UNIVERSITY OF CALIFORNIA

Los Angeles

The Emergence of Nominative Case Assignment

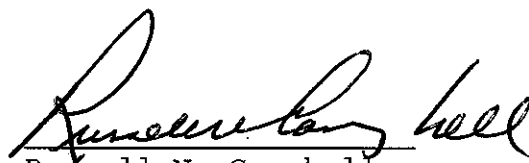in Child Catalan and Spanish

A thesis submitted in partial satisfaction of the

requirements for the degree Master of Arts in

Teaching English as a Second Language

by

John Allen Ray Grinstead
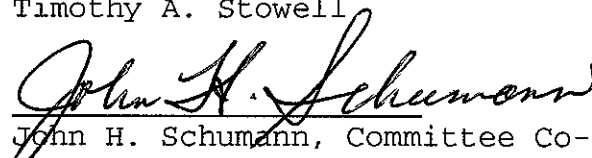

1994

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1994

For my wife, Jean Hessburg; my parents,

Bonnie and Hugh Grinstead and the rest of my family, without

whose understanding, love and support this project would have

been impossible.

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ABSTRACT OF THE THESIS

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Master of Arts in Teaching English as a Second Language

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A morphological study of four monolingual Catalan-speaking children and one Spanish-speaking child between 1;1 and 3;1 shows that there is a correlation between the emergence of overt subject use and the use of tense and number distinctions.

It is proposed that morphological underspecification - crucially the lack of verbal tense and number - at an early stage causes nominative Case assignment to fail. Later when tense and number emerge, overt subjects become possible. In

the early stage, the overwhelming majority of verbal utterances occur as present tense and imperative forms. The quality of the morphological system then undergoes a dramatic change, as tense and number distinctions are added to make the system adult-like. Like the emergence of overt subject use, this change takes place at approximately 24 months, hence, the correlation.

As a result of the failure of nominative Case-marking, big PRO is proposed to be the null subject used by Catalan and Spanish speaking children at the early stage. Only later when nominative Case assignment becomes possible, does little *pro* become possible. Before that time, the verbal complex (tense, number and person), is not sufficiently specified so as to license *pro* or assign it nominative Case. Thus morphologically driven nominative Case assignment is proposed to be the factor regulating the nature of the subject position across these two stages.

1. Introduction

The morphological system used in the early stage (roughly before 2;0;0) by the Catalan and Spanish speaking children in this study is qualitatively different than the adult system[1]. Children have no subject-verb agreement for number nor do they have tense contrasts, although instances of first person singular appear. Thus, whereas utterances like (1-4) are attested, utterances like (5-9) are not. ("@" indicates a non-occurring form)

(1) Guillem - 1;9;24
     GUI: ajudo
          help (1st, sing, pres)

(2) Guillem - 1;8;0
     GUI: tanco
          close (1st, sing, pres)

(3) Guillem - 1;8;0
     GUI: vull aigua
          want (1st, sing, pres) water

(4) Juan - 1;9;2
     NIN: omo pan
          eat (1st, sing, pres) bread

****

(5) @ajudaven
     help (3rd, pl, past)
     They helped

---

(6)   @vau tancar
        close (2nd, pl, past)
        You closed

(7)   @voldrem aigua
        want (1st, pl, future) water
        We will want water.

(8)   @comeré pan
        eat (1st, sing, future) bread
        I will eat bread.

(9)   @Corremos a la cocina.
        run (2nd, pl, present)
        We're running to the kitchen.

It has long been assumed that tense and agreement, the
elements which make up IP, are responsible for nominative
Case assignment. In the early stage, children do not have all
of the components of the morphological system which interact
to represent tense, number and person in adult Catalan and
Spanish. Significantly, they also lack overt subjects in this
early stage.

    In short, the early stage of Catalan and Spanish child
language (leading up to around 2;0;0) is characterized by a
correlation between a total lack of overt subjects and a
morphologically underspecified tense and agreement system. In
the second stage (roughly between 2;0;0 and 3;0;0), overt
subjects appear and the tense and agreement system broadens
to include almost the entire adult range of possibilities.

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A possible account of this set of facts is that the early child morphological system cannot assign nominative Case to the subject position. This would explain the lack overt subjects in a way consistent with the widely held notion that tense and/or agreement is responsible for nominative Case assignment in languages like Catalan and Spanish[2]. This also argues for the null subject being PRO and not *pro*, for two reasons. First, if the failure of nominative Case assignment is what prevents overt subjects from being used at this stage, we should expect that an element like *pro*, which occurs in the same Case-marked environment as overt subjects, should also be absent. Second, almost all theories of *pro* licensing refer to some degree of rich agreement to explain the occurrence of *pro*[3]. The morphological study included here shows that children lack the tense and number morphemes available in the adult system which license *pro* and allow the speaker to recover its content.

If the null subject the children use is not *pro* for the

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[2] Different proposals exist which attribute nominative Case assignment to "INFL" as a unit (Rouveret and Vergnaud, 1980; Freidin and Quicoli, 1989), "Tense" in and of itself (Bobaljik and Carnie, 1992) among others. The position adopted here is that all three elements (tense, number and person) are necessary for Case assignment.

[3] Asian languages which have been argued to have *pro* (Huang, 1984) but do not have rich agreement, do have tense, in contrast to the Catalan and Spanish speaking children studied here. Thus, I am not arguing that early child Catalan and Spanish is like Chinese.

Case-theoretic reasons mentioned, then PRO would be the obvious alternative subject element because it occurs in non-Case-marked positions. It is generally accepted that PRO occurs in ungoverned positions, but a parallel, and compatible idea is that it is Case assignment (and its failure in some environments) which regulates the distribution of PRO [Koster (1984) and Manzini (1983)]. The notion that PRO occupies the subject position in child Catalan and Spanish is consistent with current research on other languages, to be discussed below, which points towards an early universal PRO stage.

In the first section, we will review the adult morphological systems of Catalan and Spanish and see how they are linked to nominative Case assignment. In the second section several proposals which deal with nominative Case assignment and null subjects in child English, Dutch and German will be dealt with. The principal objective is to produce data to show that overt subjects do not occur in the early stage of Catalan or Spanish, but emerge in the later stage. In section 3 data will be presented to show that tense and number agreement are absent in the early stage of child Catalan and Spanish, but emerge in the later stage. The fourth section reviews several proposals dealing with finiteness which are relevant to this thesis and also describes the data on the non-finite utterances used by the

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children. An alternative processing account is considered and rejected in section 5 and section 6 is the conclusion.

1.1 The Adult Morphological Systems

I argue that in adult Catalan and Spanish tense, number and person morphemes affix to the verb through verb raising. It is interesting to note that depending on which tense and number morpheme is affixed to the verb, person may or may not be overtly represented. I will propose that all three morphemes must affix to the verb in order for nominative Case to be assigned, regardless of whether or not the person morpheme is overt. We may call this the Full Morphological Specification Condition (FMSC). Evidence for this position comes from verbs in impersonal constructions in adult Irish and Catalan which completely lack the person morpheme. When this condition is violated, nominative Case cannot be assigned and consequently these constructions cannot take subjects. We will see that verbal utterances used by children in the early stage similarly lack full morphological specification as well as overt (and thus nominative Case marked) subjects.

I will assume that the cluster of properties which are frequently assumed to make up "IP" or the inflectional phrase (tense, number and person) constitute their own functional

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projections (Johnson, 1990/1992; Shlonsky, 1989)[4]. By adopting
this assumption it becomes possible to express the
relationship among the bound morphemes of tense, number and
person in the adult language through verb raising. The
relationship is one in which the phonological realization of
person is conditioned by tense and number. The structure I
assume is as in (10).

(10) PersP
```
              PersP
            /      \
        Spec        Pers'
                   /     \
                Pers       NumP
                          /    \
                       Spec      Num'
                                /    \
                             Num       TP
                                      /   \
                                   Spec     T'
                                           /  \
                                          T    ...VP
```
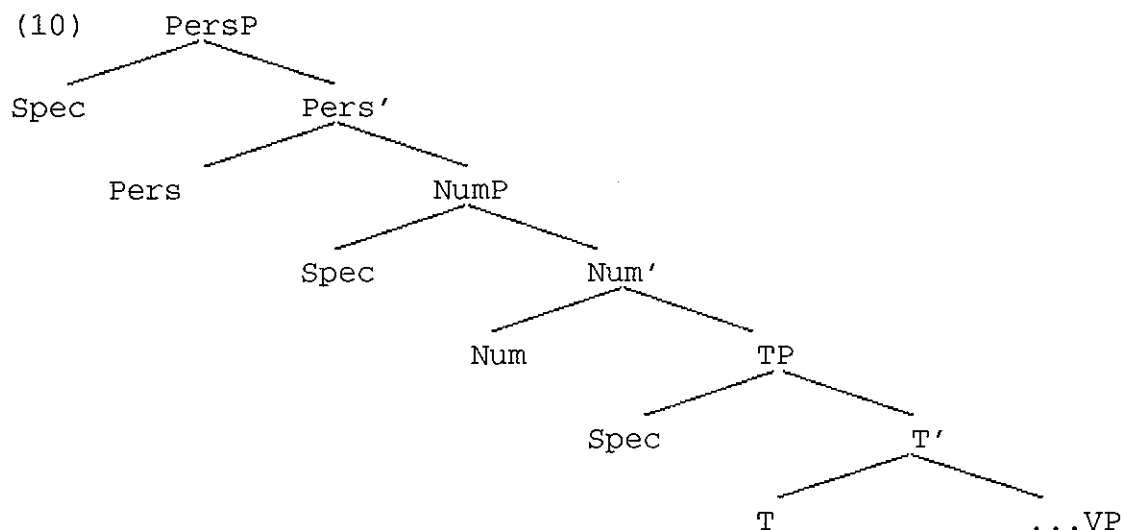
The descriptive facts of adult Catalan and Spanish are that
in three out of the seven simple tenses, person has six
distinct morphological representations. In the other four,
first and third person are <u>phonetically</u> identical[5]. I
emphasize <u>phonetically</u> identical to distinguish these forms

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[4] Shlonsky (1989) also argues for the existence of a
Gender Phrase in Arabic.

[5] See Appendix for a list of these forms.

from forms which lack person morphemes altogether such as impersonal constructions. The crucial distinction between forms which lack a person morpheme altogether and forms which have a person morpheme which is phonetically null is that the latter are able to assign nominative Case to their subjects and the former are not.

I argue that verbs with phonetically null person morphology assign nominative Case because they co-occur with overt subjects, as in (11). I assume that in sentences like (11), the null person feature on the verb agrees with, or checks the explicit person features of the overt subject.

(11)

[$_{PersP}$[$_{Spec}$ El campesino][$_{Pers'}$ [$_{Pers}$ llevaba][$_{VP}$ un sombrero azul.]]]
         3rd, Sing   **Sing**
         The peasant   wore   a blue hat.

The idea is that the past imperfect verb "llevaba" includes a verbal stem, a tense morpheme, an null singular person morpheme and a null person morpheme.

(12) lleva - ba - Ø - Ø
     verb   past   number person

Verbs which carry this null person morpheme, however, differ crucially from verbs which bear no person morpheme at all. While nominative Case assignment does take place in the four

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conjugations which carry a phonetically null person morpheme in the singular, the <u>complete absence</u> of a person morpheme makes nominative Case assignment impossible, as in the case of impersonal expressions.

Verbs in impersonal expressions by definition lack person morphology and have been assumed by several authors to be incapable of assigning nominative Case. Rigau (1991) gives the following contrast, among others, as evidence from adult Catalan in favor of this idea.

(13) Es premiaran els millors escriptors.

SE (impersonal clitic) will reward the best writers.

(14) *Es premiaran ells$_{NOM}$

SE (impersonal clitic) will reward they.

According to Rigau, the non-specific subject of the impersonal expression in (13) receives partitive Case (not nominative.) One of several arguments for this position is that the specific, nominative Case-marked subject pronoun in (14) is ungrammatical in impersonal expressions. I contend, on the basis of these facts, that the verb in (14) lacks even a <u>phonetically null</u> person morpheme. Thus, the construction violates the FMSC on nominative Case assignment and consequently the "verbal complex" cannot assign nominative

Case.

A similar point is made for adult Irish impersonal
expressions by Stenson (1989). The following example (p.
384), which is ungrammatical when it occurs with a nominative
Case pronoun, is grammatical with the accusative Case
pronoun.

(15) Buaileadh aríst iad/*siad.
      beat-PA-IMPS again them/they
      They were beaten again.

The Irish and Catalan impersonal constructions then, are
examples of cases in which the lack of the person morpheme
results in the failure of nominative Case assignment. For
concreteness, I will assume that the clause structure
corresponding to these constructions in the adult languages
is the following.

(16)
```
              NumP
             /    \
         Spec      Num'
                  /    \
               Num      TP
                       /   \
                   Spec     T'
                           /   \
                          T     ...VP
```
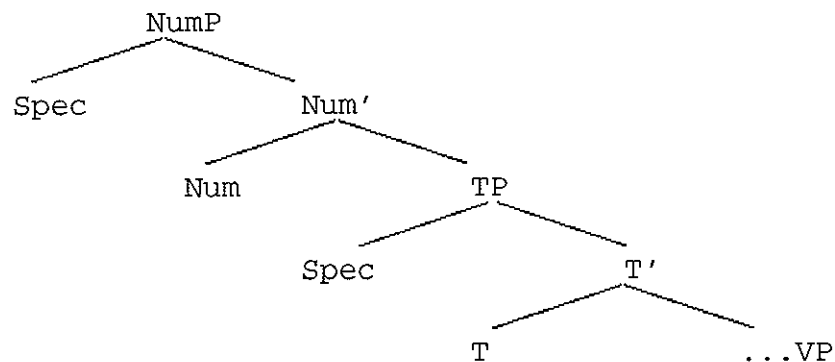
Impersonal constructions in both adult languages[6] can be inflected for either singular or plural, thus the Number Phrase is included in the tree. Person cannot be represented morphologically so I will assume the Person Phrase to be missing in these constructions. An analogous structure will be proposed below to account for the verb forms used by the children, but the crucial point for now is that verb forms which are less than fully specified for person, number and tense block nominative Case assignment[7]. For concreteness, I will adopt the assumption by Freidin and Quicoli (1989) that in languages which lack person and number agreement (such as Chinese), tense by itself is responsible for nominative Case assignment.

The second role played by agreement in Catalan and Spanish is the licensing of *pro*. According to Rizzi (1986a), *pro* is licensed when it is head-governed and its content is recovered by "rich agreement". Rizzi's proposed head

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[6] I refer to Central Catalan here, not Northwestern Catalan which lacks number agreement as well in impersonals (cf Rigau, 1991).

[7] The failure of participles, gerunds and infinitives to assign nominative Case can also be accounted for under this condition. The difference would be that these forms lack all three morphemes: tense, number and person.

Note that in accounts of Portuguese "inflected infinitives", tense from the matrix clause is assumed to be involved in the nominative Case assignment which results (cf. Raposo, 1987 and Freidin and Quicoli, 1990.)

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government can be construed as either spec-head agreement
with or head government by the raised verbal complex. The
reason for adopting this assumption is to allow Case
assignment both under government and by specifier-head
agreement, following Koopman and Sportiche (1990). I will
argue that Catalan and Spanish-speaking children possess only
one of the three morphological elements necessary for the
licensing of *pro*. That is, the morphology which constitutes
"rich agreement" in the adult language is not "rich enough"
in the child languages to license *pro*.

Although *pro* is not licensed in this early stage, the
content of null subjects must still be recovered by children
since they clearly use verbs which describe the actions of
subjects which form part of the verbal and physical context.
Discourse identification of *pro* is, in fact, an integral part
of the adult grammars of Catalan and Spanish under
circumstances in which agreement does not uniquely indicate
the identity of the subject. That is, in some languages "rich
agreement" means that there are six unique morphological
realizations for each verb tense corresponding to first,
second and third person singular and plural. As we have seen,
this is not the case in four of the seven simple conjugations
in Spanish and Catalan. In these cases, context will make the
identity of the subject clear.

For instance, when addressing someone who is referred to in the formal "vosté/usted" form, which is grammatically third person, it is possible for the speaker to ask a question about a third person and produce, without the relevant context, a completely ambiguous question.

(17)
a: Caminava pel carrer quan em$_i$ va asaltar el lladre$_j$!
    I was walking down the street when the thief accosted me!

b: O si? I que va pensar que faria alleshores?
    Really? And what did pro$_{i/j}$ think pro$_{i/j}$ would do then?

When context is included the referent becomes clear. This state of affairs contrasts with an utterance in which the subject pro refers unambiguously to the listeners.

(18) pro canatareu com àngels.
     You (pl) will sing like angels.

Children, in contrast, do not have sufficiently rich agreement to license pro. For the Case theoretic reasons mentioned, this leads to the conclusion that Caseless PRO must be the null subject used by Catalan and Spanish-speaking children in the early stage. Given that the identity of PRO is not recoverable by agreement, I assume that PRO is controlled by discourse identification. Thus, the PRO used by children is discourse identified in the same way that pro is in the adult grammar. The difference is that the child

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grammar does not license *pro* and cannot identify it by agreement.

2. Null Subjects in Child Language

I argue that the early stage of child Catalan and Spanish lacks overt subjects because verbs violate the Full Morphological Specification Condition on nominative Case assignment. The subject used at the early stage does not receive structurally assigned nominative Case, and must therefore be phonetically null. This null subject cannot be *pro* because the early stage grammar lacks sufficient morphological specification to license and identify *pro*. *pro* is also ruled-out in child Catalan and Spanish by the fact that it must be Case-marked, which I contend does not take place at this stage. These facts make it seem likely that PRO is the subject used by the Catalan and Spanish speaking children at the early stage. Similar proposals have been put forth for the early stages of other languages. We will review proposals by Krämer (1993) for Dutch and German and Sano and Hyams (1994) for English and suggest ways in which their results can be interpreted complementarily with the proposal presented here.

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2.1 Null Subjects in English, Dutch and German

The proposals in Krämer (1993) and Sano and Hyams (1994) share much in common with the hypothesis presented in this thesis. However there are differences which are worth noting. Krämer finds in child Dutch and German that null subjects tend to occur with non-finite verbs and overt subjects tend to occur with finite verbs. Her explanation of these facts is that finite verbs can assign nominative Case and thus co-occur with overt subjects and non-finite verbs cannot and thus co-occur with null, caseless PRO. Finiteness in her analysis is judged by verb position (sentence-final for infinitives or V2 for finite verbs). Krämer's hypothesis that the null subject used with the non-finite verbs must be PRO is consistent with adult languages in which PRO is assumed to occur with non-finite verbs. I will argue that her data are representative of the later developmental stage in which only small percentages of null subjects occur with finite verbs. I will also argue against her "null modal" explanation of the occurrence of infinitives with overt subjects.

Sano and Hyams (1994) also argue for an early PRO stage, in child English. However, their data show that null subjects do occur with the one form of agreement which appears in the English present tense (3rd person, singular "s"). On its face, the occurrence of 3rd person singular "s" on verbs

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makes it appear that verbs do raise and govern the null subject PRO and this poses a problem for the authors' hypothesis that verbs do not raise and that the ungoverned null subject in these cases is PRO[8]. They resolve this problem by arguing that this early Child English "s" is in fact not part of the inflectional phrase, but rather part of an Aspect Phrase which is below IP. Thus, verbs raise to acquire the "s" aspectual morpheme at this stage, but do not raise to IP (TP, NumP and PerP in our terms). I will argue that an analysis of the child English facts which interprets "s" as a person morpheme (as in Johnson, 1992) can account for child English in terms of morphological underspecification. This is identical to the situation in child Catalan and Spanish in which 1st person, singular morphology occurs (in the present), in spite of the fact that subjects do not occur in an adult-like fashion.

More generally, Hyams (p.c.) argues that the occurrence of overt subjects with non-finite forms in child English is evidence against Krämer's (and my own) contention that children are sensitive to the Case Filter. I argue that the Dutch, Catalan and Spanish evidence shows that children are sensitive to the Case Filter and that the children acquiring

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[8] Sano and Hyams adopt the conventional PRO Theorem which states that PRO must be ungoverned, which is distinct from, yet consistent with my own assumption that PRO is regulated by Case assignment.

English (and perhaps all non-null-subject languages) use inherent Case-marking to assign Case to subjects before they acquire tense and agreement. That is, following a suggestion of Radford's (1994), based on the work of Budwig (1984, 1985, 1989) I assume that children assign inherent Case to subjects as a function of the subject's theta role. As to the larger question of why English speaking children use overt subjects at all, lacking the adult-like Case assigning mechanism, I attribute this to whatever the fundamental difference is between pro-drop and non-pro-drop languages. To this point I will return below.

2.1.1 Krämer

Krämer argues that if the Case filter holds at this age (1;11 for Maarten, 2;1 for Andreas [who is German speaking], and 2;3 - 2;8 for Thomas), finite forms should occur with overt subjects and non-finite forms should not, in these non-null subject languages. To a large degree, this is what she finds. The two Dutch children she studied used null subjects with non-finites and overt subjects with finites in very high percentages. Out of all the infinitives Maarten used, an overt subject co-occurred with only 11% of the cases, while 75% of his finite verbs occurred with overt subjects. Thomas used overt subjects with 5.5%-12.5% of his total number of infinitive utterances and 66.1% - 78.1% of his finite

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utterances occurred with overt subjects. She also examined the German child, Andreas, from the Poeppel and Wexler (1993) study and found that his percentage of overt subjects with infinitives was higher: 31.7%. 87.5% of his finite verbs occurred with overt subjects. To explain the overt subjects which occur with non-finite forms Krämer adopts an idea of Whitman (1992) that many of these forms in fact include a null modal which assigns nominative Case to the overt subject.

Krämer's finding of a correlation between finite forms and overt subjects essentially support the contention, argued for here, of nominative Case assignment being driven by tense and agreement. The main difference between her analysis and this one is that her determination of finiteness is made on the basis of verb position, not morphological development. In Spanish and Catalan, verb position gives no clues as to finiteness. Furthermore, it is unnecessary in child Catalan and Spanish to posit a null modal to account for overt subjects which co-occur with non-finite forms, because there are no overt subjects in the early stage. The few infinitives used in child Catalan and Spanish always occur with null subjects.

The null modal idea for Dutch and German has received criticism for several reasons. It has been claimed by Hyams

(class lectures, 1994), Haegeman (1994), French, Lightbown
and Pierce, (1992) that children use non-finite forms with a
non-modal interpretation. Hyams also notes that Krämer's
figures only give the proportions of non-finite forms with a
modal interpretation, which is not meaningful in the absence
of the proportions of finite forms with a modal
interpretation.

My analysis predicts that there should be a correlation
between adult-like morphological development in Dutch and
German and consistent subject use. If the Dutch and German
data can be divided in two stages like the Catalan and
Spanish data, the first should be characterized by a lack of
(non-present) tense marking and a lack of subject-verb
agreement. The occurrence of overt subjects in the early
stage will be explained below. At least in the cases of
Maarten and Thomas it appears that they are in the later
stage and are using adult-like nominative Case assignment.
Andreas, on the other hand, still uses overt subjects with
31% of his infinitive utterances. Andreas may still be in the
earlier grammatical stage in which inherent Case is used to
allow these overt subjects to occur with non-finite verbs. To
explain the apparently finite verbs which occur with null
subjects I argue that verbs raise through PerP and then to C
without having all of the morphology necessary to assign
nominative Case to an overt subject. This would explain the

verbs in what appear to be a finite verb position, which nonetheless would not be finite because they bear only person morphology. In this way their occurrence with PRO is only possible because they are not sufficiently specified morphologically to assign Case.

A further difference between this analysis and Krämer's is that I have divided up the data into two developmental stages which are delimited by the emergence of overt subject use. These two stages spanned an average of 17.4 months in total. It turns out that the emergence of overt subject use correlates with the emergence of tense and number agreement. Krämer's study of the three children, in contrast, is best understood as giving us a snapshot of development because the data were collected for short periods of time, and no developmental stages were postulated. Thomas spans approximately five months from 2;3;22 to 2;8;8; Maarten's data are from one month (1;11); and the data from Andreas appear to be from one day: at 2;1. If there are, in Dutch and German, stages of development similar to those of Catalan and Spanish, one might expect the relatively high correlation of overt subjects to finite forms, given by Krämer, to be characteristic of a later, more adult-like form, in which case Krämer's data is showing us a near-adult grammar.

The possibility that these two stages exist in Dutch and

German is speculation at this point and will have to await longitudinal examination. More evidence from early German morphology confirming the lack of tense and number will be shown below. Similar examples of non-finite verbs occurring with overt subjects from English data provided by Hyams (class lectures) will be explained via the mechanism of inherent Case assignment. First, however I will review Sano and Hyams's analysis which is relevant to this proposal.

2.1.2 Sano and Hyams

Sano and Hyams (1994) propose that the null subject used in child English is big PRO under an analysis which asserts that the inflectional projection children have at an early stage does not contain fully specified inflectional features and thus verbs do not raise to the head of the inflectional phrase. This yields the non-finite form and its corresponding null subject: big PRO. To clarify, in the account proposed by Sano and Hyams, verbs may raise, but not to INFL. For instance, they explain the occurrence of null subjects with verbs which end in -ed as a case in which the verb has raised to an Aspect Phrase, which is not part of INFL. Thus, these verbs are participles, not past tense verbs. A subject which raises above AspP to the specifier of IP is then not governed by a verbal head in the head of AspP, as in (19).

(19)
```
                IP
             /      \
         PRO         I'
                   /    \
                 I       AspP
                       /      \
                     NP        Asp'
                                  /
                               Asp
                              Verb
```
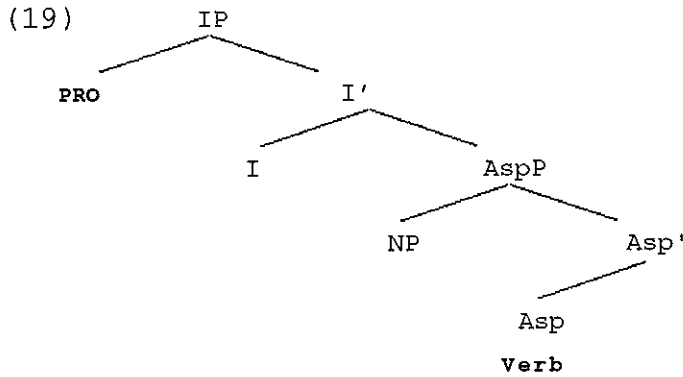
An alternative way of viewing the English facts is that
verbs which raise to ASP cannot assign nominative Case to
their subjects, and thus may occur only with null Caseless
PRO or inherently Case marked overt subjects.[9] Inherent Case
marking, suggested by Radford (1994), would overcome a
problem posed for Krämer's account, pointed out by Nina
Hyams, which is that large numbers of non-finite verbs in the
early stage of child English occur with overt subjects.
Examining five files from the Brown Corpus, Hyams (class
lectures) found that out of a total 262 non-finite and "-ing"
verbs, Eve (1;6-1;10) used overt subjects with 179 of them.
That is, 68% of the non-finite verbs used in this early stage
of Eve's development occurred with overt subjects. This is a
problem for Krämer if finiteness and structural Case

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[9] These subjects would occur in the specifier of AspP,
not IP under a definition of government (I-government, cf
Koopman and Sportiche, 1991) which prevents heads from
governing their specifiers, but does not prevent Case
assignment from taking place in the specifier-head
configuration as a general property of specifiers and heads.
More on this in section 2.2.

assignment are the only mechanisms by which Case can be
assigned.

Another possible explanation for the appearance of these
forms in Dutch, German and English, however, is suggested by
Radford, based on the work of Budwig, that subjects in child
language can receive inherent Case. Although Radford does not
give the details of Budwig's findings, they are particularly
relevant to this thesis. Budwig carries out a functional
analysis of the speech of six children and finds that they
use nominative, genitive and accusative Case pronouns in
subject position. Interestingly, the youngest three use a
high percentage of non-nominative Case pronouns in subject
position, relative to the older three who use a larger
percentage of nominative Case pronouns. Given the cross-
sectional nature of this study, it is reasonable to assume
that the three youngest, who she refers to as "ego-anchored"
are in one grammatical stage and the older three, who she
refers to as "non-ego-anchored" are in a later grammatical
stage. The subject pronoun Case used by the six children are
shown in Table 1.

Group	I	My	Me	Total
Megan (1;8) Grice (1;10) Jeffrey (2;6)	33 (39.8%)	37 (44.6%)	13 (15.7%)	83
Eric (2;4) Keith (2;7) Thomas (2;8)	60 (86%)	8 (11%)	2 (3%)	70

Table 1 - Relative Use of Pronoun Case Across Two Grammatical
        Stages

My interpretation of Budwig's data is that the younger children in Table 1 are in an earlier stage of acquisition in which nominative Case assignment does not take place structurally, but rather inherently. The older children have moved to a second stage in which nominative Case is assigned in the adult-like, structural way. But what is the evidence for inherent Case assignment in the first group? Budwig (1989) shows that "I" tends to be used with verbs expressing the child's "states and intentions", "my" tends to occur with verbs which encode more telic types of action and "me" tends to occur with verbs to mark the speaker as the "patient, recipient and location of action". This evidence can be interpreted, as Radford suggests, as evidence that subject theta role assignment (as a lexical property of the verb) drives inherent Case assignment to the subject position, and not structural Case assignment as a function of the properties of I.

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(20)

```
                           PersP
                    _____
                   /              \
                Spec             Pers'
                My_k          _____
                             /          \
                          Pers         AGR_OP
                          cut_i      _____
                                    /          \
                                  Spec        AGR_O'
                                  it_j      _____
                                           /          \
                                        AGR_O          VP
                                        t_i        _____
                                                  /          \
                                               Spec          V'
                                               t_k        _____
                                                         /        \
                                                        V          DP
                                                        t_i        t_j
```
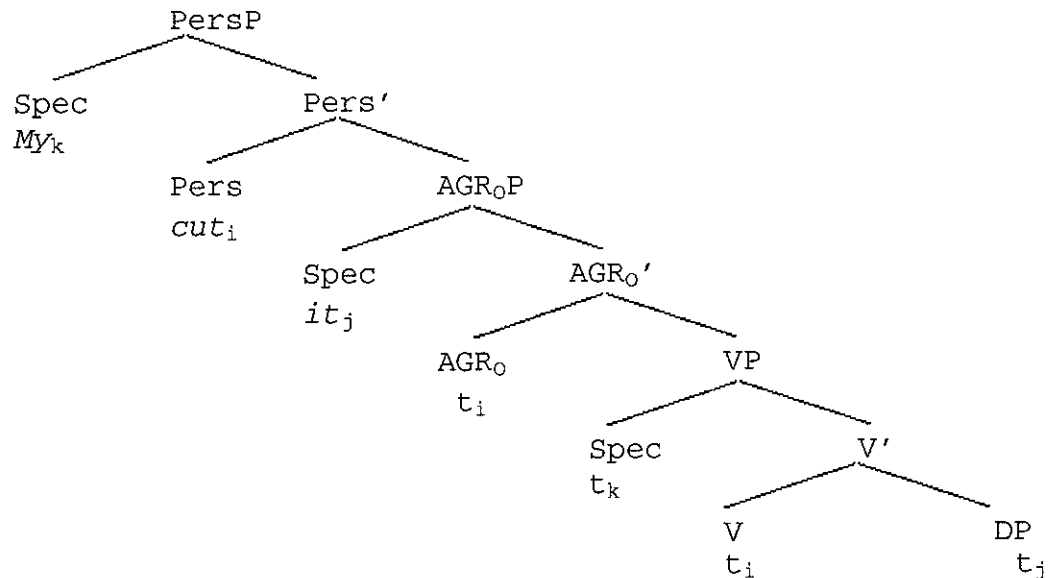
"My cut it." - Nina (2;1 - example from Vainikka, 1993, p. 42)

As an example, sentence (20) is a telic verb which takes "my" as its subject. Following Radford's suggestion, I will assume that its theta role is "agent", which the verb may assign to the subject because the subject carries the inherent Case features it had when it was inserted into the derivation. The verbal complex does not contain all the elements necessary for assigning nominative Case structurally (i.e tense, number and person), but rather the verb carries "indistinct" Case features which will check the inherent Case features on the subject.

I argue that a system of this kind operates in English before tense and agreement enter the system. Further research will be needed to determine whether the few lexical subjects which occur with non-finite forms in Dutch and German are also amenable to an analysis in terms of inherent Case.

I speculate that the reason German, Dutch and English children use overt subjects at the early stage instead of using only null PROs, as they do in Catalan and Spanish, is that even before they reach this stage of production they have acquired the competence to know that their language must always have overt subjects as in English, Dutch and German. This part of the child and adult grammar would be a component of the pro-drop parameter not related to the inflectional system, which tells children that theirs is a language which must have overt subjects. If this idea turns out to be correct then an explanation would have to be found for the occurrence of null subjects in the child versions of these non-null-subject languages. A further speculation is that there may some semantic or morphological condition on the occurrence of null subjects in the non-null subject languages, which causes inherent Case assignment to fail, resulting in PRO subjects. Alternatively, PRO could be the default parameter setting for all children. During the stage in which children use inherent Case marking in non-null-subject languages, PRO could be the default subject used in

cases which did not correspond to any of the three theta roles corresponding to the pronouns "my, me and I." Either way, the occurrence of PRO in child language would be universally determined by Case assignment, and the initial stage of all child language would include a "PRO Stage".

Another interesting finding by Sano and Hyams is that null subjects occur in early English with verbs which carry the /s/ morpheme. At first this would seem to present a problem for the hypothesis that PRO co-occurs with non-finite forms. Sano and Hyams, however propose that it is in fact a participle which marks some limited form of agreement. Their contention then, is that verbs which end in -ed and -s raise out of the VP into an Aspectual Phrase where they receive their morphology. The idea is that there is a limited degree of verb raising during this stage of child English. If more adult-like verb raising is necessary for nominative Case assignment, then it follows that at this early stage the big PRO null subject is what children use. Thus, their position (the Full Clause Hypothesis) that the entire clause structure is present, but verb raising only operates on part of that structure is different from the contention of this thesis. I argue that some functional projections (person) are present initially, with others (tense and number) arising later and that verb raising operates on the entire available clause structure. I adopt this position because of the presence of

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person morphology and the lack of tense and number morphology, taken together with my assumptions about adult clause structure. That is, the Mirror Principle (Baker, 1985, 1988) dictates that affixes will appear on the verb in the order in which they were acquired. In Catalan and Spanish this means that tense must precede number and person, as in (21).

(21) lleva - ba - mos
     verb   **tense**   **number/person**

This order implies a clause structure which also has tense closer to the verb than number and person, as in (22).

(22)
```
                    PerP
                  /      \
              Spec        Per'
                        /      \
                     Per        NumP
                              /      \
                          Spec        Num'
                                    /      \
                                 Num        TP
                                          /      \
                                      Spec        T'
                                                /    \
                                              T       ...VP
```
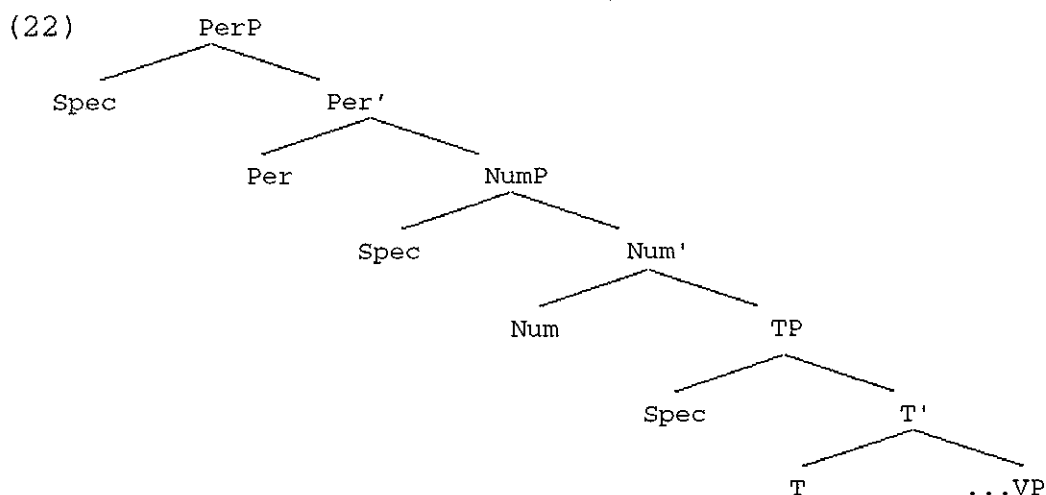
In this structure, if the verb were to raise directly to the head of PerP, a violation of the Head Movement Constraint (Travis, 1984) would ensue. To avoid this problem, I assume that TP and NumP are in fact absent from the clause structure

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initially, and emerge in the later stage. In this way there is no violation of the HMC and verb raising proceeds just as in the adult grammars. The only difference is the maturation of tense and number in the adult grammar.

To correlate syntactic position with particular verb forms is difficult in English, given the limited amount of overt morphology used in the English inflectional system. However, there are morphosyntactic proposals which have attempted to solve the puzzle of how different functional projections interact and produce English verb morphology including Kayne (1989) and Johnson (1990, 1992).

Without delving into the details of his analysis, Johnson's contention is that English in fact possesses both person and number projections which interact resulting in person and number spelling out under different circumstances. Although Sano and Hyams propose that /s/ at the early stage is either an aspectual or a number morpheme, I will follow Johnson who hypothesizes that /s/ is a person morpheme in the adult language. If we then assume that verb raising functions in child English in a way similar to child Catalan and Spanish these children can all be seen as using the same clause structure given in (23).

(23)

```
              PersP
            /       \
         Spec       Pers'
                   /     \
                 Pers    AGR_OP
                        /      \
                     Spec      AGR_O'
                              /       \
                           AGR_O      V_max
                                     /      \
                                  Spec       VP
                                            /    \
                                         Spec     V'
                                                 /   \
                                                V     NP
```
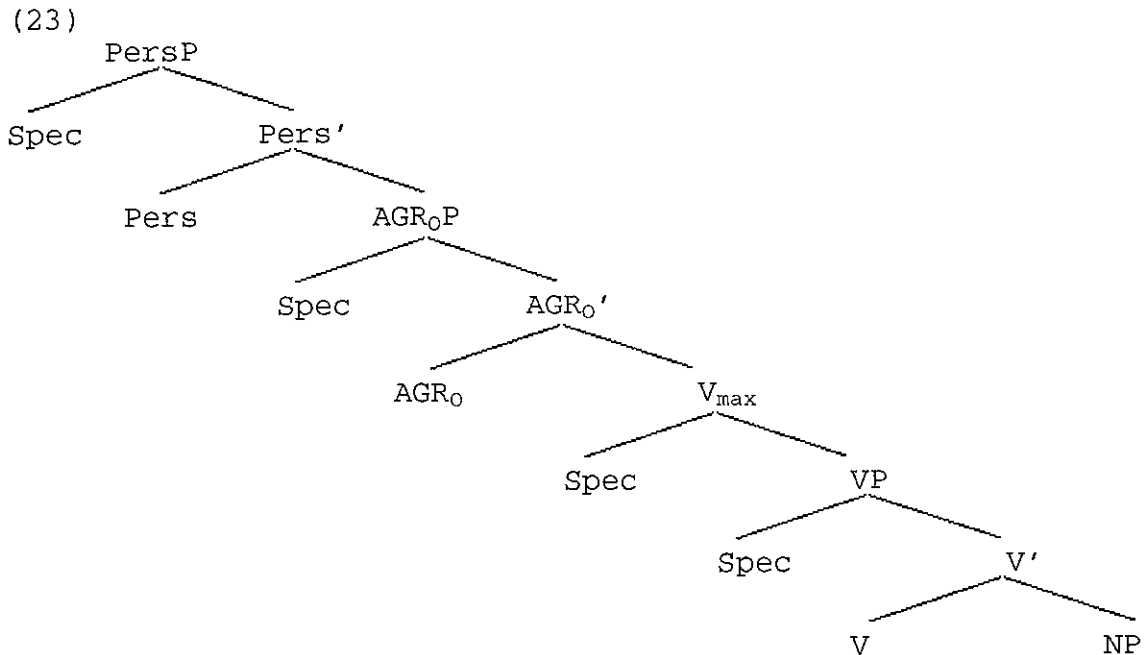
In the particular cases of Catalan, Spanish and English a clause structure of this kind can account for the observed verb morphology which does not constitute the full morphological specification necessary for structural, nominative Case assignment. We will see below that it also accounts for French and German child data.

Summing up, Krämer finds a high correlation between finiteness and occurrence of overt subjects with the two Dutch children. I argue that this is the later stage of development in which nominative Case assignment proceeds in a structural way, driven by a fully specified verbal complex. Andreas (the German speaker) may be in the early stage still, given that he has a larger percentage of overt subjects which

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occur with infinitives. Following Radford, I argue that the
overt subjects in Dutch, German and English which occur with
non-finite verbs receive inherent Case. With respect to Sano
and Hyams, I argue that their position on clause structure
can be modified to be consistent with my hypothesis.

2.2 PRO as Null Subject

Let us now turn to the syntactic analysis of the null
subject. Following Koopman and Sportiche (1991) I assume that
subjects are generated in a VP-internal position which is a
sister to the VP from which they raise to the specifier of IP
in order to receive Case. According to their hypothesis,
languages may be classified as either type 1 in which
subjects can only receive Case by specifier-head agreement
after raising to the specifier of IP, or type 2 in which
subjects may either raise to the specifier of IP or remain in
their lower position and receive Case by government from I.
Type 1 would include languages with SVO order like English
and French and type 2 languages would include languages like
Catalan, Spanish and Arabic in which subjects may occur
either pre-verbally or post-verbally. Given that un-raised
subjects (including post-verbal ones) are assigned Case under
I-government, it would be impossible for big PRO to occur in
the VP, because PRO must be ungoverned. Thus, big PRO must
raise to an ungoverned position such as the Specifier of IP

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position in (24).

(24)

```
              IP
         ┌────────┴────────┐
        PRO               I'
                    ┌──────┴──────┐
                    I           V_max
                           ┌──────┴──────┐
                          NP            VP
```
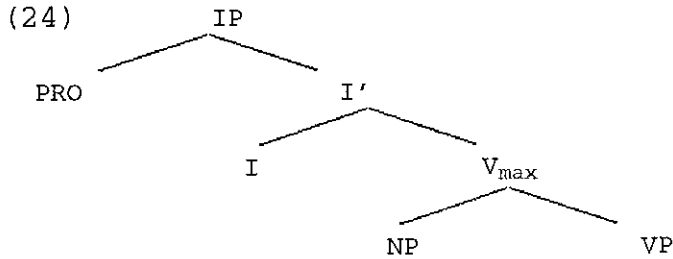
It is important to understand that the particular
assumption adopted by Koopman and Sportiche, in variance to
standard assumptions, is that non-finite I counts as a
governor in, for instance, adult infinitives. The structural
notion of I-command they adopt, however, does not allow a
head to govern its specifier. Thus, elements in the head of I
can govern elements dominated by the first constituent which
dominates I (complements to I), but that does not include the
specifier of IP. Thus, in (24) I governs V_{max}, but does not

govern PRO in the specifier of IP. While heads do not govern
their specifiers, Case assignment can take place outside of
the government relationship as a general reflex of specifier-
head agreement. Thus, government and Case assignment are
disjunctive and PRO can occur ungoverned in the specifier of
IP.

The subject position in child Catalan and Spanish may be
occupied by PRO as long as that position is neither governed
nor Case-marked. At this early stage there are essentially no

subordinate clauses, so government by an element in a matrix clause is not a consideration. Government by I is not possible since heads do not govern their specifiers. The null subject cannot be assigned nominative Case since the verbal complex does not have full morphological specification. In this conception, it is tense, number and person as a whole which assign nominative Case to the specifier position; when the verbal complex is less than fully specified, overt subjects and pro are disallowed, making PRO the only possible subject for child Catalan and Spanish. We have already seen some examples of arguments in favor of a PRO subject in English, Dutch and German. It may be the case that there is in fact a universal PRO stage before tense and agreement become part of the child language.

2.3 The Proportion of Overt Subjects

In this section we will see that Catalan and Spanish children have essentially no overt subjects in the early stage and that in the second stage the proportion increases dramatically. All overt subjects which co-occurred with verbs were counted. The following were excluded: repetitions of immediately preceding utterances, songs, lexically learned expressions such as "ja està" (that's all), lexicalized tags such as "veus?" (you see?), and unclear utterances.

A large portion of the verb forms in the early stage occur in present tense and imperative forms, and while the present tense might be predicted to co-occur with an overt subject at this stage, the imperative would not. That is, imperatives may co-occur with "vocative" subjects, but it seems clear that these subjects are in some sense removed from the immediate syntactic structure associated with the verb. Hence, imperatives were removed from the overall count of verbs to avoid making the percentage of verbs with overt subjects seem artificially low. The following table shows the percentage of subjects in the early stage of development.

Child	Verbs with Null Subjects	Verbs with Overt Subjects
Laura (19-24)	71 (100%)	0 (0%)
Pep (15-24)	131 (94%)	8 (6%)
Guillem (19-25)	66 (97%)	2 (3%)
Gisela (13-25)	28 (93%)	2 (7%)
Juan (19-25)	35 (91%)	3 (9%)

Table 2 - Overt vs. Null Subjects Before 25 Months

Column 1 includes the total number of verbs which occur with null subjects, while column 2 includes the total number of verbs which occur with overt subjects. The percentages of overt subjects in the early stage are extremely low.

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Furthermore, two of the children who exceed 5% are special cases. In Gisela's data before 25 months she repeats what I consider to be fossilized or lexically learned phrase ("ja està" or "that's all") 20 times. The effect of not counting any of these apparently null subject utterances moves the percentage of verbs **with** subjects above 5%. The Spanish data (Juan) is simply sparse and I believe his results to be anomalous for that reason. That is, the scarcity of data available make the few subjects which do appear with verbs seem artificially high for him. Further data collection is necessary to falsify or confirm the predictions presented here for Spanish.

Pep has eight subjects. Three occur at 22 months (1;10;6) and five occur at 23 months (1;11;6). Guillem has 2 subjects. One occurs at 23 months (1;11;13) and the other occurs at 25 months (2;1;23). Laura has no subjects in the early stage.[10]

A dramatic change takes place between the first stage and the second stage and it begins at approximately 24 months. The ratio of overt to null subjects in the second stage is shown in Table 3. Again, the exact chronological date will vary as these are grammatical and not chronological

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[10] Pep's data needs to be reformatted to move the end of his early grammatical stage back several months. Laura's data needs to be moved forward for the same reason.

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stages, however it remains true that when these children near 24 months, subjects appear in proportions roughly similar to the adult languages.[11]

Child	Verbs with Null Subjects	Verbs with Overt Subjects
Laura (24-36)	596 (81%)	115 (19%)
Pep (25-31)	657 (66%)	224 (34%)
Guillem (25-37)	363 (57%)	155 (43%)
Gisela (26-36)	344 (62%)	132 (38%)
Juan (27-32)	187 (70%)	57 (30%)

Table 3 - Overt vs. Null Subjects after 25 Months

Again, column 1 gives the number of verbs which occur with null subjects in the later stage, and column 2 gives the number of verbs which occur with overt subjects. Thus, we see that there is a drastic change between the first stage in which subjects rarely occur and the second stage in which subjects occur in adult-like proportions. I argue that these different percentages of use in the two stages are a function of the availability of structural Case assignment in the

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[11] Silva-Corvalan (1977, p. 32) reports that in adult Spanish, overt subjects are used an average of 39% of the time (501 overt subjects out of 1,284 possible). I am unaware of similar studies on Catalan.

later stage, and its lack in the first. I argue that it is the introduction of tense and number into the morphological system which brings this change about.

3. TENSE AND NUMBER IN CHILD CATALAN AND SPANISH

Thus far I have shown that overt subjects are missing at an early stage of Catalan and Spanish and that they emerge dramatically in a later stage. In this section I will argue that it is the emergence of tense and number in the child grammar which allows Catalan and Spanish speaking children to begin to assign nominative Case and thus use overt subjects. I have argued that such nominative Case assignment is also missing from non-null subject languages such as English and that inherent Case assignment is the UG mechanism adopted by children until the rest of their I system develops. In this section we will examine development of the I system of Catalan and Spanish-speaking children more closely.

My argument is that tense and number as syntactic functional projections are missing from child clause structure initially, whereas person is available from the beginning. I allow for the possibility that in languages which bear no agreement morphology, tense may be the only missing element initially (resulting in a bear verbal stem presumably). Below we will see that this pattern of initial

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underspecification of tense and number is fairly general. The generality of this phenomena makes it seems conceptually likely that grammatical "primitives" like tense and number develop maturationally. With respect to the maturation/continuity debate, I follow Borer and Wexler (1987, 1992) in assuming that some aspects of grammar can mature in a biological way. "Primitives" like tense and number, which do not reduce to other grammatical elements (as agreement reduces to person, number and gender for example), seem likely candidates for maturation. I speculate that the maturation of these two elements causes the end to the Optional Infinitive stage and I argue that it also results in the emergence of nominative Case assignment, which in turn may have other consequences such as the occurrence of post/pre-verbal subjects, A-chains, etc.

In these two sections, we will examine the overall percentage of occurrence of tense and number marking and see that it increases dramatically between the first and the second stages. The proportional increase in tense and number marking on the children's verbs between the first and second grammatical stages is not as dramatic as is the proportional increase in subjects. However, I argue that it is the **emergence** of tense and number in the child grammatical system which allows nominative Case to be assigned. This does not imply that the proportion of tense and number marking

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should increase in percentages comparable to the increase in subjects, rather only that what was missing before come into being. Plural number agreement, which is absent in the first stage, emerges in the second stage grammatically equivalent to the adult paradigm. Likewise, virtually all adult tense markings emerge in the second stage while they are missing in the first. By the end of the second stage, children have morphological tense and number marking which closely resembles the adult system.

3.1 Subject Verb Agreement

First we shall examine the development of subject verb agreement across the two stages. I assume that morphology affixes to verbs through the process of verb raising. Hence, if a verb carries inflectional morphology, it has raised to acquire/check it. With respect to early Catalan and Spanish it seems clear that there is inflection for what in the adult morphological system would be first person, singular, present tense as we can see in Table 4. Table 4 includes all verbs which can be inflected for person and number. This excludes gerunds, participles[12] and infinitives.

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[12] Participles in object clitic and wh- constructions in Catalan (but not Spanish) inflect for number, when they inflect for feminine gender. However none of the four Catalan children used these constructions in either stage.

Person Morph. ⇒ child ⇓	First Person Sing.	Second Person (Imp.)	Second Person (Ind.)	Third Person Sing.	First Person Pl.	Second Person Pl.	Third Person Pl.
Laura (19-24)	12 (15%)	21 (25%)	5 (6%)	41 (49%)	2 (2%)	0	0
Pep (15-24)	12 (7%)	69 (41%)	0	81 (48%)	5 (3%)	0	3 (2%)
Gisela (13-25)	12 (18%)	15 (22%)	0	40 (60%)	0	0	0
Guillem (19-25)	23 (16%)	79 (57%)	0	37 (27%)	0	0	0
Juan (19-25)	8 (18%)	12 (27%)	0	24 (55%)	0	0	0

Table 4 - Person and Number Morphology Percentages (of Verbal Utterances Susceptible to Person/Number Marking) Before 25 Months

Each row shows the number and proportion of each kind of verb uttered by each child in the early stage with respect to number inflection. We see that a large percentage of the utterances made by the children bear first, person singular agreement. Plural number agreement, however is almost totally absent. The two 1st person, plural utterances by Laura are both imperatives, which take place at twenty-one and twenty-five months, both close to the approximate chronological point (24 months) which delimits the two stages. Pep, who has the largest percentage of plural number agreement (5%), generally appears to enter the second grammatical stage at a point chronologically earlier than the other children (perhaps around 20 months - see footnote 10). Thus the generalization holds for grammatical, not chronological

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stages. Examples from the first stage include the following:

(25) Pep - 1;4;24
      *PEP:me'n vaig
            leave (1st, sing)

(26) Laura - 1;11;12
      *LAU:no vull
            no want (1st, sing)

(27) Guillem - 1;8;0
      *GUI:vull aigua
            want (1st, sing) water

(28) Juan - 1;9;2
      *NIN:teno momos
            have (1st, sing) snot
            (I have a runny nose.)

(29) Gisela - 1;8;3
      *GIS: cai
            fall (1st, sing)

Thus, there are verb forms which are inflected for person. 1st person and 3rd person are used by the children to refer to themselves, as has been reported in the literature on other languages. The grammatical form for 2nd person, indicative was almost never used and it is not clear to me how the children referred to the individuals they addressed, apart from 2nd person imperatives. I have no principled explanation of this, but I note that the same fact is pointed out by Poeppel and Wexler for Andreas (1993, p. 9 fn. 14), "...Descriptive statements about second person subjects are rare and sound somewhat strange coming from a two year old." This is, of course just a description, but perhaps there are pragmatic reasons why these forms do not develop early.

One pragmatic factor which may not become grammaticalized until later is the formality distinction. In Catalan and Spanish there are essentially no second person "tu/tú" forms, that is, verb forms which end in /s/. I assume that this morpheme is a portmanteau form which expresses both person and familiarity. It contrasts with the formal second person singular pronoun "Vosté" in Catalan and "Usted" in Spanish, which are phonetically equivalent to the verbal stem. The pronouns and discourse context with which the familiarity distinction might plausibly be used are unattested in the early stage[13]. My contention, then, is that person morphology is present, but only appears in the 1st and 3rd person because productive use of the second person familiar /s/ depends on the child being able to manipulate the familiarity distinction as well as person morphology. This distinction appears to be totally absent in the early stage of the dialect acquired by these children.

Assuming that it is correct that children do have morphological person at the early stage, there must be some functional projection which carries this morphology in its head in order for the verb to surface with it. Therefore the VP must have at least a Person Phrase above it. Empirical

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[13] The two exceptions occur with "usted" in Spanish in a song sung to Juan by his father, the lyrics of which say, "...los gallos están cantando que dice **usted** los gallos están cantando."

justification for the existence of a Person Phrase
independent of number is given in Johnson (1990, 1992) and
more generally for the independence of phi features as
functional projections in Shlonsky (1989). The structure
assumed for the early stage is as in (30).

(30)

```
                PersP
          _____/  _____
       SPEC            Pers'
                    ___/  \___
                 Pers         AGR_OP
                          ___/  \___
                       SPEC        AGR_O'
                                ___/  \___
                             AGR_O         V_max
                                        ___/  \___
                                     SPEC        VP
                                             ___/  \___
                                          SPEC        V'
                                                   ___/  \___
                                                  V          NP
```
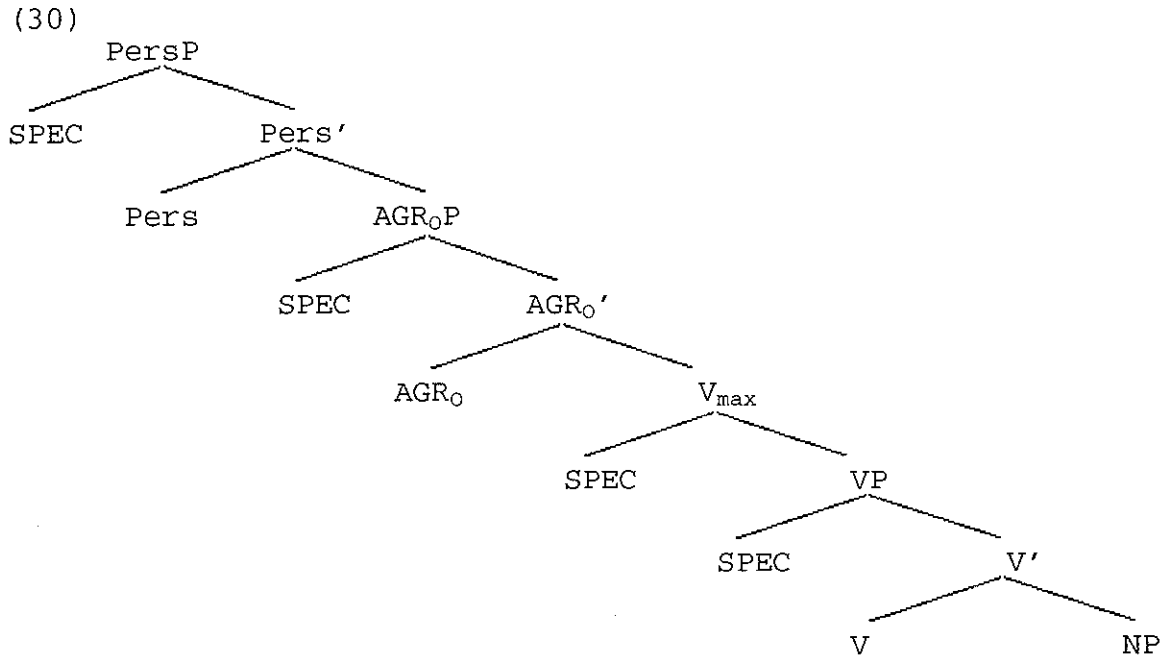
Given the assumptions outlined above with respect to
verb raising and morphology, the structure in (30) can
account for the data present in child Catalan and Spanish.
Verbs begin in the head of VP and raise to the head of AGR_O
and then to the head of the Person Phrase. Objects begin in
the post verbal NP and then move to Spec-VP and then to Spec-
AGR_O. Subjects begin is Spec-V_{max} and then move up to the
specifier of the Person Phrase.

We saw in Table 4 that there are extremely low percentages of plural utterances. This contrasts with the second stage in which the proportion of plural utterances increases.

Person Morph. ⇒ child ⇓	First Person Sing.	Second Person (Imp.)	Second Person (Ind.)	Third Person Sing.	First Person Pl.	Second Person Pl.	Third Person Pl.
Laura (24-36)	200 (18%)	444 (40%)	36 (3%)	375 (34%)	28 (2%)	5 (4%)	25 (2%)
Pep (25-31)	221 (19%)	304 (26%)	42 (4%)	478 (41%)	34 (3%)	13 (1%)	76 (7%)
Gisela (26-36)	161 (25%)	164 (25%)	18 (3%)	280 (43%)	13 (2%)	1 (0.1%)	10 (1%)
Guillem (25-37)	122 (17%)	192 (27%)	28 (4%)	336 (47%)	15 (2%)	2 (0.3%)	17 (2%)
Juan (19-25)	52 (16%)	106 (33%)	12 (4%)	143 (43%)	0	0	10 (3%)

Table 5 - Person and Number Morphology Percentages (of Verbal Utterances Susceptible to Person/Number Marking) After 25 Months

In Table 5 we see that the number of plural forms has increased. Although the percentages do not increase as dramatically as do the percentages of overt subjects across the two stages, I am arguing only that number enters the grammatical system at this point. Thus whereas the preceding table showed no plural forms, this table shows plural forms in all three persons. I am not arguing, however, that the absence of number, in and of itself, is responsible for the failure of nominative case assignment. Rather it is the

underspecification resulting from the absence of number **and** tense, and the resulting violation of the FMSC which causes nominative Case assignment to fail.

3.2 Tense in Child Catalan and Spanish

The majority of the child Catalan and Spanish forms in the early stage are forms which, I argue, bear only person morphology. Since present tense is a "zero morpheme" or is expressed by the lack of an overt morpheme, the presence of person morphology by itself and the presence of person, number and tense morphology all together "sound the same" in child Catalan and Spanish. My argument for the absence of tense, as with number, is that no tense contrasts are used which would indicate that the children have grammaticalized a sense of past, present or future. Since there are no past or future forms used in the early stage, I have no reason to assume that they have present either. This is consistent with Wexler's assumption, mentioned earlier, that tense is unspecified at the early stage, and follows earlier arguments by Guilfoyle (1984) that Tense is missing initially. Thus, forms which appear identical to adult present tense forms at the early stage are in fact verbal stems, plus the "theme vowel", described by Halle, Harris and Vergnaud (1991) as a derivational affix, and a null person morpheme, in the case of 3rd singular indicative and 2nd imperative. The "o" is an

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overt person morpheme in the case of 1st singular. (The superscript "d" stands for a derivational morpheme and "i" stands for an inflectional morpheme; the labeling conventions are mine.)

(31) 1st Person, Singular, Indicative
    $[[[cant]a]^d \; o]^i$ >> canto

(32) 2nd Person, Singular, Imperative
    $[[[cant]a]^d \; \emptyset]^i$ >> canta

(33) 3rd Person, Singular, Indicative
    $[[[cant]a]^d \; \emptyset]^i$ >> canta

Again, morphological contrasts surface in person morphology between 1st and 3rd person, so it is logical to assume children have person morphology, but this is not the case with tense (or number as we saw above). The following table shows the numbers of present, imperative, and non-finite forms which occurred in the two stages for the five children.

The following table shows the change between the two stages of verb forms which show future and past tense contrasts. These forms include the preterit, imperfect, past perfect, simple future, conditional and "go + infinitive" future forms. These forms should occur if tense is available, hence, the rate of their occurrence should increase in the second stage if that is when tense emerges.

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	Preterit	Imperfect	Past Perfect	Future	Conditional	anar/ir+ a+ inf
Laura 19-24	0	0	0	0	0	0
Laura 24-36	14	19	0	24	3	14
Pep 15-24	0	2	0	2	0	0
Pep 25-31	61	44	1	57	4	18
Gisela 13-25	0	0	0	0	0	0
Gisela 26-36	0	3	0	25	0	8
Guillem 19-25	0	0	0	0	0	0
Guillem 25-37	3	9	0	13	0	5
Juan 19-25	0	0	0	0	0	0
Juan 27-32	7	0	0	0	0	0

Table 6 - Tensed Forms in the Early and Later Stages of Child Catalan and Spanish[14]

Again we see that tense marking is absent in the first stage, but emerges in the second. The claim that tense and number morphology enter the child grammar at a particular point is a qualitative not a quantitative claim. The primary

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[14]   As with his use of overt subjects and number morphology, Pep needs to be adjusted back several months to the point at which his second grammatical stage begins. With the exception of Pep, we see that there are no tensed forms in the early period and tensed forms emerge in the later period.

contrast between the first and second stages is that in the first stage the morphological systems used are not capable of marking tense and number in ways necessary for nominative Case assignment to take place, whereas in the second stage they are. What we see in the second stage is the beginning of a system which includes adult-like inflectional morphemes and consequently functional projections for tense, number and person. The onset of this system correlates with the onset of overt subject use, as seen earlier. This argues for the emergence of nominative Case assignment at the beginning of the later stage.

4. FINITENESS

In this section we will review two recent proposals relevant to finiteness in child Catalan and Spanish. Both will be shown to be consistent with the findings in Catalan and Spanish set forth in earlier chapters with respect to tense, number and person in child language.

4.1. Ferdinand

Astrid Ferdinand (1994) presents an interesting interpretation of the morphological development of French child language. She begins with the assumption, following Pierce (1989) and others, that children acquire the

finite/non-finite distinction very early. Her contention is that although children acquire verb raising early, the lexical features (or phonetic realizations of morphemes) which affix to verbs do not vary. That is to say, syntactic movement takes place, but the phonetic representation of the morphemes being affixed is a phonetically null "elsewhere" form. Thus the entire clause structure is available from the beginning; verb raising passes through the entire adult-like structure, the only difference between children and adults is that children have not yet acquired the phonological forms which correspond to the inflectional morphemes (which are always present) in the adult-like functional heads.

Ferdinand's findings confirm for child French agreement and tense what I found in Catalan and Spanish. That is, given a French verb paradigm for a verb like *manger*, the <u>spoken</u> verb forms are the following (examples from Ferdinand, 1994, p. 2):

(34) French Present

	sing	**plur**
1	[mãz]	[mãz]
2	[mãz]	[mãze]
3	[mãz]	[mãz(t)]

The spoken forms for irregular verbs *aller* and *avoir*, in contrast, are as follows:

(35) *aller*   (36) *avoir*

	sing	plur
1	[ve(z)]	[va]
2	[va(z)]	[ale(z)]
3	[va]	[võ(t)]

	sing	plur
1	[e]	[a]
2	[a(z)]	[ave[z])
3	[a]	[õ(t)]

In the adult language the principal difference between main verbs like *manger* and irregular verbs like *aller* and *avoir* is that the former have no person agreement in the singular and latter do. That is, *manger* and regular verbs generally have overt person agreement only in the plural, not in the singular. In the adult language irregular verbs like *aller* and *avoir*, on the other hand, do show person agreement in the singular.

If French children acquire person initially, as in Catalan and Spanish, but not number or tense, several things should happen in the early stage of child French:

- there should be no tenses marked which contrast with the present (i.e. future and past, with the relevant aspectual marking). In this vein, Ferdinand states,

  "I discuss only the present tense paradigms, since these are the only ones used at the relevant stage in child French." (p. 2 fn. 1)

The relevant stages to which she refers are the early ones in

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which agreement, like tense, is not adult-like. Thus, it appears that child French lacks tense contrasts as do Catalan and Spanish.

- If the French children lack number in the early stage, as in Catalan and Spanish, then there should be no plural agreement. On page 5 (Id.) Ferdinand adds,

  "In the whole period I studied, Grégoire and Philippe did not use the second person plural form at all, nor the third plural form of regular verbs...This entails that on regular verbs there was no subject agreement to be seen." (Id.)

Thus child French is consistent with Catalan and Spanish with respect to number.

- Finally if the French children acquire person in the early stage, then verbs like *aller* and *avoir* which <u>do</u> have person marking in the singular should show agreement in the singular. Ferdinand says,

  "The only verbs showing subject agreement marking were *etre* 'to be', *avoir* 'to have', and *aller* 'to go' for both Grégoire and Philippe and *faire* 'to do' for Phillipe only." (Id.)

My observation that person morphology, but not number or
tense, are available in the early stage of child language
acquisition is confirmed by Ferdinand's data. Further, French
appears to behave exactly as do Catalan and Spanish with
respect to early acquisition of person and early absence of
number and tense.

Returning to the question of finiteness, Pierce's
evidence that negative placement is adult-like at an early
age is consistent with a structure that puts negation
anywhere between the VP and the Person Phrase, given that
finite verbs occur to the left of negation in adult French.
Let us say, for concreteness that the structure of child
French at the early stage is as follows.

(37)

```
        PersP
       /     \
   Spec       Pers'
             /     \
          Pers      NegP
                   /    \
                Spec     Neg'
                        /    \
                      Neg     V_max
                             /     \
                          Spec      VP
                                   /    \
                                Spec     V'
                                        /   \
                                       V     NP
```
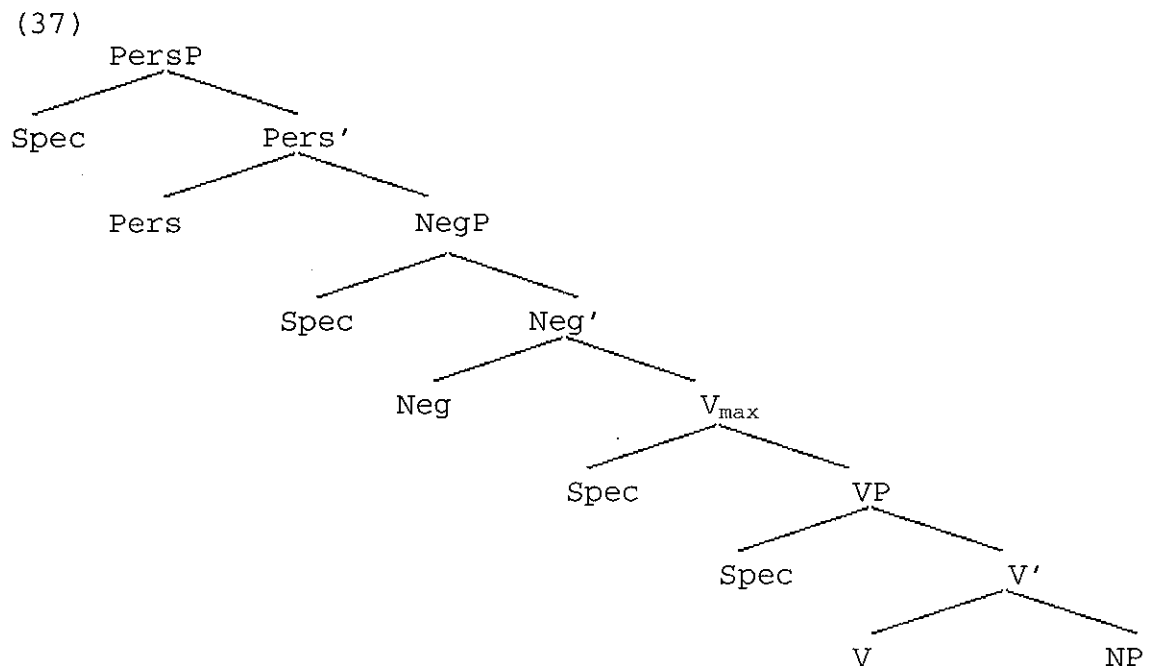
Verbs in negative utterances raise above negation, explaining the adult-like word order. Person is the only functional head to which verbs can raise to acquire morphology, because tense and number are not part of the grammar of verb raising at this stage. Assuming that the clause structure of child French is the same as child Catalan and Spanish [(37) above] instead of being adult-like explains both the word order and the morphology of child French.

I differ with Ferdinand on the issue of whether or not all abstract syntactic features are available from the beginning. I argue that in adult Catalan and Spanish the Person Phrase is part of the clause structure in most constructions, despite occasionally carrying phonetically null morphemes.[15] As stated earlier, I argue that child clause structure is different from adult clause structure in that it lacks two functional projections, while child verb raising is identical to adult verb raising in that verbs always raise to the highest available functional projection.

Child French differs from child Catalan and Spanish in

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[15] This was described above in reference to the four tenses of adult Catalan and Spanish which have null person morphology in the 1st and 3rd person and still assign nominative Case. Phonetically null morphemes which form part of the clause structure contrast, as stated earlier, with impersonal expressions in which the Person Phrase is totally absent, resulting in the failure of nominative Case assignment.
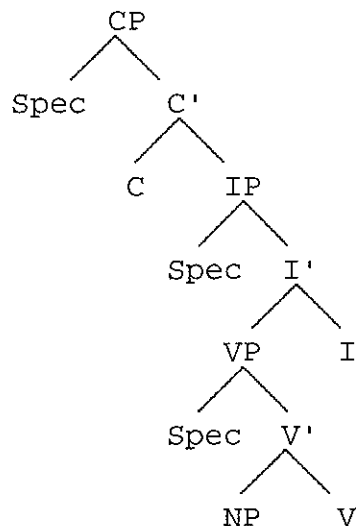
that children appear to use many overt subjects. As with the other non-null-subject languages, I speculate that it is not structural, nominative Case assignment which is taking place, but rather inherent Case assignment. This speculation predicts that at the early stage, before tense and number enter the system, pronouns of different cases will be used in subject position and receive Case as a function of their theta roles. Rizzi (1994) reports that in fact French children use non-nominative Case pronouns "moi" and "toi" in subject position. A more detailed analysis of these pronouns to see if they obey the same semantic constraints described by Budwig for English is yet to be carried out, however.

4.2 Poeppel and Wexler

We have seen that the morphological data in French is consistent with our position that the Person Phrase is the only functional projection in INFL available at the early stage. Now we will examine the same prediction for German in the data of Andreas, the child previously mentioned with respect to Krämer's work. Again it is important to point out that in the framework of the two developmental stages proposed here, Andreas' one day (at 2;1) of data is best understood as belonging to the first stage, before tense and number enter the system.

As in French, German offers evidence independent of
morphology which indicate whether or not a verb has raised,
namely: verb position. Poeppel and Wexler show that Andreas
raises verbs, in the adult-like way, to verb-second position
(the head of C). Verbs consistently show up in verb-second
position when they bear first and third person morphology (in
the present tense). When verbs occur with infinitive
morphology, they occur clause-finally. A widely accepted
analysis of verb raising in German (following den Besten,
1989 among others) has verbs raise to an inflectional phrase
which projects a left-branching specifier and a left-
branching complement, leaving the head to the right of the
VP, as in the following structure.

(38)

```
            CP
           /  \
        Spec    C'
               /  \
              C    IP
                  /  \
               Spec   I'
                      /  \
                    VP    I
                   /  \
                Spec   V'
                      /  \
                    NP    V
```

Finite verbs then proceed to C, while infinitives stay in
their clause-final position.

With respect to verbal morphology, the model proposed for Catalan, Spanish and French thus far would predict that only singular forms should surface in child German if this is the early phase of child language. With respect to agreement, Poeppel and Wexler report,

> "First and third person singular subjects always co-occur with the correct agreement form on the verb...Second person singular subjects are rare (total:9)." (Poeppel and Wexler, pp. 8-9)
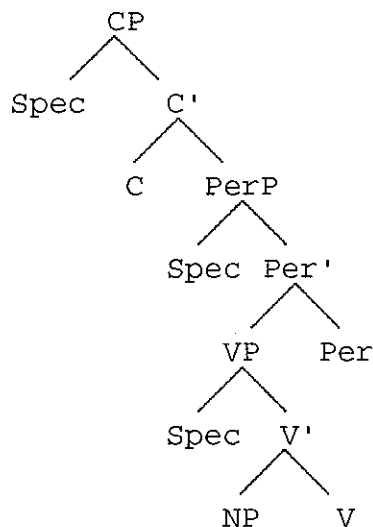
Thus person agreement shows up where predicted. But what about number? Interestingly, the authors report that 7 errors involving number occurred,

> "All the errors (total:7) occur with plural subjects (total:11); there are two correct cases and two bare stems. The errors are all of a characteristic type: plural subjects occur with singular verb agreement, with correct person agreement. So, for instance, a 3plu. subject NP will co-occur with 3sg. verb morphology -*t*..." (Id. p. 9)

So we see that the one kind of error which occurred was a lack of plural number agreement with plural subjects. This

strongly confirms the prediction that no plural subject-verb agreement should surface. Further, in spite of not matching the number features, subjects and verbs <u>do</u> match person features in the errors reported, as this hypothesis would predict. The only modification I propose in the clause structure of early child German, and presumably other V2 languages, is to replace the IP with one of its three components: the Person Phrase.

(39)

```
            CP
          /    \
      Spec      C'
              /    \
            C      PerP
                  /    \
              Spec      Per'
                      /    \
                    VP      Per
                  /    \
              Spec      V'
                      /    \
                    NP      V
```

In this structure, the verbs considered as "finite" by Poeppel and Wexler are in fact only inflected for person. They move from V to Person to C accounting for their word order, and bear person morphology only, in accordance with the morphological facts reported by the authors. Poeppel and Wexler, then, confirm for German what was reported with respect to person and number in other languages. As far as

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tense is concerned, another study by Wexler (1993) confirms our findings here for the languages previously mentioned. Wexler speculates that children move to a second, more adult-like stage when tense (and number in our theory) is acquired. Our findings in Catalan and Spanish confirm this speculation.

4.3 Wexler

Wexler (1993) argues for an Optional Infinitive stage in which verb raising is an essentially optional movement operation before the emergence of tense. Wexler speculates that after tense (the functional, syntactic element) enters the child grammar, as demonstrated by the child's manipulation of the past/non-past tense opposition, the non-finite forms disappear. Wexler examines a wide range of Germanic languages and French and finds that the optional infinitive stage is attested in all of them. In Italian, however, infinitives constitute a very small percentage of Italian verbal utterances at the early stage, according to studies by Schaeffer (1990) and Guasti (1993).

I suggest that Italian, along with Catalan and Spanish, is in fact consistent with the Optional Infinitive idea. All of the forms considered thus far in Catalan, Spanish and French (as well as English, and possibly German and Dutch) lack adult-like nominative Case assignment properties at the

early stage. I concur with Tetsuya Sano (p.c) that the infinitives in Germanic are part of a larger, cross-linguistically non-finite class of verbs and argue that this is a result of their lacking tense and number at the early stage. What appear to be finite forms occurring concurrently with infinitive forms are really non-finite forms, where finiteness is defined as bearing tense, number and person morphology. Catalan, Spanish and Italian may use the verb stem (plus null third person morphology) more than the non-null-subject languages do, but the relevant point here is that all these forms are non-finite and incapable of assigning structural nominative Case. Under this definition of full morphological specification, verbs are not optionally infinitive, but rather obligatorily non-finite until the necessary functional projections enter the grammar.

Significantly, Wexler speculates that tense distinctions are absent in early child language, mentioning examples from English, Italian and Danish in which past tense arises much later than present forms. This is consistent with our earlier findings that tense contrasts are also lacking in the other languages considered. Wexler argues that the Optional Infinitive stage should end when tense contrasts develop in child language. I would argue that this point also marks the beginning of adult-like nominative Case assignment. In this way the child Catalan and Spanish results confirm Wexler's

speculation.

4.4 *Imperatives, Participles, Gerunds and Infinitives*

Catalan and Spanish-speaking children use other non-
finite forms as well. Imperatives, participles, gerunds and
infinitives make up the rest of the forms used by the Catalan
and Spanish-speaking children in the early stage. The
characteristics shared by all four in the adult and the child
languages are the following: they carry no tense or person
morphology. None except the imperative can occur with number
morphology, and as stated above, there are no plural
imperatives in the early stage (with the exception of Laura's
two 1st person plural imperatives.) This is consistent with
the analysis presented here in that number and tense are not
part of the child grammar.

4.4.1 *Imperatives*

Imperatives are used in an essentially adult-like way,
unlike participles, gerunds and infinitives which are used in
a way not found in adult language, that is, in root contexts.
Adult Catalan and Spanish imperatives occur in first and
second person. Second person imperatives can be singular or
plural, whereas first person imperatives can only be plural
as follows,

Catalan

(40) Cantem fins que ens desmayéssim.
     (Let's) sing (**1st, pl**) until we pass-out.

(41) Canta "els segadors".
     Sing (**2nd, sg**) "els segadors".

(42) Canteu mès fort.
     Sing (**2nd, pl**) louder

Spanish

(43) Cantemos hasta que nos desmayemos.
     (Let's) sing (**1st, pl**) until we pass-out.

(44) Canta "el sombrero azul".
     Sing (**2nd, sg**) "el sombrero azul".

(45) Cantad más fuerte.
     Sing (**2nd, pl**) louder

The only imperatives used in the early stage by the children are the second person, singular type as in (41) and (44). These are the forms we would expect to appear under the assumption that tense and number are not part of the child morphological system.

4.4.2 Participles

The participles which emerge early have an unclear status. Four of the five children studied have no participles whatsoever. These same four also lack the present perfect verb tense which is composed of a participle and an auxiliary. Pep, however, has both present perfect, which he has as early as 1;6;23 and bare participles. Some of the bare

participles appear to be present perfects which simply lack
auxiliaries, by virtue of the fact that two sentences earlier
Pep had used the present perfect form with the auxiliary,
such as in the following exchange at 1;6;23.

(46)

```
*PEP:        s' ha perdut [% "a pedut"].
             self has lost
             has gotten lost
*Examiner:   s' ha perdut?
             self has lost
             has gotten lost?
*PEP:        el llapis.
             the pencil
*PEP:        perdut
             lost
```

In other situations the bare participle appears with no
previous mention of a perfect form, an adjectival participle
or anything else.

The relevant point here is that even in the present
perfect form that Pep uses, the auxiliary only occurs in the
first and third person singular, as in (42) above and (43).

(47) <u>Action</u>: Pep falls in the bathtub.

```
*Mother:   deu meu.
           My God.
*Mother:   quin susto [% agafant a p]
           what a fright [% grabbing Pep].
*Mother:   es impossible deixar+lo sol
           it's impossible to leave him alone.
*PEP:      ai!
*PEP:      m' hi he tirat.
           I've jumped in.
*Mother:   t' has tirat, si.
           you've jumped in, yes.
```

With respect to number agreement these present perfect forms are consistent with the data discussed earlier and support the hypothesis presented. With respect to tense, the one tensed element of this two element form occurs in present tense, which we have said does not contrast with other tensed elements. That is, there are no past and future forms of the auxiliary, as in the adult language, illustrated in (48) and (49), corresponding to the child utterances in (46) and (47).

(48) @S'haura perdut.
     self will have lost

(49) @M'hi havia tirat.
     I'd jumped in.

4.4.3 Infinitives and Gerunds

Like root participles, root gerunds and infinitives seem to play a relatively peripheral role in the grammar of these children. In contrast to what has been shown by Belletti

(1990) for adult Italian, there is no evidence that infinitives must raise to the specifier of AGR$_s$ in Catalan and Spanish. Thus, given the fact that these forms carry no person or number features the most likely derivation would put them just above the VP, perhaps in Kayne's "infinitive phrase" or Sano and Hyams' "Aspect Phrase." Their occurrence in the first stage is only surprising under the assumption that the apparently finite verb forms used by children at this stage are indeed finite, an assumption I do not share for the Case theoretic reasons mentioned.

5. THE SUBJECT/OBJECT ASYMMETRY AND PROCESSING

Is it possible that the missing subject phenomena is explicable as a processing rather than a grammatical effect? Bloom (1990) and others contend that the missing subjects used in child English are a processing effect. His hypothesis is that subjects are omitted in child grammars of English because of processing difficulties. Specifically, the longer a sentence is intended to be, the more likely it is that a constituent will be dropped. Hyams and Wexler (1993) argue against a processing account. One of their principal arguments against a processing account of child English is that it would not explain the subject-object asymmetry with respect to null arguments. That is, if processing were responsible for subjects in English being "unpronounced", we

would have no explanation for the fact that objects do not "drop" in similar proportions.

Let us consider the possibility that subjects drop in Spanish and Catalan for processing reasons. Given that adult Catalan and Spanish, unlike English, are null subject languages, one might consider the claim that child null subjects are a grammatical phenomena to be transparently obvious (i.e. the children already have the same grammar as the adults). However, the claim advanced here is not that children employ a Case-marked, adult-like little pro, but rather a Caseless big PRO and that nominative Case is not assigned to subject position. Hence, the processing claim taken at face value might seem plausible.

In this section, I will compare the ratio of null objects in obligatory contexts to null subjects. If cognitive load is responsible for subjects being dropped then no subject/object asymmetry is predicted. If, on the other hand, a null PRO subject is being used, as an option from Universal Grammar in the absence of nominative Case assignment, we would expect subjects to be dropped more frequently than objects.

In calculating the percentage of objects in obligatory contexts in the early stage, a number of issues arise. Many

verbs used by the children take direct object complements, but not obligatorily so. For instance Guillem and Pep have utterances like the following which are grammatical in the adult language.

(50) Vull aigua.
     want (1st, sing) water

(51) Vull el chupete.
     want (1st, sing) pacifier

(52) Tira aigua.
     throw (3rd, sing) water.

(53) Mira el gelat.
     look at (2nd, imp) the ice cream.

They have other utterances with the same verbs which lack objects but are grammatical in the adult language.

(54) No vull
     not want (1st, sing)

(55) Tiro.
     throw (1st, sing)
     'I am throwing.'   [in a context in which he is
                            pretending to throw a ball]

(56) Mira.
     look (2nd, imp)

In order to calculate obligatory contexts for the occurrence of objects, verbs which take null objects in the adult grammar were not counted. Verbs which can occur only with a direct object in the adult language included the following.

(57) Les toca.
     them touch (3rd, sing)

(58) Dona-me-la.
     give (2nd, imp) me it

(59) busca-la
     look for (2nd, imp) it

Thus, to convey the idea that there were many objects

present, the **total** number of objects is given in the first

column. In the second column we see the percentage of objects

in obligatory contexts and in the third column the percentage

of overt subjects.

Child	Total # of Verbs with Objects	% of Objects in Obligatory Contexts	Verbs with Overt Subjects
Laura (19-24)	8	7/8 (88%)	0 (0%)
Pep (15-24)	38	15/20 (75%)	8 (6%)
Guillem (19-25)	24	10/13 (77%)	2 (3%)
Gisela (19-25)	0	0/0 (0%)	2 (7%)
Juan (19-25)	5	4/5 (80%)	3 (9%)

Table 7 - Total Number of Verbs with Objects, Objects in
          Obligatory Contexts and Verbs with Overt Subjects
          in the Early Stage

We can see in Table 7 that objects are rarely absent and

occur in much larger percentages than subjects at the early

stage. Using Hyams and Wexler's argument that symmetry is

predicted by the processing account, the asymmetry found here would argue against a processing account.[16]

This section shows that at least with respect to the subject/object asymmetry argument against a processing explanation of null subject phenomena, Catalan and Spanish confirm a grammatical explanation of early null subjects.

An additional point which needs to be established is that this early stage is not the "one word stage" of non-null-subject languages. The fact that objects are used in large numbers shows this. Even in adult Catalan and Spanish (and the later stage of the corresponding child languages) null subjects have been observed to occur approximately 60% of the time (cf. Silva-Corvalan, 1977 mentioned earlier). Thus the "two word" stage in child Catalan and Spanish is best judged by object use, not subject use. Using that criteria, these children have moved into a "two word" stage by the beginning of what we have referred to as the early stage.

5.1 Deictic Subjects

We have said that the morphological system does not

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[16] Definite objects do not drop in adult Catalan and Spanish as they do in Portuguese.

include all of the elements necessary for the identification by "rich agreement" of null subjects in the early stage. What mechanism, then does the early grammar use to identify null subjects? Some of the null subjects used by the children are deictic subjects, such as the following in which the children point at the subject or simply refer to something which is immediately at hand.

(60) Laura - 1;9;7

*LAU: esta aqui
        is here [points to the ball with her right hand]

(61) Pep - 1;10;6

*PEP: s' ha perdut [points to (a character in) the story]
        self has lost

(62) Guillem - 1;9;12

*GUI: no va.
        not go [tries to get on the bicycle]

These forms are essentially adult-like, with the exception that they occur with verbs which are operating with a morphologically underspecified system.

In the adult language null deictic subjects (*pro*, as opposed to the child PRO) receive their reference from whatever is being pointed at, stared at, etc. They are

assigned nominative Case, however, much as are other null

subjects, by the verbal complex, as in the following.

(63) Han sortit de la botiga.
     have (3rd, pl) left the store. [pointing to the robbers]
     'They've left the store'

Thus the third person, plural agreement on the verb in (63)

assigns the deictic subject Case.

5.2 Discourse Identified Subjects

The second mechanism available to the children for

identifying subjects is discourse identification. As

illustrated above, this phenomena is a productive part of the

adult grammars as well. The subject of the preceding

utterance is the subject of the present utterance. In the

case of children in the first stage, this necessarily means

that they will use the subject used by an adult in a previous

sentence. Discourse identified subjects are assigned

nominative Case in the same way as deictic subjects. The

difference is that instead of receiving their reference from

the physical context, they receive it from the prior verbal

context, as in the following.

(64) Gisela - 1;11;11

*Adult: I la nina?
            and the doll?

*GIS: esta aqui
            is here

(65) Guillem - 2;1;1

*GUI: oh, patates!
            oh, potatoes!

*GUI: crema
            burn (1st, sing)

The element which occupies the subject position of these utterances in adult Catalan and Spanish would be a nominative Case-marked *pro*.

4.   Conclusion

What I have argued for, then, is a grammar of child Catalan and Spanish which in the early stage lacks tense and number, but can express person. This grammar fails to assign structural nominative Case as a result of not satisfying the Full Morphological Specification Condition. I speculate that this condition is parameterized at a very early age to include agreement in languages which have agreement (such as those reviewed) and perhaps for only tense in Chinese and other languages. The lack of nominative Case assignment, as well as the inability of the morphologically underspecified

verb to license *pro*, argue for *pro* not being the null subject used by children. Rather, PRO must be the null subject used by children, given that it can occur in non-Case-marked positions and does not need to be licensed by morphologically specified verbs.

I have argued that this analysis of early child verb forms being only specified for person may be extended to English assuming /s/ to be a person morpheme. Under this assumption Sano and Hyams' hypothesis of PRO as the null subject in English is supported. To solve the problem of overt subjects occurring with morphologically underspecified forms in English, I argue that inherent Case is the UG option adopted by children in non-null-subject languages before tense and number enters their grammar making structural Case assignment possible.

Morphological data from French and German confirm the hypothesis that person and not tense or number, is available in the early stage of child language. I speculate that a closer examination of German and French will show that their overt subjects at the early stage are also assigned inherent Case. This study confirms Wexler's speculation that the emergence of tense (and number in the hypothesis presented here) signals the end of the Optional Infinitive stage. I speculate that it also signals the end of inherent Case

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assignment in non-null-subject languages and the beginning of structural, nominative Case assignment.

5. Appendix

The three fully inflected conjugations in Catalan and Spanish are the following:

(66) Spanish[17] Present

	sing	plur
1	hablo	hablamos
2	hablas	habláis
3	habla	hablan

(67) Catalan[18] Present

	sing	plur
1	parlo	parlem
2	parles	parleu
3	parla	parlan

(68) Spanish Future

	sing	plur
1	hablaré	hablaremos
2	hablarás	hablaréis
3	hablará	hablarán

(69) Catalan Future

	sing	plur
1	parlaré	parlarem
2	parlaràs	parlareu
3	parlarà	parlaran

(70) Spanish Preterit

	sing	plur
1	hablé	hablamos
2	hablaste	hablasteis
3	habló	hablaron

(71) Catalan Preterit

	sing	plur
1	vaig parlar	vam parlar
2	vas parlar	vau parlar
3	va parlar	van parlar

---

[17] The dialect of Spanish referred to here is the dialect to which Juan, the Spanish-speaking child in this study is exposed, that is, standard, peninsular Spanish spoken in Madrid.

[18] The dialect of Catalan referred to here is the dialect to which Gisela, Guillem, Laura and Pep, the Catalan-speaking child in this study are exposed, that is, Central Catalan, spoken in Barcelona.

The four conjugations which are not inflected for person in the first and third person singular are the following:

(72) Spanish Imperfect

	sing	plur
1	hablaba	hablábamos
2	hablabas	hablábais
3	hablaba	hablaban

(73) Catalan Imperfect

	sing	plur
1	parlava	parlàvem
2	parlavas	parlàveu
3	parlava	parlavan

(74) Spanish Conditional

	sing	plur
1	hablaría	hablaríamos
2	hablarías	hablaríais
3	hablaría	hablarían

(75) Catalan Conditional

	sing	plur
1	parlaria	parlariem
2	parlarias	parlarieu
3	parlaria	parlarian

(76) Spanish Present Subjunctive

	sing	plur
1	hable	hablemos
2	hables	hableis
3	hable	hablen

(77) Catalan Present Subjunctive

	sing	plur
1	parli	parlem
2	parlis	parleu
3	parli	parlin

(78) Spanish Past Subjunctive

	sing	plur
1	hablara	habláramos
2	hablaras	hablárais
3	hablara	hablaran

(79) Catalan Past Subjunctive

	sing	plur
1	parlés	parléssim
2	parlessis	parléssiu
3	parlés	parlessin

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