of doubling is statistically significant ($p > 0.001$). The children in the Palasis corpus included a strong pronoun or full DP before a subject clitic 26.2% of the time, compared to only 5.3% for the adult.

<table>
<thead>
<tr>
<th></th>
<th>Doubled Subjects</th>
<th>Non-Doubled Subjects</th>
<th>Total</th>
<th>Rate of Doubling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children</td>
<td>1256</td>
<td>3538</td>
<td>4794</td>
<td>26.2%</td>
</tr>
<tr>
<td>Adult</td>
<td>231</td>
<td>4141</td>
<td>4372</td>
<td>5.3%</td>
</tr>
</tbody>
</table>

Table 2: Rates of Subject Doubling (Overall).

There were noticeable person effects (see Table 3). However, the children consistently produce doubled subjects more often than the adult for all persons; the contrast in rates reached significance ($p < 0.001$) for the first person and third person masculine subjects.

<table>
<thead>
<tr>
<th></th>
<th>Moi + Je (1 SG)</th>
<th>Toi + Tu (2 SG)</th>
<th>DP/Lui + Il (3 SG- Masc.)</th>
<th>DP/Elle + Elle (3 SG- Fem.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children</td>
<td>37.7%</td>
<td>4.9%</td>
<td>15%</td>
<td>27.4%</td>
</tr>
<tr>
<td>Adult</td>
<td>9.6%</td>
<td>2.6%</td>
<td>5%</td>
<td>19.6%</td>
</tr>
</tbody>
</table>

Table 3: Rates of Subject Doubling (By Person).

The rate of the children’s subject doubling with the first person is especially elevated (37.7%) in comparison to the rates of doubling with other persons. It could be related to the conversational nature of the corpus; the adult mostly guided the conversation with the children and asked them questions, which resulted in an asymmetry in the use of the first and second person between the children and the adult. This may have contributed to an asymmetry with subject doubling as well. Regardless, the first person clitic seems to be more readily identified as an affix.

Additionally, the rates of doubling with the third person feminine are interesting because they are raised for both the children and the adult. The high rates of doubling with the third person feminine clitic in adult French could reinforce the affixal interpretation in child French, but it remains unclear as to why the adult produced doubled constructions more often with this clitic pronoun.

Nevertheless, the children in the Palasis corpus produce doubled constructions more frequently than the adult. This provides support for the developmental hypothesis, as it predicts that the rates for doubling should be different. The rates of doubling for the children are not at ceiling, which is expected if there is competition between possible grammars. The input that the children receive seems to reinforce the representation of clitics as arguments in adult French, rewarding the target grammar; low rates of subject doubling in child-directed speech in this corpus is not enough evidence to suggest that adult French represents subject clitics as anything but syntactic arguments.

However, these rates alone are not enough support for any of the proposed analyses. For more evidence of how children represent clitics, I conducted an additional analysis to investigate what other areas of syntax reveal about the representation of clitic pronouns in child and adult French.
4 Corpus Analysis #2: Syntax of Child French

In this part of the analysis, I analyzed the rates of subject-verb inversion and *ne*-retention for the children and the adult in the same corpus. As previously mentioned, the syntactic analysis predicts that rates of both will be high, the morphological analysis predicts that rates of both will be low, while the developmental hypothesis predicts that rates will be different, with rates of both inversion and *ne*-retention being comparatively lower for the children.

4.1 Subject-Verb Inversion

In order to determine the rates of subject-verb inversion in the Palasis corpus, I first found the total number of yes/no questions and *wh*-questions with and without movement of the verb with respect to the subject clitic. I included only questions that could be inverted in this analysis; a question such as (15) would have been included, because it could be inverted (16), but a question like (17) would not have been counted since inversion with *est-ce que* is not possible.

(15) Tu *aimes* cette chanson?  
SCL.2SG like.PRES.2SG this song  
“Do you like this song?”

(16) Aimes-tu cette chanson?  
like.PRES.2SG-SCL.2SG this song  
“Do you like this song?”

(17) Est-ce que tu *aimes* cette chanson?  
Q SCL.2SG like.PRES.2SG this song  
“Do you like this song?”

All other questions were included in this analysis. The rates of inversion for the children and the adult were determined by dividing the total number of inverted questions by the total of all questions that could be inverted. Significance was again determined through a one-sample t-test.

4.1.1 Results

The results from this portion of the analysis indicate that neither the children nor the adult produce many instances of subject-verb inversion; in fact, the children only produce six tokens, and the adult produces none (see Table 4).

<table>
<thead>
<tr>
<th></th>
<th>Inversion</th>
<th>No Inversion</th>
<th>Total</th>
<th>Rate of Inversion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children</td>
<td>6</td>
<td>375</td>
<td>381</td>
<td>1.6%</td>
</tr>
<tr>
<td>Adult</td>
<td>0</td>
<td>1408</td>
<td>1408</td>
<td>0%</td>
</tr>
</tbody>
</table>

Table 4: Rates of Subject-Verb Inversion.

This finding supports the morphological analysis; however, it is equally possible that an overall decrease in subject-verb inversion in the adult grammar could reward an affixal interpretation of subject clitics in child French, even if they remain arguments in adult French. This conflicting evidence could thus contribute to competition between grammars in the child language, which in turn could motivate an increase in doubled constructions. Therefore, these results would be consistent with both the morphological analysis and the developmental hypothesis.

4.2 Negation

The next part of this analysis focused on negation, specifically the production of *ne* in the negated expression *ne*…*pas*. I counted all phrases with and without *ne* before the verb and *pas* in this corpus. Only those that featured a subject and a verb, as in (18), were counted; thus, phrases such as
(19a-b) were discarded.

(18) Tu ne veux pas une pomme.
    SCL.2SG NEG want.PRES.2SG not an apple
    “You don’t want an apple.”

(19a) Ne mange pas.
    NEG eat.PRES.3SG not
    “Don’t eat.”

(19b) Pas ici.
    not here
    “Not here.”

After all necessary discards had been made, I calculated the total number of negated phrases and, from that overall count, found the percentage of these productions that retained ne. As before, statistical significance was determined through a one-sample t-test.

4.3 Results

This analysis reveals that while the children and the adult rarely retain ne in negated phrases, the children retain it much less than the adult (see Table 5). This contrast is significant ($p < 0.0001$).

<table>
<thead>
<tr>
<th></th>
<th>Negation with Ne</th>
<th>Negation without Ne</th>
<th>Total</th>
<th>Rate of Ne-Retention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children</td>
<td>8</td>
<td>958</td>
<td>966</td>
<td>0.8%</td>
</tr>
<tr>
<td>Adult</td>
<td>55</td>
<td>648</td>
<td>703</td>
<td>7.8%</td>
</tr>
</tbody>
</table>

Table 5: Rates of Ne-Retention.

The significant contrast in rates supports the developmental hypothesis; a difference in rates of ne-retention is not predicted by either the syntactic or morphological analysis, both of which argue that child and adult French share the same representation of clitic pronouns. This finding challenges that claim, instead suggesting that there are separate grammars; the syntax concerning negation in child French is noticeably different from that in adult French. Rates of ne-retention are on the decline in modern Colloquial French (Grieve-Smith 2009), and this could also provide conflicting evidence for French-speaking children to analyze.

5 Conclusions and Suggestions for Further Research

The results from this research suggest that child French differs from adult French with respect to the representation of clitic pronouns. The differences in production rates are not explained if subject clitics, and subject doubling, serves the same function in both grammars. The statistically significant contrast in the production of subject doubling indicates that subject doubling corresponds to a stage in acquisition. The children in the Palasis corpus produce doubled constructions comparatively more often than the adult, which is consistent with a competing affixal representation. If children initially analyze subject clitics as affixes, and represent strong pronouns/full DPs as non-dislocated arguments to satisfy the EPP, then subject doubling is expected.

It has been suggested, notably by Culbertson (2010) and Legendre et al. (2010), that French is a null subject language, and that lack of doubling simply corresponds to lack of an overt subject. There are a few complications with this approach; first, this still does not explain the difference in the rates of doubling between child and adult French. Second, it would be difficult to explain the production of RIs in child French (cf. Rasetti 2000); Wexler (1998) found that children acquiring null subject languages tend not to produce (or produce very few) RIs, because they receive abundant unambiguous evidence that tense is required from the input. Lastly, and most importantly, when the production of doubled subjects (i.e., overt subjects, according to Culbertson and Legendre et al.) is compared to rates of overt subjects in known null subject languages, such as Italian,
the rates are far from equivalent. Valian (1991) reports that Italian adults produced overt subjects 46-56% of the time in the data she consulted. If non-doubled constructions are really phrases with null subjects, then the adult would be producing null subjects almost 95% of the time, whereas Italian adults produce null subjects only about half the time. Italian adults also produced more overt subjects than Italian children; in this analysis, however, the children produced more doubled constructions than the adult. It is certainly possible that the children persist in analyzing French as a null subject language, as this is difficult to confirm through rates of doubling alone; however, in either case, French-speaking children would be identifying the strong pronoun or other full DP as the argument as a result of competing representations, causing them to produce doubled constructions during a stage in the acquisition process.

Additional support for a stage in acquisition comes from the production rates of subject-verb inversion and, in particular, rates of ne-retention. If children are not presented with inversion in the input, this could contribute to the competition between grammars. The low rates of ne-retention would also contribute to the competition, as lack of ne-retention is claimed to be indicative of an affixal interpretation. However, the contrast in these rates between the children and the adult is in fact statistically significant, again suggesting that there is a difference in grammars. If the “interference” of ne between the subject clitic and the verb would prohibit an affixal interpretation, it is not surprising that the children rarely include it, producing it only 0.8% of the time. The noticeable preference to keep the clitic directly adjacent to the verb (or other clitics qua affixes) is anticipated if children represent clitics as agreement markers. Therefore, children’s rates of subject doubling, in combination with other aspects of their syntax, suggest that they represent clitics as affixes.

If the variational model of language acquisition is assumed, then competition between grammars would prevent the children from doubling all the time. As explained in Section 2.3, the input that the children receive will either reward or punish the grammars that are competing. Following the model from Legate and Yang 2007, it is possible to determine, based on the criteria considered here, how many tokens from the adult input reinforce each of the competing grammars. The total number of all tokens recorded (i.e., subject clitics, questions, and negated expressions) constitutes the input in this analysis; from this count, it can be determined how often the grammar in which they are arguments, or pronouns (P), is supported; all non-doubled subjects, inverted questions, and negated phrases with ne reward this grammar. It can then be determined how often the grammar in which they are affixes (A) is supported; all doubled subjects, non-inverted questions, and negated phrases without ne reward this grammar, and punish the other grammar. The number of tokens that reward P and A is divided, respectively, by the total number of tokens (6438). As shown in Table 6, the grammar in which clitics are arguments (i.e., the target grammar) is rewarded 64.7% of the time, while the affixal interpretation is rewarded 35.3% of the time. The “numerical advantage” is then determined by subtracting the percentage corresponding to the competing grammar (A) from that corresponding to the target grammar (P). The numerical advantage is an indication of which grammar should eventually “win out.” In this case, the target grammar wins out, as the children are presented with more evidence that indicates that subject clitics are arguments, and not affixes in adult French. Nevertheless, this analysis indicates that the children are presented with ambiguous input, as the numerical advantage is only 29.4%.

<table>
<thead>
<tr>
<th>Revelations</th>
<th>Number of Tokens</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rewards- Pronoun (P)</td>
<td>4196/6483 (64.7%)</td>
</tr>
<tr>
<td>Rewards- Affix (A)</td>
<td>2275/6483 (35.3%)</td>
</tr>
<tr>
<td>(P-A) %</td>
<td>29.4%</td>
</tr>
</tbody>
</table>

Table 6: Quantitative Evidence for Competing Grammars.

The low rate corresponding to the numerical advantage indicates that there is ambiguous evidence as to how clitics are represented in the target grammar. However, there is not so much ambiguity so as to cause the target grammar to be punished overall. Therefore, this model exemplifies that there is competition in child French, but that French-speaking children should be able to acquire the target grammar, and eventually represent subject clitics as syntactic arguments.

Overall, this research provides support for the developmental hypothesis, which claims that subject doubling corresponds to a stage in acquisition in which French-speaking children represent...
subject clitics as affixes. Nevertheless, there are questions that remain. The focus of this analysis has been on syntax, but information about the prosody of doubled constructions in child and adult French would be helpful in further elucidating how subject clitics are represented; dislocated topics are associated with a particular prosodic pattern (De Cat 2005, Doetjes et al. 2002). If subject doubling corresponds to a stage in acquisition, then a difference in prosody is expected between doubled constructions produced by children and those produced by adults. Another area of research concerns the possibility of language change. Culbertson (2010) and Legendre et al. (2010) have argued that the syntax of French is changing so that subject clitics are becoming affixes in child and adult French. There is currently not enough evidence to definitively claim that this is the case. More research is needed to track any changes in the production of subject doubling over time. For the moment, it is apparent, however, that child and adult French differs and these differences are consistent with a stage in the acquisition process.

References

De Cat, Cécile. 2005. French subject clitics are not agreement markers. Lingua 115: 1195-1219.