INTERPRETIVE AND FORMAL PROPERTIES OF NULL SUBJECTS IN EARLY FRENCH

Lucienne Rasetti (Lucienne.Rasetti@lettres.unige.ch)

INTRODUCTION

Early grammars of various languages exhibit what is generally known as "root" or "optional" infinitives[1]. These are main clauses containing uninflected verbal forms which often (though not always) allow subject drop. On the basis of continuity assumptions, recent research has implicitly or explicitly assimilated the empty subject of root infinitives to the adult PRO of subordinate clauses, given that both empty categories appear to be licensed in similarly uninflected environments. Root infinitives drawn from a French corpus are shown in (1), whereas (2) illustrates PRO in adult structures.

(1) a.   ec manger ça?   (Augustin 2;0;2)
          eat_inf this
     b.   maman manger   (Daniel 1;8;1)
          mummy eat_inf

(2) a.   Augustin veut [PRO manger du chocolat]
          A. wants PRO to eat chocolate
     b.   PRO manger des fruits est bon pour la santé
          to eat fruit is good for one's health

A unified account of early and adult non-finite null subjects as PRO is certainly plausible and even very appealing given the continuity framework adopted by current research in the field of language acquisition and development. However, the comparison between child and adult systems reveals that early matrix infinitives are not identical to adult uninflected structures, and that subject drop in root infinitives display some particularities which invite a closer investigation. First, the assignment of semantic values is not identical in early and adult systems. Although null subjects of root infinitives have specific reference[2], they do not appear to receive identification in the same manner of adult PRO, that is either through control by a c-commanding element, as in (2a), or through the assignment of arbitrary reference, as in (2b). Second, the formal licensing mechanisms need to be examined. Example (1b) shows that lexical subjects are also licensed in uninflected environments, a fact which is unexpected given that PRO and overt subjects are usually in complementary distribution.

In this paper I deal with some of the interpretive and formal properties of the non-finite null subject in early French, based on the analysis of a corpus of naturalistic production from five children aged around two. I try to show that the properties of early non-finite null

---

[1] Terminology proposed by Wexler (1994) and Rizzi (1994b) respectively.

[2] For instance, in (1a) the child is probably referring to himself, as suggested by the line preceding the utterance containing the root infinitive:

(i)   Adult: tu veux manger le chocolat? (*do you want to eat the chocolate?*)
      Aug: oui. manger ça? (*yes. eat_inf this?*)

subjects do not exactly match those of adult PRO and that, if an analysis in terms of PRO is to be maintained, something else must be said. The discussion is organized as follows: section 1 deals with the distinction between finite and non-finite environments with respect to subject drop and comments on the analysis of null subjects of root infinitives as PRO in the light of child data. Sections 2 and 3 concern the interpretive properties of early null subjects: the first describes the methodology adopted in data collection and analysis, whereas the latter presents and discusses the results. Section 4 analyses these results with regard to the PRO hypothesis. Section 5 deals with some formal aspects of subject drop in root infinitives. Section 6 summarizes the discussion and draws some conclusions.

1. EARLY NULL SUBJECTS

The extensive investigation to which the null subject phenomenon has been submitted over the last few years in the field of comparative acquisition studies has brought about a considerable number of different analysis of early subject drop. Among the large number of issues which have been raised in the literature, there are two points which I wish to consider here, and both are related to the question of determining the syntactic nature of this empty category. The first regards the licensing of null subjects in inflected vs. uninflected environments and the possibility of having two types of null subjects in early grammars. The second is concerned with the kind of null subject which is found in matrix infinitival clauses.

1.1. Finite *vs*. non-finite null subjects: two different entities

For the purposes of the present study, I distinguish two main approaches. The first is advocated, for example, by Sano & Hyams (1994) and Roeper & Rohrbacher (1994). According to these authors, subject drop in early grammars must be understood as a direct consequence of the use of non-finite verbs in matrix contexts, which create the natural environment for subject drop. In Sano & Hyams this null subject (1994) is PRO, whereas for Roeper & Rohrbacher, who adopt a different theory of empty categories (Speas 1994), it is *pro*. In all these cases, null subjects are syntactically licensed only in uninflected environments.

However, subject drop in finite environments has been extensively attested in several languages (English French, Dutch, German, Danish, etc., see table 1 for an overview). If we want to stick to the hypothesis that null subjects are syntactically licensed only in non-finite clauses, one option to account for subject drop in finite clauses is to consider finite null subjects a pragmatic phenomenon. Bromberg & Wexler (1995), and Wexler (1998), who also take null subjects to be a direct consequence of the use of matrix infinitival clauses by children, propose that finite null subjects should be analyzed as residual instances of topic drop which represent a kind of pragmatic error, as opposed to PRO which is grammatically licensed by infinitives. Another option is to assume that the licensing environment of finite clauses is only in appearance inappropriate for PRO. This is the option taken by Sano & Hyams (1994), who suggest that third person singular and past tense morphemes are in reality aspectual markers in a low Asp projection, Infl remaining empty and therefore capable of assigning/checking null Case on PRO, in accordance with Chomsky & Lasnik (1993).

	Null Subjects [+fin]	%
French		
Daniel (Pierce 1989)	150/273	54.9%
Nathalie (Pierce 1989)	90/304	29.6%
Philippe (Pierce 1989)	182/782	23.3%
Augustin (Rasetti 1999)	157/585	26.8%
Marie (Rasetti 1999)	154/560	27.5%
German		
Simone (Behrens 1993)	781/3699	21.1%
Andreas (Krämer 1993)	34/263	12.9%
Dutch;		
Thomas (Krämer 1993)	165/596	27.7%
Heinz (Haegeman 1995a)	1199/3768	31.8%
Flemish		
Maarten (Krämer 1993)	23/92	25.0%
Hebrew		
26 children, (Rhee & Wexler 1995)	252/779	32.3%
Faroese		
O. (Jonas 1995)	8/52	15.4%
Danish		
Anne (Hamann & Plunkett 1998)	366/3379	10.8%
Jens (Hamann & Plunkett 1998)	742/3173	23.4%
English		
Adam (Phillips 1995)	34/113	30.1%
Eve (Phillips 1995)	8/86	9.3%
Sarah (Valsecchi 1997)		19.3%

Table 1: Subject omission in finite environments

Alternatively, and this seems to be the line taken by the majority of researchers, we can admit that subject omission is a grammatical option in both finite and non-finite environments in early systems, and that licensing conditions differ in each case (Krämer 1993, Rizzi 1994a,b; 1999, Schütze 1997, Schütze & Wexler 1999). That this dissociation is probably necessary is confirmed by at least the following facts. First, interesting distributional effects are attested in some languages. In French, for example, subject drop is not only more common in non-finite environments (as it is in other languages), but also much more stable during the relevant period of development. Contrary to what is commonly the case in finite structures, subject drop in matrix infinitival clauses does not tend to vanish progressively but remains more or less constant throughout the root infinitive stage, and often at high rates. The graphs in the Appendix 1 show the evolution in the distribution of subject drop in finite *vs.* non-finite environments in the corpus of five children in the relevant period[3]. Dutch and Danish shows a similar pattern, as shown by Haegeman (1995) and Hamann & Plunkett (1998) respectively.

Second, it is probably the case that finite environments differ from non-finite environments with respect to the formal licensing of subjects. Case assignment mechanisms, for instance, should not be the same. Generally, a null subject occurring with a non-finite verb will presumably lack Case, or have null Case according to Chomsky & Lasnik (1993), whereas a null subject in a finite context will have its Case checked by a finite Inflection.

For the above reasons, and without developing these issues any further for the time being, I will assume that there are two types of null subjects. Null subjects of finite environments have received different accounts which will not be discussed here. I briefly illustrate the variety of approaches by mentioning some of the analyses that have been proposed: *pro*-drop (Hyams 1986; Krämer 1993), topic or diary-drop (Bromberg & Wexler 1995), null constant (Rizzi 1994a, 1998, 1999). Null subjects of root infinitives, on the other

---

[3] See section 2 for information on the corpus.

hand, are most often assimilated to the PRO subject of adult embedded infinitives (Krämer 1993, Sano & Hyams 1994, Hamann & Plunkett 1998, Rizzi 1998; 1999, Schütze 1997, Schütze & Wexler 1996a,b, Wexler 1998, Schütze & Wexler 1999, Sigurjónsdóttir 1999).

It might be worth noting that some authors mention the possibility that null subjects of uninflected contexts be of two types: some might indeed be PRO, whereas others might be an empty subject of the type found in finite environments. Bromberg & Wexler (1995) and Wexler (1998), for example, claim that non-finite clauses license PRO, but they suggest that the kind of null subject that is analyzed in finite clauses as some sort of topic or diary drop may occur not only with finite verbs but also with non-finite verbs. The availability of both PRO and topic drop in non-finite environments would explain the higher proportions of null subjects occurring with uninflected verbs. In Rizzi's (1998, 1999) proposal, there are four potential environments available for empty subjects which correspond to the different possibilities of combining the root/non-root distinction with the finiteness of the clause. Thus [+infl, +root] environments will license the empty category described as the null constant, [–infl, –root] environments will license only PRO and [–infl, +root] clauses will license the null constant **or** PRO. Null subjects will not be allowed in non-root inflected clauses. These possibilities are of course dependent upon the general licensing requirements which are valid for each type of empty category: the null constant is sensitive to the root/non-root distinction and therefore will only occur in the specifier of the higher clause, never in non-root contexts. On the other hand, PRO is sensitive to the finiteness of the clause and will only be licensed in non-finite environments.

These non-uniform analyses of null subjects of root infinitives remain problematic in the sense that it is not clear whether there is any type of evidence which could substantiate such claims. At first sight, nothing appears to distinguish one root infinitive from the other with respect to the licensing of different null subject types, although of course a more detailed examination might provide relevant information in this respect. I will return to these issues in section 5, where I discuss the formal properties of non-finite null subjects.

1.2. Non-finite null subjects: problems for a PRO-analysis

An account of early non-finite null subjects in terms of PRO is of course appealing given the hypothesis of continuity currently adopted by acquisition researchers. On the assumption that child and adult grammars are basically the same, one does not wish *a priori* to propose discontinuity between constructions which look alike and which may indeed be very similar in structure. Ideally, if root infinitives contain infinitival verbs, they should resemble adult infinitives in every respect, except for the fact that adult grammars do not allow them in matrix sentences. However, to the best of my knowledge no attempt has been made at checking to what extent the properties of early null subjects are indeed compatible with those of PRO, and, actually assimilating subject drop in root infinitives to adult control structures raises problems both at the interpretive and the formal levels.

According to standard versions of Control Theory[4] (e.g. Chomsky 1981), PRO may either be obligatorily bound and assigned specific reference by a c-commanding antecedent as in (3a), or it may be free and assigned arbitrary reference as in (3b). Control can also be non-obligatory (Williams 1980), in which case PRO is coreferent with a constituent which does

---

[4] Recent work on syntactic theory has provided alternative accounts of PRO and control structures, see for example Bo©kovi (1996), Landau (1999), Martin (1996), Manzini & Roussou (1997), Hornstein (1999). I keep to the original formulation for reasons of simplicity of exposition. The issue being the comparison between early systems and adult grammars, the basic facts regarding the interpretive and formal properties of this category remain the same. Adapting the results to a more adequate approach to null subjects of embedded infinitives is of course possible.

not necessarily c-command it. For instance, the PRO of sentential subjects can (although it need not) be coreferent with a non c-commanding element in a *for*-phrase. In example (3c), a natural interpretation for PRO is *John*, although PRO can also refer to *John* + some *x*, or some *x* alone.

(3)   a.   John has decided PRO to finish on time
        b.   PRO to finish on time is important
        c.   PRO to finish on time is important for John

An antecedent need not be local. As observed by Mohanan (1982) and Bresnam (1982), PRO may have an antecedent even across sentences, just like lexical pronouns. Sentences (4) are taken from Bouchard (1984:200) and illustrate non-local control.

(4)   Tom felt embarrassed
        A.   [PRO pinching elephants/himself] was a mistake
        B.   It was shameful, [PRO exhibiting himself in public] like that

In summary, there are two kinds of PRO. The first has anaphoric properties and is locally controlled by the subject or the object of the matrix verb under a relation of c-command. There is thus a relation of referential dependency between PRO and an argument which functions as its antecedent. The second type of PRO is not necessarily subject to control by an antecedent and may receive an arbitrary reading. It has the properties of a freely indexed pronoun.

    With respect to the acquisition data, a few preliminary remarks can be made with respect to the PRO-analysis. The null subject of root infinitives is not bound by an antecedent, since it is licensed in a matrix infinitival clause. What kind of reference does it have, and how does it obtain it? If most null subjects had an arbitrary reading, then the conditions on the interpretation of PRO stated by Control Theory would apply equally to adult and child PRO and nothing else should be said on this particular matter. On the other hand, if these null subjects turned out to have specific interpretation which is presumably drawn from the context or from discourse, then a comparison between adult and child grammars would need to assess whether, and in what measure uncontrolled PRO in the adult language may have this kind of specific interpretation which appears to be highly constrained by discourse. In addition, it is well known that arbitrary PRO is subject to an animacy constraint, and that it cannot be a non-argument. Does the non-finite empty subject of child discourse conform to this general description of PRO? These issues will be taken up in sections 3 and 4.

    Turning now to the formal properties of non-finite null subjects, it is a well established fact that lexical subjects may surface in root infinitives in all the languages studied until now. A few examples from French and other languages are given in (5) and (6) respectively.

(5)   a.   maman manger   (Daniel 1;8;1)
                mummy eat$_{inf}$
        b.   maman faire boum sur le camion   (Philippe 2;1)
                mummy make$_{inf}$ "bang" on the truck
        c.   pas papa le casser   (Marie 1;8;26)
                not daddy it$_{cl}$ break$_{inf}$
        c.   toi aussi pousser   (Marie 1;9;3)
                you too push$_{inf}$
        d.   on ôter   (Augustin 2;3;10)
                "we" remove$_{inf}$

      e.   on jouer aux (pe)tites autos   (Augustin 2;4;1)
             "we" play$_{inf}$ with small cars

      f.   on mettre sur ça   (Augustin 2;9;30)
             "we" put$_{inf}$ over this

(6)   a.   mama komen (Flemish, Krämer 1993)   (Maarten 1;11)
             mummy come$_{inf}$

      b.   Roefje eten (Dutch, Krämer 1993)   (Thomas, age not indicated)
             R. eat$_{inf}$

      c.   Osvald mussa hana (Faroese, Jonas 1995)   (O. 2;0)
             O. kiss$_{inf}$ her

      d.   Eve sit floor (English)   (Eve 1;7)

In some languages, and this is the case for French, the number of overt subjects appears to be extremely low and could perhaps be easily accounted for in the light of a PRO analysis. In other languages, the discrepancy is less important. Table 2 summarizes some data gathered from the literature.

	Overt Subjects [-fin]	%
French		
Daniel (Pierce 1989)	39/205	19.0%
Nathalie (Pierce 1989)	164/295	55.6%
Philippe (Pierce 1989)	41/194	21.1%
Augustin (Rasetti 1999)	5/71	7.0%
Marie (Rasetti 1999)	4/134	3.0%
German		
Simone (Behrens 1993)	278/2477	11.2%
Andreas (Krämer 1993)	32/101	31.7%
Dutch		
Thomas (Krämer 1993)	21/267	7.9%
Heinz (Haegeman 1995a)	106/721	14.7%
Flemish		
Maarten (Krämer 1993)	11/100	11.0%
Hebrew		
26 children (Rhee & Wexler 1995)	85/88	3.4%
Faroese		
O. (Jonas 1995)	94/161	58.4%
Danish		
Anne (Hamann & Plunkett 1998)	273/667	40.9%
Jens (Hamann & Plunkett 1998)	398/937	42.5%
English		
Adam (Phillips 1995)	195/242	80.6%
Eve (Phillips 1995)	138/155	89.0%
Peter (Boster 1997)	172/314	55.0%
Sarah (Valsecchi 1997)		74.6%

Table 2: Distribution of overt subjects in root infinitives

The alternation between overt subjects and PRO is not often attested in infinitival clauses in the adult grammar and is therefore unexpected in early grammars under a PRO analysis of null subjects[5]. If, according to standard assumptions, the licensing of PRO is dependent upon null Case checking (Chomsky & Lasnik 1993) or lack of government and Case (Chomsky 1981), then we must explain why a DP can surface in the same environments. Of course,

---

[5] But see Schütze (1997) for a detailed account of overt subjects in non-finite clauses in adult grammars of English and of some other languages.

default and inherent Case mechanisms can, and have been, invoked to account for these subjects (see for example Friedemann 1993/4), allowing the PRO analysis to be maintained. I will come back to these issues in section 5.

2. METHOD

2.1. Corpus & General

The corpus consists of naturalistic production of five children: Augustin (Hamann, Rizzi & Frauenfelder 1996), Marie (Rasetti 1999), Daniel, Nathalie (Lightbown 1977)[6] and Philippe (Suppes, Smith & Leveillé 1973). Additional information regarding these files can be found in the Appendix 2.

The following utterances were excluded from the counts: exact repetitions of all or part of an adult's utterance, repetitions of memorized material such as songs, stories or TV advertisements, self-repetitions without the production of contentful utterances in-between and utterances in which any unintelligible portion could be critical for the analysis (in this case, the subject). Utterances containing non-finite verbs preceded by a proto-syntactic device[7] were also excluded. Whenever the meaning of an utterance was unclear or seemed at odds with the situation as described in the transcript, the utterance was not included.

With respect to the coding and counting procedures, the following remarks are in order: (a) The term "non-finite" refers to root infinitives only; participles were counted separately and will be treated in future work. (b) Although it is usually assumed that sentences with postverbal subjects have a null subject in preverbal position, these have not been counted as true null subjects. (c) Null subject rates are calculated against all types of overt subjects, i.e. pronouns and lexical DP. The reason for this is that the total of comparison must include lexical subjects given that we must consider all variants of subject drop (topic or diary drop, pronoun drop).

2.2. Assessing the reference of null subjects

In assessing the reference of null subjects, the following readings were distinguished: first, second or third person reference. The latter were further classified according to the presence or absence of animacy features. Expletives were identified separately. Overall, the interpretation was provided by the context, or suggested by adult expanded utterances, comments or questions. None of the selected utterances had a linguistic antecedent for the null subject specified in previous discourse. The only instances in which it could be claimed that PRO is identified by an antecedent are question-answer pairs (7a) or partial self-repetitions (7b), where the use of a matrix infinitive might be regarded as adult-like. Such utterances are relatively rare in the corpus and are not counted as true root infinitives. They were not included in the counts.

(7)   a.   Mother: qu'est-ce qu'il voulait faire, Valentin?
               Augustin: [akate a ti oto xxx] (=écraser la petite auto xxx).
               Mother: il voulait écraser la petite auto de papa?
               Augustin: oui.
               (Augustin 2;2;13)

---

[6] Thanks are due to P. Lightbown for making these data available.
[7] Proto-syntactic devices are monosyllabic place-holders, usually vowels, which presumably fill the position of an auxiliary or modal-type verb, and perhaps also the subject: *[a] ouvrir* (Marie 1;9;16). See Bottari *et al.* (1992).

MOT: what did Valentin want to do? AUG: smash-inf the small car xxx. MOT: he wanted to smash daddy's small car? AUG: yes.

b.　　Philippe:　　on va voir Martine.
　　　　Madeleine:　　on va voir qui?
　　　　Philippe:　　voir Martine.
　　　　(Philippe 2;2;17)
　　　　PHI: we will/are going to see Martine. MAD: hein? we will/are going to see whom? PHI: see-inf Martine.

First person utterances usually reflect the child's intention of performing an action. They also describe an event which takes place at the moment of discourse. An example of first person interpretation is given in (8a). Second person reference usually corresponds to the desire expressed by the child that the interacting adult perform the action named by the verb. These are infinitives used with imperative force, which can be assimilated to the jussive infinitives of the adult grammar[8]. They are illustrated in (8b)[9]. The third person readings are those in which the child is arguably referring to someone or something implicit in the context. Dialogue (8c) below illustrate these.

(8)　　a.　　Father:　　tu veux garder la montre de papa?
　　　　　　　　　　Marie, tu veux garder la montre?
　　　　　　Marie:　　mett(r)e dedans.
　　　　　　Father:　　tu veux la mettre dedans?
　　　　　　Marie:　　ouais.
　　　　　　(Marie 1;8;26)
　　　　　　Situation: Marie is playing with her father's watch and wants to place it inside a box.
　　　　　　FAT: do you want to keep daddy's watch? Marie, do you want to keep the watch? MAR: put-inf inside. FAT: do you want to put it inside? MAR: yes.

　　　　b.　　Augustin:　　pa(r)ti(r), pa(r)ti(r)!
　　　　　　Father:　　il faut aller où?
　　　　　　Augustin:　　à cuisine
　　　　　　Father:　　pour quoi faire à la cuisine?
　　　　　　Augustin:　　aider maman
　　　　　　Father:　　ah bon! au revoir!
　　　　　　(Augustin 2;4;22)
　　　　　　Situation: Augustin is playing with the investigator in his bedroom. His father comes in. Augustin, who prefers to be left alone with the investigator, wants his father to leave the room.
　　　　　　AUG: leave-inf, leave-inf! FAT: where must we/one go? AUG: to kitchen. FAT: to do what in the kitchen? AUG: help-inf mummy. FAT: oh really! bye!

---

[8] Jussive infinitives are mainly found in personal notes, public notices and recipes:
(i)　　Appeler le médecin avant 18 heures
　　　　call_inf the doctor before 6 pm
(ii)　　Ne pas marcher sur la pelouse
　　　　neg not walk_inf on the grass
(iii)　　Couper les tomates
　　　　cut_inf the tomatoes
[9] Note that *aider maman* has not been counted as a true root infinitive, given that it is a possible adult reply to the father's question. The second person reading refers to *partir*.

     c.   Father: oh, mais là, qu'est-ce qu'il y a là?
                 Marie: qu'est(-ce) qu'y a là? manger, hein?
                 Father: ah oui, il y a un petit ours. petit ours qui mange.
                                il prend son petit déjeuner.
                                qu'est-ce qu'il va manger, le petit ours?

(Marie 2;1;28)

Situation: Marie and her father are "reading" a book.

FAT: oh, but there, what's that in there? MAR: what's that in there? eat-inf, hein? FAT: oh yes, there is a little bear. little bear who's eating. he's having his breakfast. what is he going to eat, the small bear?

Sometimes the verb designates an action in which the intended subject is unclear. The child might be referring to him/herself, to the interacting adult, or to anyone relevant to the context. The adult's replies in those instances are not particularly illuminating, and therefore such examples have been set aside as unclear. They are illustrated in (9).

(9)   a.   Father: ça c'est des piles, Marie.
                 Marie: @ ouv(r)ir?
                 Father: hein?
                 Marie: ouv(r)ir?
                 Father: on ne peut pas ouvrir. non, Marie, on ne peut pas ouvrir. on ne
                                peut rient faire avec les piles.

(Marie 1;9;3)

Situation: Marie is playing with her father; she finds some batteries.

FAT: these are batteries, Marie. MAR: [@] open-inf? FAT: hein? MAR: open-inf? FAT: we/one cannot open. no, Marie, we/one cannot open. we/one can do nothing with batteries.

     b.   Mother: non, c'est Christelle, elle veut le manger après, pas tout de suite;
                                alors on veut pas le peler maintenant, on veut pas enlever la peau
                                qu'il y a autour.
                 Augustin: ôter (l)a coquille?

(Augustin 2;0;23)

Situation: Augustin, his mother and the investigator are having a snack; boiled eggs are on the table and Augustin wants to take their shells off.

MOT: no, it's Christelle, she wants to eat it later, not now, so we don't want to take the shell off now, we don't want to remove the shell which is around it. AUG: remove-inf the shell?

The example in (10) shows another type of utterance which was excluded as unclear.

(10)   Augustin: couper
                 Mother: oui, ben je coupe (xxx)
                 Augustin: [E] coupe [tu a ta], maman (=elle coupe sur la table maman)

(Augustin 2;4;1)

Situation: Augustin, his mother and the investigator are in the kitchen.

AUG: cut-inf. MOT: yes, well, I'm cutting (xxx). AUG: she's cutting on the table, mummy.

One might suppose that the child is addressing his mother, thus intending a second person reference in the infinitival utterance; however, reference is made to his mother in the third person in the finite clause that follows. It becomes difficult to determine the grammatical subject in the matrix infinitive clause, although the referent is clearly the mother. As a matter of fact, this example reveals that, although identifying the discourse referent meant by the child may be relatively easy, determining the grammatical reference is not necessarily a simple task. Note, for example, that when the child refers to him/herself, s/he might doing so through his or her own name, in which case the null subject would have a third person reading. It is worthwhile noting however that in the corpus under analysis there are very few cases of overt self-reference in the third person, with the exception of some utterances attested in Philippe's production.

(11)   Philippe il rentre   (Philippe 2;1;26)
        P. he enters

The same criteria were applied in the analysis of finite contexts. Agreement specifications are included in the transcripts, but cannot always identify null subjects, given that for most verbs first, second and third person singular are homophonic. Plural endings are sometimes distinguishable; however, references to plurality are extremely rare in the corpus. On the other hand, irregular verbs such as *aller/*"go" (first p. sing. *vais* /vE/ or /ve/ *vs*. second and third p.sing. *vas* and *va* /va/) and *être/*"be" (first p.sing *suis* /sW/ *vs*. second and third *es* and *est* /E/) of course indicate the reference more clearly.

    To conclude this section, a methodological note is in order. The adult comments and replies to the child are supposed to translate the context and this is why they are taken into account here. Of course, nothing prevents the adult from misinterpreting the child's intentions, or the reader from misinterpreting everything. Even though the child usually answers positively to the adult clarifying question (e.g. 8a), it may be that the adult translates the child's "intention" only approximately. Imagine, for instance, that Marie in example (8a) means something roughly like *il faut mettre dedans* ("*exp*/one must put inside") which her father interprets as *je veux mettre dedans* ("I want to put inside"). Her utterance should then be counted as an instance of third, not first person reference. Although difficulties of that sort cannot be entirely avoided, it should be noted that care has been taken to maintain as much as possible an objective approach to the transcripts.

3. INTERPRETIVE PROPERTIES OF EARLY NULL SUBJECTS

3.1. Child French: results of the analysis

Table (3) below summarizes the findings concerning null subject interpretation in root infinitives, which will be commented on the next chapter.

Child	1st person	2nd person	3rd person [+animate]	3rd person [-animate]	expletives	unclear	Total NS
Augustin	30	16	0	2	0	25	**73**
Marie	90	26	5	2	0	49	**172**
Philippe	116	45	5	3	0	50	**219**
Daniel	111	7	16	6	0	44	**184**
Nathalie	32	3	2	0	0	16	**53**
Total	**379**	**97**	**28**	**13**	**0**	**184**	**701**
%	**54.1%**	**13.8%**	**4.0%**	**1.9%**		**26.2%**	

Table 3: Subject interpretation in root infinitives

The first important finding is that the overall majority of null subjects, that is 74%, is assigned specific reference. First, second and third person readings can be clearly inferred from the context in the absence of referential links to potential antecedents. Arbitrary or generic readings were not attested[10]. A surprising fact, for which I have no explanation for the time being, is the substantial amount of first person references as compared to second and third person readings. If these utterances have been correctly interpreted, in more than a half of the total amount of root infinitives the null subject refers to the speaker.

The second interesting interpretive property of non-finite null subjects is the extremely low number of inanimate subjects found among those identified as bearing third person reference. Only 2% fall within this category, and the examples are extensively listed below with the implicit subject indicated within parenthesis. Note however that the number of inanimate null subjects becomes significant when considered in the light of the total number of third person contexts. In fact, among 41 third person subjects, 13, that is 31.7%, are inanimate.

(12) a. tirer pour tracteur   (Augustin 2;4;1)
          push$_{inf}$ for tractor
      b. rouler (car)   (Augustin 2;4;22)
          run$_{inf}$
      c. tout tomber (légo tower)   (Marie 1;11;18)
          all fall$_{inf}$
      d. s'en aller (soap bubbles)   (Marie 2;0;9)
          go$_{inf}$
      e. tomber (microphone)   (Philippe 2;1;19)
          fall$_{inf}$
      f. rouler (car)   (Philippe 2;2;26)
          run$_{inf}$
      g. rouler comme ça (car)   (Philippe 2;3;0)
          run$_{inf}$ like this
      h. écraser (truck)   (Daniel 1;8;3)
          run$_{inf}$ over
      i. enlever la neige (tractor)   (Daniel 1;8;3)
          remove$_{inf}$ the snow
      j. pas sortir sur garage (tractor)   (Daniel 1;10;2)
          not go$_{inf}$ out on garage
      k. casser a maison (tractor)   (Daniel 1;10;2)
          break$_{inf}$ the house
      l. casser (tractor)   (Daniel 1;10;2)
          break$_{inf}$
      m. pas aller debout (bulldozer shovel)   (Daniel 1;11;1)
          not go$_{inf}$ up

---

[10] We cannot exclude the possibility that, among the cases counted as unclear, some might have a generic reading. It is my feeling though that very few examples could be said to belong to the latter category, because the difficulty in the majority of dubious cases consisted in determining whether the child was designating him/herself or any of the interacting adults. As is well known, children tend to refer to their immediate reality and they do not usually produce utterances with generic readings.

The third fact relevant for a PRO analysis of non-finite null subjects is the complete absence of null expletives in root infinitives. As indicated by the # symbol, no cases like (13) were attested.

(13)   a.   #falloir boire
              must$_{inf}$ drink
        b.   #en avoir beacoup
              of-it have$_{inf}$ much
        c.   #pleuvoir
              rain$_{inf}$

In conclusion, the overall picture with regard to the interpretation of non-finite null subjects in early French is the following. Three thirds of the total amount of these null subjects are assigned specific reference through discourse and they are not referentially linked to any c-commanding or sentence-external antecedent. Arbitrary readings are not attested[11]. Approximately one half of the overall amount of null subjects can be identified as first person. Inanimate third person subjects, although rare, represent a significant percentage of third person references, that is, almost one third. Expletive null subjects are virtually unattested.

   A glance at the interpretive properties of null subjects in finite environments highlights the facts discussed above. Null subjects of tensed environments are also discourse identified, given the relatively poor inflectional morphology of French. However, their interpretive properties diverge from those of non-finite null subjects. Table 4 below summarizes the findings concerning the interpretation of null subjects in finite contexts.

Child	1st person	2nd person	3rd person [+animate]	3rd person [-animate]	expletives	unclear	Total NS
Augustin	44	5	61	36	19	10	**175**
Marie	134	9	26	22	23	40	**254**
Philippe	119	11	7	36	64	17	**254**
Daniel	79	2	56	23	10	21	**191**
Nathalie	28	2	5	25	17	12	**89**
Total	**404**	**29**	**155**	**142**	**133**	**100**	**963**
%	**42.0%**	**3.0%**	**16.1%**	**14.7%**	**13.8%**	**10.4%**	

Table 4: Subject interpretation in finite environments

Again, first person reference is extremely frequent and corresponds to 42% of all finite null subjects. This is also true for each child considered individually as the tables in the Appendix 3 show. The comparison between tables 3 and 4 also reveals, however, that finite null subjects are assigned third person reading much more often than non-finite null subjects. Whereas in non-finite environments first person interpretation is largely predominant, in finite contexts first and third person interpretations are somewhat balanced across the corpus, representing 42% and 30.8% respectively. As for the unclear cases, they represent only 10.4% of all utterances, probably because the finite inflection, although relatively poor, often helps identifying the subject, especially in the case of irregular verbs such as *être*/"be" and *aller*/"go".

   While in non-finite contexts approximately one third of all third person subjects is inanimate, in finite environments animate and inanimate null subjects are evenly distributed among third person subjects (16.1% and 14.7% respectively). Some examples are listed below.

---

[11] But see the preceding footnote.

(14) a.   est pour maman (sausage)   (Augustin 2;0;2)
              is for mummy
      b.   tombe (box)   (Marie 1;11;5)
              falls
      c.   pique (wine)   (Daniel 1;8;1)
              tingles

Contrary to root infinitives, finite clauses license expletive null subjects. These are mainly *il* in *il faut* ("it is necessary", "one must") and in the existential construction *il y a* ("there is"), as illustrated by (15a) and (15b) respectively. There are also examples of null *ce* ("this") in the *c'est* ("this is") construction which selects [+human] arguments. The latter is exemplified in (15c).

(15) a.   faut d'abord enlever les chaussettes (=il)   (Marie 2;1;4)
              must first remove the socks
      b.   non a plus dedans (=il)   (Daniel 1;11;1)
              no have no-more inside
      c.   est papa (=ce)   (Augustin 2;4;22)
              is daddy

To summarize, finite environments tend to license a larger proportion of third person null subjects than root infinitives, although the amount of first person references remains significant. Animate, inanimate and expletive readings are equally distributed among third person subjects. Besides highlighting the interpretive properties of non-finite null subjects, these findings have some important consequences for the analysis of null subjects in general, which will not be discussed in detail here. Let me just mention two of these consequences. First, the fact that null expletives are licensed in tensed environments renders implausible the topic drop (pragmatic) analysis of finite null subjects proposed by Bromberg & Wexler (1995) and Wexler (1998). Second, independently of the analysis one wants to adopt, the different interpretive properties associated to null subjects of finite and non-finite environments support an account of subject drop which dissociates finite from non-finite null subjects (e.g. Bromberg & Wexler 1995, Rizzi 1998; 1999, *contra* Roeper & Rohrbacher 1994 and Sano & Hyams 1994).

4. UNCONTROLLED PRO IN (CHILD AND ADULT) INFINITIVAL CLAUSES

The aim of this section is to compare the findings above to the interpretive properties of uncontrolled PRO in the adult grammar. The general picture does not seem to favor a PRO analysis of null subject of root infinitives. First, the specific reference conveyed by non-finite null subjects of early grammars is at best only partially similar to the *quasi*-existential interpretation which is available for adult PRO. Second, inanimate referent readings, incompatible with adult PRO, are attested in the corpus at significant rates. Third, the absence of null expletives turns out to be irrelevant because environments in which expletives could be dropped are totally absent from the corpus.

4.1. Arbitrariness x specificity

In standard versions of Control Theory, uncontrolled PRO is arbitrary. The term arbitrary is usually taken to refer to some underdetermined person, perhaps anybody or perhaps anybody relevant to the context. These notions are formally stated by Cinque (1988) whose general theory of arbitrary interpretation is briefly summarized in the following lines.

Cinque (1988) distinguishes between two usages of the notion arbitrary which are linked to the notions of universal and existential quantification. These two usages, which differ in a number of ways and are referred to as quasi-universal and quasi-existential, are two contextual variants of the same arbitrary usage. The first is incompatible with specific time reference and with the existence of a single individual satisfying the description. On the other hand, it is compatible with generic time reference and with contexts suspending the specificity of the time reference. The second, on the contrary, is compatible with specific time reference and with the existence of a single individual satisfying the description, but incompatible with generic time reference and with contexts suspending the specificity of temporal reference. The different interpretations acquired by the arbitrary elements are a function of the different semantics of the time reference of their sentence. Generic time will give rise to a quasi-universal reading, whereas specific time will only allow a quasi-existential interpretation. The interpretation of PRO as a quasi-universal or a quasi-existential quantifier is dependent upon the time reference of the matrix verb, given that the infinitival predicate has no independent time reference. Consider the examples below (Cinque's (69b) and (70)).

(16)   a.   PRO essere stati accusati per me non significa necessariamente PRO essere colpevoli
                 Having been accused does not mean for me being guilty
        b.   Avergli risposto sgarbatamente (mi pare fosse stato Carlo) ebbe l'effetto di una provocazione
                 To have answered him rudely (I think it was Carlo) had the effect of a provocation

The matrix verb in sentence (16a) has generic time reference and therefore the PRO subject of the embedded clause is compatible with a quasi-universal, or generic, interpretation. On the other hand, when the time reference of the finite verb is specific, a quasi-existential interpretation becomes possible for PRO. This is attested by the possibility of adding to (16b) the expression between parenthesis, which implies that the existence of a single individual satisfying the description is compatible with the interpretation of the sentence.

In specific time contexts with ergative, psych-movement, copulative, passive and raising verbs, a third possibility arises. The quasi-existential interpretation is lost and replaced by a first person plural reading, although, as Cinque notes, a (discourse) coreferential reading remains possible. The example in (17) (Cinque's (71a)), illustrates the incompatibility of the quasi-existential interpretation with an ergative verb.

(17)   Partire in ritardo (*mi pare fosse stato Carlo) ha significato perdere tutto
        To leave late (I think it was Carlo) meant to lose everything

Among the three types of interpretation available for arbitrary PRO, is there any which might be compatible with the interpretation of the child's empty subject? As seen in the previous section, most null subjects of matrix infinitive clauses in the corpus, that is 74%, are assigned specific readings. In the sense that the interpretation of these null subjects is compatible with the existence of a single individual which satisfies the description, this interpretation could look like the quasi-existential reading of adult PRO$_{arb}$. However, the quasi-existential adult interpretation is not identical to the specific interpretation of early null subjects. In the first case, although the quasi-existential interpretation is *compatible* with the existence of a single individual satisfying the description, this single individual is not directly referred to. On the other hand, in the second case the identification of the subject is quite precise. Compare (16b)

to (8c), repeated here as (18). In (16b), the subject of *avergli risposto* could be *Carlo*, but not necessarily, whereas in (18), the subject of *manger* is definitely *un petit ours*.

(18) Father: oh, mais là, qu'est-ce qu'il y a là?
      Marie: qu'est(-ce) qu'y a là? manger, hein?
      Father: ah oui, il y a un petit ours. petit ours qui mange.
                        il prend son petit déjeuner. qu'est-ce qu'il va manger, le petit ours?
      (Marie 2;1;28)
      Situation: Marie and her father are "reading" a book.
      FAT: oh, but there, what's that in there? MAR: what's that in there? eat-inf, hein?
      FAT: oh yes, there is a little bear. little bear who's eating. he's having his breakfast.
      what is he going to eat, the small bear?

The interpretation of PRO as a quasi-universal or a quasi-existential quantifier in adult grammars is dependent upon the time reference of the matrix verb, given that the infinitival predicate has no independent time reference. If root infinitives are the matrix verbs themselves, the time reference will be given either by the infinitival verb or by the context. An infinitival clause can hardly be assumed to convey specific time reference. If the accounts of root infinitives based on the absence or underspecification of functional categories[12] are correct, Tense does not project onto the structure of a root infinitive, which means that the time reference normally conveyed by the values of Tense is absent. The temporal reference of the sentence is then drawn from discourse, potentially allowing both kinds of quantifier interpretation according to the context. Further examination of the data is necessary before any conclusion can be drawn on this matter. At any rate, under the continuity hypothesis, early "PRO" must be viewed as special with respect to identification mechanisms.

4.2. Animacy

It is well known that arbitrary PRO seems to get a preferred reading with the feature [+animate]. The English example in (19a) from Bouchard (1984) is translated to French in (19b). As he notices, the interpretation of the English sentence is fine if PRO refers to humans or animals, but awkward if it refers to rocks or trees. The same observation carries over to French.

(19) a.   PRO rolling down the hill would be dangerous
      b.   PRO dévaler la pente serait dangereux

In non-obligatory control structures, if a potential binder for PRO, marked with [−animate] features, is inserted, the status of the sentence is degraded.

(20)   *[PRO dévaler la pente] est impossible pour ces pierres
        to roll down the hill is impossible for these rocks

Control cannot therefore be solely dependent on configurational phenomena such as the presence of absence of a c-commanding antecedent or an available long-distance binder. Semantic properties of the predicates involved must be taken into consideration. *Impossible* is a predicate and as such must be related to an argument. If the argument of *impossible* is not explicitly expressed (as in (19) for example), it is assumed to be "someone", given the animacy constraint on PRO. If this argument is expressed on a *for*-phrase, then it qualifies as

---

[12] Wexler (1994, 1995, 1998), Rizzi (1994b, 1998, 1999).

a controller and the interpretation of PRO in (20) is forced by trying to have it bound by the inanimate DP in the predicate clause. The result is ungrammatical, which shows that coreference is impossible.

Bouchard (1983) appeals to Marantz (1981) for an account of this restriction on animacy. The agent role, that is the role of an active, animate being who intentionally causes something, is generally assigned to the subject of the predicate produced by the verb. If being an agent is the unmarked case for a subject in languages like French or English, then the preferred reading for free PRO will be that of an [+animate].

As seen in section 3, the constraint on animacy which is a property of adult PRO is not respected by the children under study. As for the case of interpretive properties, if the PRO-analysis is to be adopted we must assume that the PRO of early grammars is somehow special in that it is not subject to the animacy requirement imposed on adult PRO.

4.3. Arguments, Quasi-Arguments, Expletives

Uncontrolled PRO in adult grammars is almost always an argument. If the theta grid of the verb demands an expletive subject, PRO will not be possible, as illustrated by the impersonal constructions in (21) and (22), and the cleft sentence in (23).

(21) a.   Il faut [PRO penser aux autres]
            exp must think of others
      b.   *PRO falloir penser aux autres est …
            must$_{inf}$ think of others is ...

(22) a.   Il y a beaucoup de fleurs dans les champs
            exp there have many flowers in the fields
      b.   *PRO y avoir beaucoup de fleurs dans les champs …
            exp there have$_{inf}$ many flowers in the fields ...

(23) a.   C'est papa qui fait
            it is daddy who does
      b.   *PRO être papa qui fait…
            be$_{inf}$ daddy who does

PRO can also function as a quasi-argument, since it can be controlled by weather *il* ("it"). It is less clear whether this type of interpretation obtains in uncontrolled environments. The French native speakers consulted on the matter tend to find (24b) rather odd.

(24) a.   Il neige sans PRO pleuvoir
            it rains without PRO snowing
      b.   ?PRO neiger en été est impossible
            to snow in Summer is impossible

If quasi-arguments are special types of arguments which receive a theta-role that cannot normally be assigned to fully referential arguments[13], then it seems to be the case that uncontrolled PRO can function either as an argument or a quasi-argument, but in any case not a pure expletive.

As we have seen, the null subject of root infinitives in the child grammar of French is never an expletive. However, this fact alone cannot be taken as evidence that this empty

---

[13] Note that *ça pleut* (this rains) is acceptable in colloquial French, but it remains part of a very informal register.

category is indeed PRO. All that can be concluded is that an analysis in terms of PRO would be compatible with the data. To render this results relevant, one would have to show that the child has the opportunity of dropping expletives in root infinitives, but that s/he does not do it. Unfortunately, there are none because the verbs taking expletive subjects, and which are produced by the children, almost never appear in non-finite form in early speech. These are basically *falloir* ("must"), lexical (existential) *avoir* ("have") and, to a less extent, the copula *être* ("be") in the *c'est*[14] ("it is") construction. Weather verbs are practically absent from the corpus. Functional verbs have been shown to appear only in their inflected form in early grammars and this could explain the restriction on *falloir* and *être*. The verb *avoir* should not be subject to a similar constraint, given that it is a lexical verb. It might be the case that children make the distinction between its existential and possessive meanings, and that the first, being somehow closer in meaning to functional verbs than to pure lexical ones, would not appear in its non-finite form. At any rate, only the following three instances of *avoir* are attested in the corpus.

(25)   a.   encore avoir deux (trousers?)   (Marie 2;3;13)
               still have two
        b.   après i(l) doit avoir les aut(r)es   (Augustin 2;9;2)
               after it must have the others
        c.   on va avoir une autre bougie   (Daniel 1;11;1)
               "we" will have another candle

The meaning of the only root infinitive containing this verb, (25a), is not clear between an existential and a possessive interpretation. Example (25b) is clearly the only occurrence of *avoir* in the existential construction, but in a finite environment, and (25c) is an example of possessive *avoir,* also in a finite clause. The insignificant amount of occurrences does not allow any conclusion on this matter.

       In sum, non-finite impersonal verbs are not attested in early productions, which means that the absence of expletive drop is irrelevant for the PRO account of non-finite null subjects.

4.4. Implicit control

The cases of implicit control discussed in the literature on PRO typically involve implicit arguments of matrix verbs. In that sense, and under the analysis of root infinitives as incomplete structures, there is no way in which early PRO can be said to depend on an implicit antecedent. Manzini (1983), Koster (1984) and Epstein (1984) among others claim that the semantic properties of certain predicates may allow for the presence of implicit arguments which, in control environments, will be able to control PRO. In (26a-c) the implicit arguments are indicated within the parenthesis.

(26)   a.   John said (to x) PRO to behave oneself (Manzini 1983: 423)
        b.   My teacher suggested (to me) PRO to take another topic (Koster 1984: 429)
        c.   It is fun (for x) PRO to play baseball (Epstein 1984: 502)

The implicit controllers of Manzini (1983) and Koster (1984) are somehow integrated in the lexical structure of the predicate but it is not clear whether or how they are structurally

---

[14] Other verbs taking the expletive subject *il* like *sembler* ("seem"), or *paraître* ("appear) are not attested in early productions. A few occurrences of impersonal *manquer* ("lack") and *devoir* ("must") were attested.

expressed[15]. For Epstein (1984), the theta-marked complement argument to the adjective in (26c) is interpreted at LF, and therefore it must be present at all levels of representation, assuming the correctness of the Projection Principle of Chomsky (1981). Koster (1984) defines a locality property of an important class of control cases which states that the controller for an embedded subject PRO is a designated argument of the minimal argument structure containing the control complement. This minimal argument structure generally contains the matrix clause, plus the infinitival one which is either its subject or its complement. If the presence of implicit controllers depends upon a matrix clause, it becomes clear that implicit control cannot account for the interpretation of early non-finite null subjects. In Rizzi's (1994b) truncation approach adopted here, a root infinitive is a matrix clause itself, therefore there can be no adjacent main structure containing a non-overt controller. The same observations carry over to the Agreement or Tense deletion models of Wexler (1994, 1995, 1998) and Schütze & Wexler (1996a,b).

5. FORMAL LICENSING OF NON-FINITE NULL SUBJECTS

The interpretive properties of early "PRO" do not exactly match those of adult PRO. Further problems for a PRO account of the non-finite null subject of early grammars arise from facts regarding formal licensing requirements for subjects in general. It is well known that overt subjects may surface in root infinitives. Ideally, and especially if a uniform analysis of non-finite null subjects as PRO is to be maintained, subject drop in these environments should closely approach the rate of 100%. This would indicate that root infinitives, like adult infinitival clauses, have certain structural properties, which of course still need to be specified, which will not only allow but, more importantly, always require null subjects. This is obviously not the case. The aim of this section is to raise some questions regarding the formal licensing of subjects in root infinitives in French and other languages, which will lay the basis for future research.

5.1. Infinitival clauses in adult French

5.1.1. Matrix infinitives

Matrix environments in which the infinitive clause functions as sentence predicates are very limited, and not productive in colloquial registers. These are: interrogative infinitives (27), jussive infinitives which concern a general and impersonal command and which are generally found in public notices, recipes, etc. (28), and exclamative infinitives (29)[16]. The example in (29b) correspond to the so-called Mad-Magazine (MM) sentences studied by Akmajian (1984) and have been discussed in connection with early English by Schütze (1997). In French MMs, an overt DP in subject position can, but need not have a specific intonational contour and be followed by an pause, which suggests that a subject in this position has not necessarily been dislocated. These are the only environments in which a null subject may

---

[15] Implicit arguments do not necessarily correspond to a slot in the structure. Rizzi (1986) for example argues that arbitrary null objects which are inherent in the semantics of some verbs may be structurally represented in Italian but not in English.

[16] I leave aside the following types, which belong to the literary register or are rather rare in colloquial French:
a) "narrative" or "historical" infinitives, introduced by *de*:
(i)   Et de me retourner, abasourdie, sur ce jeune oiseau de garage que j'ai pourtant couvé (Colette, *Voyage égoiste*, p.99).
(ii) Et pains d'épices de voler à droite et à gauche (J.-J. Rousseau, *Rêveries*, IX).
b) relatives:
(i)   Aucun visage sur qui reposer ses yeux dans cette foule (Mauriac, *Thérèse Desqueyroux*, p.57).

alternate with an overt DP, as indicated by the parenthesis. In this case, if the subject is a pronoun, it surfaces with Oblique Case[17]. The remaining examples are ruled out with any type of overt subject.

(27)   Que (*Marie/*elle/*la/*lui) faire? Où (*Marie) aller?
        What M./3rd p.sing.$_{NOM/ACC/DATorOBL}$ do$_{inf}$? Where go$_{inf}$

(28)   (*Augustin/*il/*le/*lui) Mettre au four
        A./3rd p.sing.$_{NOM/ACC/DATorOBL}$ Put$_{inf}$ in oven

(29)   a.   (*Philippe/*il/*le/*lui) Dire qu'il a neigé pendant dix jours!
                P./3rd p.sing.$_{NOM/ACC/DATorOBL}$ Say$_{inf}$ that it has snowed for 10 days
        b.   Quoi?! (Nathalie/*je/*me/moi) partir? Jamais!
                What?! (N./3rd p.sing.$_{NOM/ACC/DAT/OBL}$ leave? Never!

The examples above show that, except for the construction in (29b), full DPs as well as Nominative, Accusative, Dative and Oblique pronouns are disallowed in the subject position of matrix infinitives in the adult grammar. If we compare these examples to the matrix infinitives found in early grammars, we see that, at least in surface, some root infinitives may look like adult jussive or MM type infinitives. A full comparison between adult and early structures is intended for future work, but section 5.2 briefly comments on the various types of subjects allowed by child grammars in root infinitives.

5.1.2. Embedded clauses

The usual environments for infinitival clauses are of course sentential subjects (30) and complements selected by a main verb (31), introduced sometimes by a preposition (*de*/"of", *à*/"to", *pour*/"for"). Unselected complements of intransitive verbs may also appear in the infinitive form (32). Subjects of infinitive clauses are non-overt.

(30)   *Daniel/PRO partir maintenant serait une erreur
        Leave$_{inf}$ now would be a mistake

(31)   a.   Marie adore [*Augustin/PRO manger du chocolat]
                Marie loves eat$_{inf}$ chocolate
        b.   Daniel commence [à *Philippe/PRO parler convenablement]
                Daniel starts to talk$_{inf}$ properly

(32)   a.   Il part [*Nathalie/PRO manger]
                He leaves eat$_{inf}$
        b.   Il revient [*Grégoire/PRO travailler]
                He comes back work$_{inf}$

While PRO and overt DPs may appear with infinitive verbs in subordinate clauses, it is not true that both may alternate in the same clause. Examples (33) and (34) show that, in

---

[17] Oblique Case forms are the following: *moi* (1st p.s.), *toi* (2nd p.s.), *lui* (3rd p.s. masc.), *elle* (3rd p.s. fem.), *nous* (1st p.pl.), *vous* (2nd p.pl.), *eux* (3rd p.pl. masc.), *elles* (3rd p.pl. fem). Some forms are morphologically identical to Nominative, Accusative or Dative forms. *Elle(s)*, *nous* and *vous* can be Nominative forms. *Nous* and *vous* are also Accusative forms. *Lui*, *nous* and *vous* belong to the Dative paradigm. Irrelevantly, of course, Accusative and Dative clitic pronouns can appear preverbally as objects.

constructions with perception and causative verbs, non-overt subjects are allowed with uninflected verbs in the subordinate clause.

(33)   J'entend [les enfants/ec sonner à la porte]
        I hear the children ring$_{inf}$ at the door

(34)   Jean fait/laisse [parler les enfants/ec]
        John makes/let speak$_{inf}$ the children

However, these are clearly Exceptional Case Marking contexts, and if the subject of the uninflected verb is non-overt, it cannot be PRO, given that Case is assigned by the matrix verb.

5.2. Early French

Root infinitives in the corpus under analysis are, for the most part, subjectless. The table below contains revised data from Rasetti (1999), to which new transcripts from Augustin and Marie have been added. It can be seen that the subject is omitted in 88.7% of the cases, and that overt subjects surface in 10.3% of the root infinitives.

Child	Null subjects	preV DP	Non-NOM pronouns	NOM clitics	postV DP	Total RI
Augustin	73	0	0	8	1	82
Marie	172	1	2	0	1	176
Philippe	219	6	0	2	13	240
Daniel	184	13	11	3	10	221
Nathalie	53	10	0	0	8	71
Total	**701**	**30**	**13**	**13**	**33**	**790**
% of RI	**88.7%**	**3.8%**	**1.6%**	**1.6%**	**4.2%**	

Table 6: Distribution of subjects in root infinitives

Infinitival clauses containing preverbal Nominative clitics (*je*/"I", *tu*/"you", *il*/"he", *elle*/"she", *nous*/"we", *vous*/"you", *ils*/"they" masc., *elles*/"they" fem.) are seldom attested in French: in the entire corpus under analysis here, only 13 examples of the sort were found (8 for Augustin, 3 for Daniel and 2 for Philippe)[18], which corresponds to 1.6% of all root infinitives.

---

[18] Augustin's utterances are the following:
(i)   on ôter (three times)   (2;3;10)
        "we" take-*inf* out
(ii)   on jouer aux (pe)tites autos   (2;4;1)
        "we" play-*inf* with small cars
(iii)   on jouer au [tita]   (2;4;1)
        "we" play-*inf* with [tita]
(iv)   on ôter l'élastique   (2;4;22)
        "we" remove-*inf* rubber-band
(v)   il [manE] l'élastique   (2;4;22)
        he eat-*inf* rubber-band
(vi)   on mettre sur ça   (2;9;30)
        "we" put-*inf* on this
Philippe's utterances also involve the pronoun *on*:
(iv)   on en mettre là   (2;6;13)
        "we" of-this put-*inf* there
(v)   des animaux on tuer   (2;6;20)
        some animals "we" kill-*inf*

Note that subject clitics are nevertheless used productively with inflected verbs: in the corpus under analysis approximately one third of all finite verbs occur with subject clitics (Rasetti 1999). The extreme scarcity of Nominative clitics in preverbal position suggests a reanalysis in terms of proto-syntactic devices, as suggested by Hamann et al. (1996) who, in their detailed study of Augustin's acquisition of the French pronominal system, note that all the cases of preverbal Nominative subject involve the impersonal subject clitic *on* ("people", "we")[19]. They suggest that some or even all the cases could be reanalyzed as being instances of the proto-syntactic device [o], found elsewhere in the corpus, rather than a genuine occurrence of the subject clitic.

Sentences in which a lexical DP surfaces preverbally are less rare, but still unusual. I have counted 30 instances in the entire corpus, which correspond to 3.8% of all root infinitives. The example in (35) illustrates a preverbal lexical subject occurring in a root infinitive.

(35)   maman manger   (Daniel 1;8;1)
         mummy eat$_{inf}$

In addition to Nominative clitics and lexical DPs, we also find occurrences of non-Nominative pronouns like (36) below. Oblique subjects are attested in only 1.6% of all root infinitives. It should be noted however that of the 13 tokens containing an Oblique pronoun such as *moi* ("me") or *toi* ("you"), 11 come from Daniel's corpus. This child resorts to a special strategy not attested with any of the other children with similar frequency. The other two examples come from Marie's corpus.

(36)   moi aller à la maison   (Daniel 1;10;2)
         me go$_{inf}$ home

Postverbal subjects represent 4.2% of the subjects of root infinitives. This number is possibly a very low estimate, since I have only counted as postverbal subjects those DPs which the context indicated to be undoubtely the subject, as opposed to DPs which could be analysed as postverbal vocatives.

(37)   Faire boum sur camion maman   (Philippe 2;1)
         make$_{inf}$ bang on truck mummy

Summarizing, among 790 root infinitives, 30 (3.8%) have preverbal DP subjects on which there is no overt Case marking, 13 (1.6%) have Nominative clitics, and 13 (1.6%) have Oblique pronouns. The majority of subjects are of course non-overt, as seen before (701 or 88.7%), and the remaining 33 are postverbal (4.2%), possibly analyzed as co-occurring with a null subject in preverbal position.

Daniel, on the other hand, uses the clitic subject pronoun *elle* ("she") and *je* ("I"). One of the examples is unclear, although it has been analyzed as an instance of *je* ("I").
(vi)   moi [j@] prendre @ petit joujou   (1;10;2)
        me I take-*inf* small ...
(vii)   elle tenir celui-là   (1;11;1)
        she hold-*inf* that one there
(viii) moi je mettre   (1;11;1)
        me I put-*inf*

[19] Hamann et al. (1996) report five occurrences of *on* subjects. The three additional ones cited here come from an extended version of Augustin's transcripts which were unavailable at that time.

The low percentages of preverbal subjects with root infinitives and their distribution in the corpus might suggest that these strategies do not represent true grammatical options for every child, especially if we take into account the following facts: a) the majority of preverbal DP subjects come from Daniel's and Nathalie's files, 13 and 10 tokens respectively; besides, 9 out of Nathalie's 10 preverbal lexical subjects come from a single file (Nathalie-6), and b) half (or maybe all) of the Nominative clitics may be reanalyzed as proto-syntactic devices. On the whole, then, these sentences would appear to be isolated cases, suggesting the existence of special strategies specific to one child or another at a certain stage of development. Their scarcity also makes plausible the hypothesis of performance errors or even transcript mistakes. Interpreted as such, they cannot be viewed as a serious challenge for an analysis in terms of PRO for the empty subject of root infinitives.

On the other hand, and studies of larger corpora might be useful in this respect, it is possible that these utterances are indeed made available by the child's grammar and do not constitute performance errors or transcript mistakes. As a matter of fact, preverbal subjects, which are rare in French root infinitives, are attested at much higher rates in other languages, as shown by table 2 in section 1. It might be the case that the general optionality concerning the phonetic realization of subjects in root infinitives and the variability across languages is linked to language specific properties.

5.3. Early English

Contrary to what could have been expected under English-based analyses of early null subjects as PRO[20], overt subjects of root infinitives in English are reported to be more often overt than empty. Phillips (1995), Boster (1997) and Valsecchi (1997)

Schütze (1997) follows Chomsky & Lasnik (1993) in claiming that PRO requires a special kind of licensing, this being the only factor regulating the syntactic distribution of PRO. However, he claims that PRO and overt subjects are not generally in complementary distribution. In a number of environments, both PRO and overt subject DPs are licensed. These are adjunct gerunds (38a), adjunct small clauses (38b) and imperatives (38c), non-selected *to*-infinitive construction (38d) and perhaps the so-called Mad Magazine sentences (39).

(38)   a.   John/PRO leaving early would be rude
        b.   PRO/His girlfriend {frightened/a suspect/under surveillance}, John didn't know
              which way to turn
        c.   Nobody/PRO move!
        d.   John hurried, only PRO/for his friends to arrive late because of trafic

(39)   A: Why don't you get a respectable job?
        B: PRO/me get a respectable job? Who do you think I am? (Schütze 1997:31)

On the other hand, there remains environments in which PRO is required and an overt DP disallowed (obligatory control sentences), and others in which PRO is disallowed and an overt DP required (tensed indicative, modal and subjunctive clauses). But what the sentences in (38) and (39) are meant to show is that non-finite clauses may license their own subject internally. Similar facts obtain in other languages in which overt DPs are generally licensed by non-finite clauses (Russian, Finnish, Latin, Irish, Dutch, European Portuguese, Italian and Spanish). Since adult English non-finite clauses <u>may</u> license overt DP subjects which

---

[20] Bromberg & Wexler (1995), Sano & Hyams (1994); see section 1 for a brief summary.

alternate with PRO, overt DPs in child optional infinitives are also to be expected in addition to PRO.

(40)   a.   He fall down (Nina[21] 2;1;29, File 12)
        b.   Him fall down (Nina 2;3;14, File 17)
        c.   Her have a big mouth (Nina 2;2;6, File 13)   (Schütze 1997:189)

The English pattern is very different from the one observed in other languages where root infinitives license a majority of null subjects[22]. Actually, Schütze's (1997) theory predicts that null subjects will be more frequent with uninflected than with inflected main verbs, a prediction which, as he notes, is extremely hard to assess in the case of English, since the available data is somehow problematic[23]. Schütze & Wexler (1999) show in a recent elicitation study that there is an effect of main verb inflection on null subject rates in child English. Contrary to what has been observed in spontaneous transcript-based corpus studies (Phillips 1995, Boster 1997), there is a greater proportion of null subjects with uninflected verbs. In three age groups, subject omission rates in optional infinitives were of 47%, 79% and 77%, whereas in tensed clauses those rates were of 18%, 40% and 8% for the same groups.

5.4. Some notes on PRO *vs*. overt DP

The original analysis of PRO (Chomsky 1981, see also Chomsky & Lasnik 1993) was based on its contradictory status with respect to Binding Theory. In the typology of null elements based on the classification of anaphoric and pronominal features, the feature composition of PRO, which was defined as [+anaphoric] and [+pronominal], implied that it should be simultaneously bound and free in its governing category. A way out of this paradox was to limit PRO to ungoverned positions, given that in such an environment a governing category would not exist. Under the assumption that Case is assigned under government, PRO is not Case-marked. This analysis is further refined in Chomsky & Lasnik (1993), who notice that PRO appears to require Case, although a Case distinct from the familiar Nominative, Accusative, etc. They propose that PRO, as a "minimal" NP argument lacking independent phonetic, referential or other properties, can bear null Case, assigned or checked by a minimal INFL, that is an INFL lacking tense and agreement features.

      The early non-finite null subject, if PRO, should have its null Case checked by a minimal inflection according to Chomsky & Lasnik's (1993) proposal. Under the assumption that root infinitives are incomplete structures, inflectional projections will be absent or underspecified. It is not clear whether null Case could be checked by a uninflected verb inside the VP, but if root infinitives uniformly check null Case on PRO, then the occasional lexical subjects cannot have their Case checked by the infinitival verb, even less by an inflectional projection, since the latter is presumably absent. Whatever their Case is (and some version of the Case Filter and the Visibility Condition ensure that they have one), it must be assigned either by default or inherently, regardless of the usual standard spec-head agreement relation required for Case assignment.

      The existence of default Case mechanisms in child grammars have been suggested by Bromberg & Wexler (1995), Haegeman (1995a), Rizzi (1994b) and Wexler (1995) among others. Default case may be viewed as the spell out of a DP as the least specified member of

---

[21] Suppes (1973).
[22] Cf. table 2 in section 1.
[23] Schütze (1997, p. 267-8) remains skeptical about Phillips results which in his view are inconclusive, given methodological problems.

its paradigm, a process which takes place outside syntax[24]. In their study of the acquisition of the English Case system by two year-olds, Schütze & Wexler (1996a,b) suggest that a child grammar in which optional infinitive utterances uniformly surface with subjects in the default case is inadequate. First, it fails to explain why subjects of root infinitives so often have non-default case. In fact, they have counted a majority of Nominative subjects in English optional infinitives, whereas the default case in this language is the Accusative. Second, it incorrectly predicts that all non-Nominative forms should be the same, when both Genitive and Accusative co-occur at the same period for the same child in roughly equal proportions. In French, as shown in table 6, while some of the subjects are unquestionably Nominative (subject clitics *je, on*, etc.), some are non-Nominative (*moi, toi*), and the others are not overtly marked (*maman, Nathalie*, etc.). Accusative (*me, te, le, la, nous, vous, les*), Dative (*me, te, lui, nous, vous, leur*) or Genitive pronouns (*mon, ton*, *son, sa, leur, nos, vos, ses, leurs*) are never attested in subject position. The inadequacy of a default Case account is less important in French than in English, but nevertheless it is real. Friedemann (1993/4) also mentions some problems with the default case hypothesis. He has an alternative solution, which is to assume that the Case Filter simply does not apply to DPs at this stage. This idea was originally put forward to explain the possibility of VOS order, excluded in principle by the Adjacency Condition on Case assignment by the verb, in sentences like (41) below. Assuming that the Case Filter applies to DPs and not directly to NPs, and supposing that children do not necessarily project the functional category DP, then bare NPs could do without Case. Thus, *maman* in sentences like (41a) and (41b) below would be licensed in the same way, i.e. without Case.

(41)   a.   maman manger   (Daniel 1;8;1)
                 mummy eat$_{inf}$
       b.   Faire boum sur camion maman   (Philippe 2;1)
                 make$_{inf}$ bang on truck mummy

The fundamental reason for lexical subjects occasionally surfacing in root infinitives remains unclear and, in connection with these facts, several questions arise. Why should structures which require null subjects sometimes allow a lexical subject, and is it necessary to assume different structural realizations of matrix infinitives to account for this alternation? Why should languages differ so much with respect to the amount of realized subjects? Are the proportions of overt subjects directly related to language specific properties? Let me comment on some of the ways to deal with these questions.

Default case or lack of Case assignment are compatible with a uniform analysis of root infinitives: either the subject is empty and null Case is checked on PRO, or the subject is overt and the issue of Case is resolved independently. One problem remains though: null Case, which would presumably be available for PRO, remains unchecked. If PRO needs a special kind of licensing (be it no Case or null Case, or yet some other requirement), provided by a specific type of clause, the same clause-type should be unable to license other types of subjects. It would be weird to assume that a null Case which has to be discharged remains unchecked while a lexical DP is inserted in the place of PRO either with default/inherent Case or without Case.

If we wish to assume that the child grammar generates structures which of necessity and uniformly require null subjects of the PRO type, then one must conclude that the infinitives containing lexical subjects have properties which are somehow different from those in which the subject is dropped, that is, they are different kinds of clauses in which, for

---

[24] See for example Halle & Marantz (1993).

instance, null Case is not available. Schütze & Wexler (1996a,b) and Schütze (1997) have a proposal along these lines for English, although in their approach the possibility of having PRO does not exclude the possibility of the same clause type licensing an overt subject. The table in (42) shows the different combinations of inflectional features that will produce different types of clauses, some of which will be root infinitives allowing both an overt subject and PRO (42e,f) or only an overt subject (42b).

(42)		**INFL**	**Form**	**Subject Case**	**PRO subject possible?**
	a.	tns=present, –Accord	-s	NOM	no
	b.	tns=present, –Accord	OI	ACC	no
	c.	tns=past,+Accord	-ed	NOM	no
	d.	tns=past, –Accord	-ed	ACC	no
	e.	–tns, +Accord	OI	NOM	yes
	f.	–tns, –Accord	OI	GEN(?)	yes

In spite of all the different structures made available by this feature combination, the alternation between lexical subjects and PRO remains unexplained. While it is plausible that there are different types of clauses which result from different combinations of features or projections, a specific type of combination should not allow for two different kinds of subjects.

5.5. The formal status of non-finite null subjects: two types of *ec*?

The formal status of the empty category of root infinitives remains hard to assess on the sole basis of the facts reviewed so far. There are some important observations to be made though. Inasmuch as finite and non-finite null subjects in the corpus under analysis differ with respect to their interpretive and distributional properties, it seems hard to propose a unified account of both types of null subjects and we have further evidence to treat them as separate categories. If we were to treat them as one type of empty category, PRO does not appear to be a suitable candidate, given that subject drop is robustly attested in finite clauses. The *pro* of true null subject languages like Italian has been shown to differ from the finite null subject of early grammars (Rizzi 1994a) and, besides, it cannot be licensed in uninflected environments. Topic-drop accounts are excluded by the fact that null expletives are generally possible in finite environments.

On the other hand, finite and non-finite null subjects do share a property, which is the fact that both elements appear to be structurally licensed in their respective environments[25], but discourse identified for lack of material allowing sentence internal identification. In both cases, the relevant identification conditions are relaxed by limitations imposed on the child's grammar by some version of a structural economy principle (e.g. Rizzi 1998, 1999) or perhaps by maturational constraints (Wexler 1994, 1998).

Rizzi (1998, 1999), based on Chomsky's (1995) system, suggests that grammars may have a special option which consists of leaving a position unpronounced independently of the creation of a trace via movement. This option can freely apply, but it remains constrained by the identification condition of the ECP which states that an empty category must be chain-connected to an antecedent. Under the assumption that the ECP applies only if virtually satisfiable, null elements will be possible in environments lacking potential antecedents, i.e. the specifier of root clauses. The possibility of leaving a position unpronounced is ensured by the application of a "bracket assignment rule", where the brackets in question formally

---

[25] For arguments in favor of structural as opposed to pragmatic accounts of null subjects, see for example Hyams & Wexler (1993), Rizzi (1998, 1999), contra Bromberg & Wexler (1995) and Wexler (1998).

express the fact that the position is left unpronounced. It can result in early finite null subjects, subject drop in certain oral or written adult registers of English and French (diaries), and topic drop in some V2 languages as well as in Portuguese and Chinese.

If early null subjects of root infinitives cannot be entirely assimilated to adult PRO, one might wish to consider the possibility of the bracket assignment option to account for non-finite null subjects. As a matter of fact, Rizzi himself suggests that the type of null subject licensed in finite clauses may also occur in root infinitives, in addition to PRO. *A priori* nothing should prevent the child from "assigning brackets" to the null subject of root infinitives. If the latter are viewed as truncated structures which lack functional projections above VP (Rizzi 1994b), then the subject necessarily remains in the specifier of a VP root clause. As such, the VP will allow for a null subject given that there will be no potential antecedent in the structure. The assignment of specific reference would take place through discourse, the inanimate readings would not be relevant as they are in the case of PRO, and the absence of null expletives, which may be left unpronounced in finite clauses, would be due to independent reasons, namely the non-occurrence of functional verbs as root infinitives. Although the interpretive properties of non-finite null subjects seem to fit well with this analysis, some problems remain. First, there is a kind of null subject which is insensitive to the root/non-root distinction and which cannot be licensed in the way just described. As shown by Roeper & Rohrbacher (1994) and Bromberg & Wexler (1995), *wh*-questions in early English are compatible with null subjects in non-finite clauses ("where go"). If non-finite clauses of the type discussed by these authors are indeed comparable to root infinitives from other languages, and if the bracket analysis is indeed compatible with (at least some) non-finite null subjects, there remains a certain amount of instances which are not accounted for, and we are forced to postulate two types of empty category in root infinitives. A difficulty with this view is that distinguishing the two is probably a very hard task.

6. CONCLUSION

Early finite and non-finite null subjects are generally dissociated in the literature: the first has received several accounts in terms of the deletability of utterance-initial material, whereas the latter is usually assimilated to the PRO subject of adult infinitival clauses. An account of non-finite subjects as PRO is extremely appealing given continuity assumptions. However, it turns out to be at least partially at odds with a standard version of Control Theory (e.g. Chomsky 1981) according to which PRO is either obligatorily controlled and assigned specific reference by a c-commanding antecedent, or uncontrolled and assigned arbitrary interpretation which is subject to an animacy constraint.

At first sight, the general picture does favor a PRO analysis for the early infinitival null subject. The overall majority of null subjects of matrix infinitive clauses in the corpus, that is 74%, receive first, second or third person readings which are not referentially dependent on an antecedent (the remaining 26% were considered unclear and therefore set aside). This interpretation could perhaps be made compatible with Cinque's (1988) general theory of *arb*, in which PRO may receive a sort of existential reading (as opposed to a universal reading), which is consistent with the existence of a single individual satisfying the description conveyed by the sentence. Further support for the PRO account might be the observations that there are few examples of [–animate] null subjects, and that null expletives are not attested. As is well known, both interpretations are strongly incompatible with uncontrolled PRO.

However, there are some problems with the reasoning elaborated above and hence with the PRO analysis which it supposedly supports. First, the compatibility with the adult existential interpretation of PRO can be shown to be relatively limited. Second, among third

person subjects, the proportion of [–animate] null subjects, although small, becomes significant when compared to the amount of [+animate] null subjects. Third, the absence of null expletives cannot be used as an argument in favor of PRO, since the environments compatible with expletive null subjects are never attested in the corpus.

Some questions regarding the possible formal status of non-finite null subjects have been raised. Further research will concentrate on the formal licensing requirements of subjects in infinitival clauses in general with a view of assessing the nature of the non-finite null subjects but also, and more generally, of arriving at a plausible characterization of root infinitives in relation to general features of early grammars.

Appendix: Control theory in early grammars

If the interpretation of arbitrary PRO is defined by Control Theory, it should be concluded that the latter is not entirely implemented in early grammars, given that the interpretive properties of non-finite null subjects do not exactly match those of adult PRO. Actually, there is a important amount of literature suggesting that control is in fact problematic for small children, and this until as late as 5 years of age (see for example Brohier & Wexler 1995 and references cited there). It is not clear, though, whether the results obtained from the several experiments conducted in English are directly relevant for the present study. Most of them concern the acquisition of control in complements or in temporal adjuncts in structures such as (43) below, which are not easily comparable to root infinitives.

(43)   a.   Cookie Monster tells Grover$_i$ PRO$_i$ to jump over the fence
        b.   Grover$_i$ touches Cookie Monster after PRO$_i$ jumping over the fence

In both sentences, PRO must be interpreted as being coreferential with *Grover*. In (43a), *Grover* is the closest c-commanding NP for PRO; in (43b), it is the only c-commanding NP, given that PRO is the subject of an adverbial clause which is adjoined to the matrix clause. Nevertheless, a number of non-adult readings have been attested in children, namely, free[26] interpretation in both (43a) and (43b), and object control in (43b).

The pattern exhibited by 3-5 year old children acquiring English have been extensively described and analyzed by Hsu & al. (1985), McDaniel & Cairns (1990), McDaniel & al. (1990/1) and Cairns & al. (1994) among many others. What these accounts have in common is that they attribute non-adult interpretations first to the absence or the non-application of (existing) control rules in earlier stages and then to wrong representations of syntactic structures which allow the application of such rules but with ungrammatical results. Hsu & al. (1985), for example, argue for the existence of a developmental sequence of child grammars beginning with a period during which children lack the c-command rule for subject control in adjuncts and use specific identification strategies for determining the reference of PRO. The application of "minimal distance principle" strategies will then result in object control where subject control should obtain, whereas the "first noun" strategy will yield an apparent adult interpretation. This is followed by a stage in which the rule is presumably part of the child's grammar but cannot apply correctly due the wrong attachment of the adjunct clause to the VP which results in object control. After a period of mixed analysis of these adjuncts as attached to the sentence or to the VP, children eventually come to correctly attach adverbials and consistently interpret PRO as coreferent with the subject of the matrix clause.

---

[26] The literature on the acquisition of control refers to this type of interpretation as "arbitrary". As noted by Wexler (1992), children are rather making definite reference freely, i.e. PRO may be interpreted as coreferential with the subject, the object or any other sentence-external referent which might be relevant in the context. It is in this manner that assignment of reference is to be understood as free, as opposed to arbitrary in the generic sense.

McDaniel & Cairns (1990), McDaniel & al. (1990/1) and Cairns & al. (1994) elaborate on the different stages identified by Hsu & al. (1985) and extend their findings to the acquisition of control in complement clauses, confirming the developmental sequence driven by lexical learning and changing structural analysis. These authors claim that, during an earlier stage in which PRO refers freely, children do not violate or lack the c-command rule for control. The non-adult interpretation is yielded by the incorrect analysis of the structures involved in the constructions, since both complements and adjuncts are supposedly analyzed by the child as coordinated to the main clause. In the following stages, the rule applies correctly first to complements, which are supposedly reanalyzed by the child as subordinate, but not to adjuncts, which are incorrectly attached to the VP. Children will eventually perform as adults with respect to control once they have acquired the adult structural analysis of complements and adverbials. Therefore, control principles are part of child's grammar, but they do not operate to render a particular controller obligatory until a construction is correctly analyzed.

Wexler (1992) and Brohier & Wexler (1995), following Carlson (1990), have a different approach to the same data. They propose that, instead of analyzing complements and adjunct clauses of the type in (43) as sentential structures with a bound PRO, the child misanalyses them as nominalized structures which do not need a PRO subject. This nominalization process, illustrated by the examples in (44), actually occurs as a consequence of the fact that PRO is subject to a maturational constraint and unavailable in the child's grammar at the stage in question.

(44)   a.   Cookie Monster tells Grover [about [$_{NP}$ the jump over the fence]]
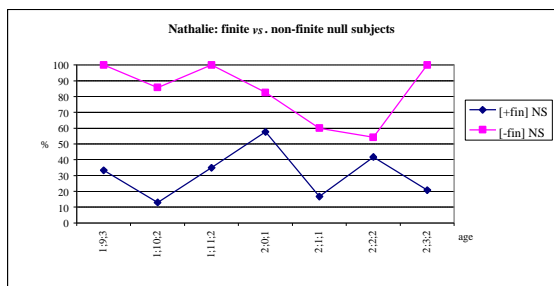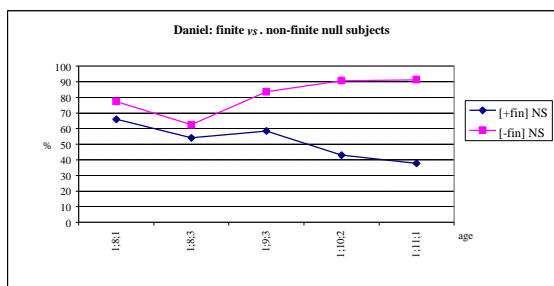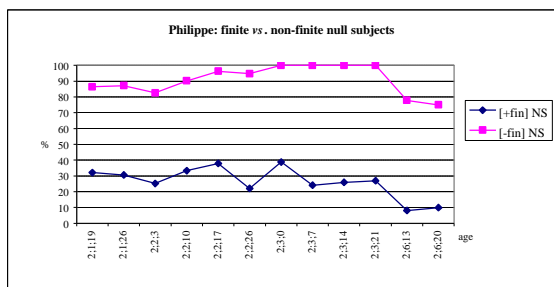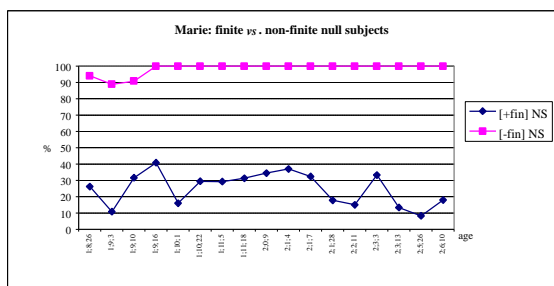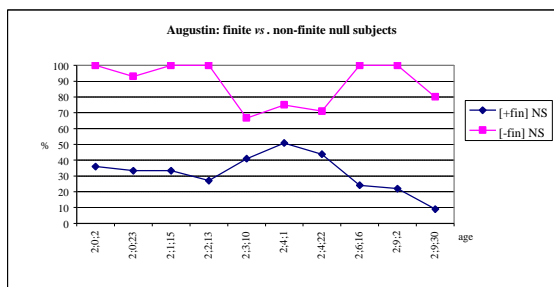   b.   Grover touches Cookie Monster after [$_{NP}$ (the) jumping over the fence]

The free interpretation assigned to the subject is therefore automatically accounted for, given that the adult grammar would provide exactly the same interpretation to an NP. PRO is simply absent from the structure and the free reading arises for independent reasons. Either the child has the analysis in (44) with the three possible readings, i.e. control by the subject, by the object or by an external referent, or s/he has the adult grammar and correctly analyses complements and adjuncts as sentential structures in which PRO is represented and controlled by a c-commanding antecedent in the matrix clause. When PRO eventually matures, it will show up in complement and adverbial clauses once they are correctly analyzed.

It is not clear whether the above studies on the acquisition of control in child grammars are directly relevant for the present research. Given that they are concerned with older children, and moreover with specific control structures from another language which differ from French root infinitives, a full comparison becomes hard to conduct. Neither of the accounts discussed above provide useful elements for the analysis of root infinitives, or conclusive evidence supporting the presence or absence of PRO in early grammars. The variable attachment analysis assumes that PRO and control rules are part of child systems, and it is the misanalysis of the structures involved that prevents the application of those rules. The maturational view of PRO proposed by Wexler (1992) is stipulative in nature, since no argument is given to support the proposal that the emergence of PRO in child grammars is regulated by maturational constraints. The fact that the null subject of root infinitives does not appear to be the adult PRO is of course compatible with the maturational hypothesis, but nothing prevents PRO from occurring in other constructions even if the non-finite null subjects is not PRO. Actually, the following examples from the corpus suggest that PRO is available at the relevant stage, if sentential complements of volitional verbs are standardly analyzed as full clauses.

(45) a.   enco(re) veux jouer   (Augustin 2;2;13)
              more want to play
      b.   veux sortir   (Marie 1;9;16)
              want to get out
      c.   je veux faire un cadeau pour toi   (Marie 2;6;19)
              I want to make a present for you
      d.   je veux mettre debout   (Daniel 1;11;1)
              I want to stand (sth) up

* * *

Appendix 1: Finite *vs*. non-finite null subjects in early French

Augustin: finite *vs*. non-finite null subjects

Marie: finite *vs*. non-finite null subjects

Philippe: finite *vs*. non-finite null subjects

Daniel: finite *vs*. non-finite null subjects

Nathalie: finite *vs*. non-finite null subjects

Appendix 2: The Corpus

Augustin 2;0;2-2;9;30 (Hamann, Rizzi & Frauenfelder 1996)
Marie 1;8;26-2;6;10 (Rasetti 1999)
Daniel 1;8;1-1;11;1l, Nathalie 1;9;3-2;3;2 (Lightbown 1977)
Philippe 2;1;19-2;6;20 (Suppes, Smith & Leveillé 1973)

Files: Augustin	Age		Files: Philippe	Age
Augustin-1	2;0;2		Philippe-1	2;1;19
Augustin-2	2;0;23		Philippe-2	2;1;26
Augustin-3	2;1;15		Philippe-3	2;2;3
Augustin-4	2;2;13		Philippe-4	2;2;10
Augustin-5	2;3;10		Philippe-5	2;2;17
Augustin-6	2;4;1		Philippe-6	2;2;26
Augustin-7	2;4;22		Philippe-7	2;3;0
Augustin-8	2;6;16		Philippe-8	2;3;7
Augustin-9	2;9;2		Philippe-9	2;3;14
Augustin-10	2;9;30		Philippe-10	2;3;21
			Philippe-11	2;6;13
Files: Marie	**Age**		Philippe-12	2;6;20
Marie-1	1;8;26			
Marie-2	1;9;3		**Files: Daniel**	**Age**
Marie-3	1;9;10		Daniel-1	1;8;1
Marie-4	1;9;16		Daniel-2	1;8;3
Marie-5	1;10;1		Daniel-3	1;9;3
Marie-6	1;10;22		Daniel-4	1;10;2
Marie-7	1;11;5		Daniel-5	1;11;1
Marie-8	1;11;18			
Marie-9	2;0;9		**Files: Nathalie**	**Age**
Marie-10	2;1;4		Nathalie-1	1;9;3
Marie-11	2;1;7		Nathalie-2	1;10;2
Marie-12	2;1;28		Nathalie-3	1;11;2
Marie-13	2;2;11		Nathalie-4	2;0;1
Marie-14	2;3;3		Nathalie-5	2;1;1
Marie-15	2;3;13		Nathalie-6	2;2;2
Marie-16	2;5;26		Nathalie-7	2;3;2
Marie-17	2;6;10			

REFERENCES

Akmajian A. (1984) Sentence types and the form-function fit. *Natural Language and Linguistic Theory* 2, 1-23.

Behrens H. (1993) Temporal reference in German child language. Ph.D. dissertation. University of Amsterdam.

Boškovic Ž. (1996) Selection and the Categorial Status of Infinitival Complements. *Natural Language and Linguistic Theory* 14: 269-304.

Boster C. T. (1997) Processing and parameter setting in language acquisition: A computational approach. Ph.D. disseration, Universty of Connecticut.

Bottari P., P. Cipriani & A.M. Chilosi (1992) Proto-syntactic devices in the acquisition of Italian free morphology. *Geneva Generative Papers* 0.1-2: 83-101.

Bouchard D. (1984) *On the Content of Empty Categories*. Foris, Dordrecht.

Bresnam J. (1982) Control and Complementation. *Linguistic Inquiry* 13, 343-434.

Brohier K. & K. Wexler (1995) Children's Acquisition of Control in Temporal Adjuncts. In C. T. Schütze, J. B. Ganger & K. Brohier (eds.) *Papers on Language Processing and Acquisition, MIT Working Papers in Linguistics* 26, 193-220

Bromberg H.S. & K. Wexler (1995) Null subjects in Wh-questions. In C. T. Schütze, J. B. Ganger & K. Brohier (eds.) *Papers on Language Processing and Acquisition, MIT Working Papers in Linguistics* 26, 221-248.

Cairns, H. S., D. McDaniel, J. R. Hsu & M. Rapp (1994) A longitudinal study of principles of control and pronominal reference in child English. Language 70(2), 260-288.

Carlson G. N. (1990) Intuitions, category and structures: comments on McDaniel and Cairns. In L. Frazier & J. deVillier (eds.) *Language processing and language acquisition*. Kluwer, Dordrecht, 327-333.

Chomsky N. (1981) *Lectures on Government and Binding*, Foris, Dordrecht.

Chomsky N. & H. Lasnik (1993) Principles and Parameters Theory. In J. Jacobs, A. Von Stechow, W. Sternefeld and T. Vannemann (eds.) *Syntax: An International Handbook of Contemporary Research*. Berlin: de Gruyter.

Cinque G. (1988) On *Si* Constructions and the Theory of *Arb*. *Linguistic Inquiry* 19: 521-581.

Epstein S. (1984) Quantifier *pro* and the LF Representation of PRO$_{ARB}$. *Linguistic Inquiry* 15: 499-505.

Friedemann M.-A. (1993/1994) The underlying position of external arguments in French: a study in adult and child grammar. *Language Acquisition* 2(3): 209-255.

Haegeman L. (1995a) Root infinitives, tense, and truncated structures in Dutch. *Language Acquisition* 4(3): 205-255.

Halle M. & A. Marantz (1993) Distributed Morphology and the pieces of inflection. In K. L. Hale & S. J. Keyser (eds.), *The view from Building 20: Essays in linguistics in honor of Sylvain Bromberger*. Cambridge, Mass.: MIT Press: 111-167.

Hamann C., L. Rizzi & U. Frauenfelder (1996) On the acquisition of subject and object clitics in French. In H. Clahsen (ed.) *Generative Perspectives in Language Acquisition*. Amsterdam: John Benjamins.

Hamann C. & K. Plunkett (1998) Subjectless Sentences in Child Danish. *Cognition* 69**:** 35-72.

Hsu J.R., H.S. Cairns & R.W. Fiengo (1985) The development of grammars underlying children's interpretation of complex sentences. *Cognition* 20: 25-48.

Hyams N. (1986) *Language Acquisition and the Theory of Parameters*. Dordrecht: Reidel.

Hyams N. & K. Wexler (1993) On the Grammatical Basis of Null Subjects in Child language. *Linguistic Inquiry* 24: 421-459.

Jonas D. (1995) On the acquisition of verb syntax in child Faroese In C. T. Schütze, J. B. Ganger & K. Brohier (eds.) *Papers on Language Processing and Acquisition, MIT Working Papers in Linguistics* 26: 265-280.

Krämer I. (1993) The licensing of subjects in early child language. *MIT Working Papers in Linguistics* 19:197-212.

Koster J. (1984) On binding and control. *Linguistic Inquiry* 15(3): 417-59.

Landau I. (1999) Elements of Control. Ph.D. Doctoral dissertation, Massachusetts Institute of Technology.

Lightbown P. (1977) Consistency and variation in the acquisition of French. Ph.D. dissertation, Columbia University, NY.

MacWhinney B. & C. Snow (1985) The Child Language Data Exchange System. *Journal of Child Language* 12.

Manzini R. (1983) On control and control theory. *Linguistic Inquiry* 14 (3): 421-46.

Marantz A. (1981) On the Nature of Grammatical Relations. Doctoral dissertation, Massachusetts Institute of Technology.

Martin R. (1996) A minimalist theory of PRO and control. Doctoral dissertation, University of Connecticut, Storrs.

McDaniel D. & H.S. Cairns (1990) Processing and acquisition of control structures by young children. In L. Frazier & J. deVillier (eds.) *Language processing and language acquisition*. Dordrecht: Kluwer, 311-23.

McDaniel D., H.S. Cairns & J.R. Hsu (1990/1991) Control principles in the grammars of young children. *Language Acquisition* 1(4): 297-335.

Mohanan K. P. (1985) Remarks on control and control theory. *Linguistic Inquiry* 16: 637-48.

Phillips C. (1995) Syntax at age two: cross-linguistic differences. In C. T. Schütze, J. B. Ganger & K. Brohier (eds.) *Papers on Language Processing and Acquisition, MIT Working Papers in Linguistics* 26: 325-382.

Pierce A. (1989) On the emergence of syntax: a cross-linguistic study. Ph.D. dissertation, MIT.

Rasetti L. (1999) Null subjects and Root infinitives in Early French. In M.-A. Friedemann & L. Rizzi (eds.) *The Acquisition of Syntax: Issues in Developmental Comparative Linguistics.* London: Longman.

Rhee J. & K. Wexler (1995) Optional infinitives in Hebrew. In C. T. Schütze, J. B. Ganger & K. Brohier (eds.) *Papers on Language Processing and Acquisition, MIT Working Papers in Linguistics* 26: 383-402.

Rizzi L. (1994a) Early null subjects and root null subjects. In T. Hoekstra & B. Schwartz (eds.) *Language acquisition studies in generative grammar*. Amsterdam: John Benjamins.

Rizzi L. (1994b) Some notes on linguistic theory and language development: the case of root infinitives. *Language Acquisition* 3(4): 371-393.

Rizzi L. (1998) Remarks on Early Null Subjects. In Greenhill A., M. Hughes, H. Littlefield & H. Walsh (eds.) Proceedings of the 22nd Annual Boston Conference on Language Development. Somerville, MA: Cascadilla Press: 14-38.

Rizzi L. (1999) Remarks on Early Null Subjects. In M.-A. Friedemann & L. Rizzi (eds.) *The Acquisition of Syntax: Issues in Developmental Comparative Linguistics.* London: Longman.

Roeper T. & B. Rohrbacher (1995) Null subjects in early child English and the theory of economy of projections. Ms. University of Massachusetts at Amherst and University of Pennsylvania.

Sano T. & N. Hyams. Agreement, finiteness and the development of null arguments. Proceedings of NELS (24): 543-558.

Schütze C. (1997) INFL in Child and Adult Language: Agreement, Case and Licensing. Doctoral dissertation, Massachusetts Institute of Technology.

Schütze C. & K. Wexler (1996a) Subject Case Licensing and English Root Infinitives. In A. Stringfellow, D. Cahana-Amitay, E. Hughes & A. Zukowski (eds.) *Proceedings of the Annual 20th Boston University Conference on Language Development*. Somerville, MA.: Cascadilla Press: 670-681.

Schütze C. & K. Wexler (1996b) What Case acquisition data have to say about the components of Infl. Paper presented at WCHTSALT, OTS, Utrecht University, June 1996.

Schütze C. & K. Wexler (1999). An Elicitation Study of Young English Children's Knowledge of TEnse: Semantic and Syntactic Properties of Optional Infinitives. Paper presented at the 24th Boston University Conference on Language Development.

Sigurjónsdóttir S. (1999) Root Infinitives and Null Subjects in Early Icelandic. Proceedings of the 23rd Annual Boston University Conference on Language Development. Somerville, MA.: Cascadilla Press:

Speas M. (1994) Null Arguments in a Theory of Economy of Projections. *UMass Occasional Papers in Linguistics* 17: 179-209.

Suppes P. (1973) The semantics of children's language. *American Psychologist* 88: 103-114.

Suppes P., R. Smith & M. Léveillé (1973) The French syntax of a child's noun phrase. *Archives the Psychologie* 42: 207-269.

Valsecchi D. (1997) L'omissione del soggetto nel linguaggio dei bambini inglesi. Tesi di Laurea. Università di Bergamo.

Wexler K. (1992) Some issues on the growth of control. In R. K. Larson, S. Iatridou, U. Lahiri & J. Higginbotham (eds.) *Control and Grammar*. Dordrecht: Kluwer, 253-295.

Wexler K. (1994) Optional infinitives, head movement and the economy of derivations. In D. Lightfoot & N. Hornstein (eds). *Verb Movement*. Cambridge University Press: 305-350.

Wexler K. (1995) Feature-interpretability and optionality in early child grammar. Paper presented at the Workshop on Optionality, Utrecht.

Wexler K. (1998) Very Early Parameter Setting and The Unique Checking Constraint: A new explanation of the Optional Infinitive Stage. *Lingua* 106: 23-79.

Williams E. (1980) Predication. *Linguistic Inquiry* 11 (1) 203-38.