CROSS-LINGUISTIC SIMILARITIES IN THE ACQUISITION OF ENGLISH AND CATALAN

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ABSTRACT

This paper analyses the acquisition of the functional categories Agreement (AGR-S) and Tense (TNS) by monolingual English and Catalan speaking children. The theoretical framework assumed is the Principles and Parameters model of Generative Theory. The results of the study show that all the children go through two stages in the acquisition of these two functional categories: A first prefunctional stage, characterised by the absence of syntactic projections for Agreement and Tense; and a second, functional stage, in which children start to show knowledge of the mechanisms and properties associated with the two functional categories at stake. The results of this study provide evidence for the Maturation of Functional Categories Hypothesis, as proposed by Guilfoyle and Noonan (1988), Radford (1990), and Tsimpli (1992), among others.

INTRODUCTION

Language acquisition is a field of research that has attracted a great deal of attention and has proved to be one of the most fascinating branches of language study. The fascination of the subject lies in the way in which language acquisition research can give us insight into the study of human language and thought as a whole. In particular, there has been an intense exploration, from various theoretical perspectives, of how children learn a language, and different hypotheses have been put forward.

Over the last 25 years, after the abandonment of the behaviourist accounts of language, Chomsky's theory and his claim that children are born with an innate capacity for language has become a reference point for a generation of research into language acquisition. The limitations of an imitation/reinforcement view of acquisi-

tion, attributed mainly to the failure to explain the deductive and creative role that children adopt towards their language, led in the 1960s to an alternative proposal arising out of the generative account of language. Braine (1963) developed his model of pivot grammar which aimed at a distributional classification of two-word utterances. The studies carried out by Brown and Fraser (1963) and Miller and Ervin (1964) all reached similar conclusions, namely that structures are formed by the combination of two different elements: pivot and open. A particular pivot word occurs in the same position in every sentence and can only appear together with open elements. The latter have a variable position and can occur on their own or in combination with other open elements. However, the notion of pivotal structures soon came under fire. First, analyses of pivotal structure ignore the different meanings a given utterance might have depending on the context. Secondly, as data from more and more children were examined, it became apparent that only some children used pivotal structures in their two word utterances. New research adopted the formalisms and rules developed by linguists (Standard Theory of Transformational Generative Grammar) and attempted to describe the syntactic development of children in terms of a series of grammars. This is the kind of study and research carried out by Bloom (1970). However, the overall result was an endless list of rules which described the way children talk, but which were not explanatorily adequate. Thus, the failure of syntactic based grammars brought about a shift of focus in child language studies in the 70s and 80s. Linguists like Bowerman (1973), Brown (1973) and Bloom (1973) argued that data can be more adequately accounted for by using a semantic approach. They tried to capture the overall organisation of children's utterances by exploring the semantic relations they express. However, they faced a problem of continuity, that is, of explaining how children switch from a purely semantic model to a syntactic one.

Nowadays, language acquisition studies show a revival of the syntactic approach. The theoretical framework of analysis has moved away from the postulation of rules (Standard Theory) and a model based on general principles and parametric options of these principles has been proposed. According to this perspective, the language system consists of a set of individual, relatively autonomous components or modules including the lexicon, the syntax and those interpretive components which yield the phonological representation and the logical form for sentences. Under this view, the grammar itself constitutes just one of the several interacting modules. The hypothesis underlying much recent work in linguistic theory is that the structural differences among languages are to a large extent anchored into parametric differences of functional categories. Within this theoretical framework the main debate lies in the question of whether the acquisition of a language involves a process of continuity (Continuity Hypothesis) or of maturation (Maturation Hypothesis), that is to say, whether we assume that the adult and the child grammar have an identical underlying structure or whether the two grammars are quite far apart in the sense that some elements are present in the former which lack in the latter.

AIMS AND PREDICTIONS

The aim of this study has been to put to the test the maturation of functional categories approach to language acquisition. In particular, the present paper studies

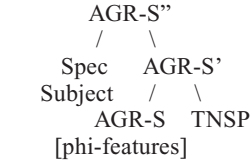
the process of acquisition of the functional categories Agreement (AGR-S) and Tense (TNS) by Catalan and English speaking children. Essentially, whereas the process of acquisition of English has been extensively studied and has been interpreted as evidence for the lack of functional inflectional nodes during the first stages, more studies are needed from morphologically rich languages in support of this hypothesis.

The Maturation of Functional Categories Hypothesis (Guilfoyle and Noonan, 1988; Radford, 1990 and Tsimpli, 1992, among others) holds that the acquisition process is determined by maturational factors. This theory claims that Universal Grammar (UG) principles, that is, the set of principles which are assumed to be common to all natural languages, are available to the child right from the start of the language acquisition process and that maturational processes affect only functional categories and their syntactic projections.

The essential predictions that the maturation of functional categories makes about the process of acquisition of the functional projections Agreement and Tense are the following. First of all, on the crucial assumption that parametric variation is associated with the different properties of functional categories (Chomsky, 1988 and Ouhalla, 1991, among others), in the absence of these elements, great cross-linguistic similarities are expected during the first stage of the acquisition process. In other words, given that functional categories are claimed to display different properties depending on the language, their absence predicts that at an early stage, languages should behave in a similar way.

Secondly, assuming that inflectional affixation in the adult models is a syntactic process which involves movement of the verb to Agreement (AGR-S) and Tense (TNS), the Maturation of Functional Categories Hypothesis predicts that children during the first stage of the acquisition process will not show any knowledge of productive verbal affixation. Since agreement between the subject and the verb in terms of person, gender and number, is argued to be the result of a Spec-head agreement configuration, within the Agreement functional projection, as shown in the diagram under (1), the absence of an agreement head at an early stage predicts that subjects and verbs will not necessarily agree in relevant features.

(1)



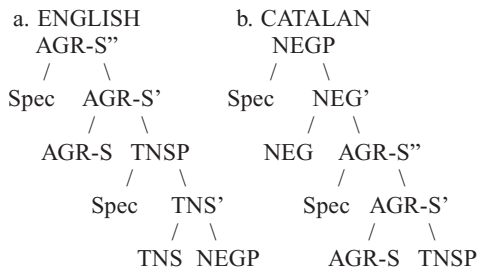
Crucially, according to this hypothesis, the absence of functional projections in children’s speech does not imply the complete absence of functional morphemes. More importantly, it implies the absence of the abstract properties associated with the respective functional heads. The occurrence of inflectional morphemes is expected in a morphologically rich language like Catalan, for verbs in this language always appear inflected, that is, verbs cannot surface as bare stems. English, on the other hand, is predicted to instantiate verbs in their root form, as a consequence of the inflectional poverty that the target grammar displays.

Thirdly, the functional category Agreement, apart from being the locus of agreement features, is assumed to be responsible for the licensing of empty and postverbal

subjects in some languages. On the crucial assumption that Agreement (AGR-S) allows null and postverbal subjects in adult Catalan, but not in adult English, the absence of this functional head from children's grammars is predicted to give rise to great cross-linguistic similarities. In particular, the theory predicts that both grammars will instantiate null, preverbal and postverbal subjects.

Finally, since Negation is assumed to occupy a different position with respect to functional inflectional heads in English and Catalan, the absence of Agreement and Tense from early grammars and in turn of a functional Negation Phrase, will predict a great mobility of the negative particle in Catalan and English, contrary to the target grammars. As shown in the tree diagram under (2), the functional projection in question is claimed to be generated between the TNSP and VP in English, whereas it is assumed to be generated above AGR-S in Catalan.

(2)



The Maturation of functional categories hypothesis stands in opposition with the Continuity Hypothesis (Pinker, 1984; Hyams, 1987; Weissenborn, 1990; Pierce, 1992; Verrips and Weissenborn, 1992, among others) which holds that UG principles and functional projections are in operation right from the start of the language acquisition process. Under the second hypothesis, parameters are characterised as having a default value (possibly assigned by UG) which is fixed when the child recognises a crucial set of data or "triggering data". The main characteristic of the so-called triggering data is that it is only at a certain stage of language acquisition that their presence in the linguistic input leads to parameter setting. Cross-linguistic similarities at the early stages are a result of the parameters not being fixed.

METHOD

The data on the acquisition of Catalan and English on which this study is based come from a longitudinal study from the earliest stages of three Catalan and three English monolingual children in spontaneous interaction with their families. The three Catalan children investigated are Martí, Pere – personal database– and Pep –Corpus Serra-Solé (CHILDES database). As far as the English data are concerned, this investigation is based on the transcripts of three monolingual American English children from the CHILDES database (MacWhinney, 1991). In particular, the selected subjects, on the basis of their age and period recorded, are one boy and two girls: Peter, Naomi and Tow.

The period analysed for all the children ranges from the appearance of the first two-word combinations to the point in which children show evidence that they have acquired the mechanisms and essential properties of the functional categories that this thesis investigates: Agreement and Tense. The MLU (Mean Length of Utterance) has been calculated for each child. This measure is widely considered (Brown, 1973) to be a measure of the level of language development. In particular, the MLU of the children presented in table 1 reports the ratio of words, not morphemes, to utterances. The MLU has been calculated in words in order to facilitate the comparison between English and Catalan speaking children. As other authors have noted (Bates, 1976), a computation of MLU in morphemes is problematic in languages with rich agreeing morphology like Catalan. Because the absolute number of morphological contrasts is so large, the resulting numbers cannot be compared meaningfully with MLU in a language like English. The name of the file and the source are also indicated in the following tables,which show the details for all the children under study.

Table 1
Catalan Subjects

Child	Age	MLU	File	Source
Martí	1;9.16[1]	1.124	00-01.cha	M. Capdevila
	1;10.14	1.241	00-02.cha	
	1;11.11	1.693	00-03.cha	
	2;0.20	1.961	00-04.cha	
	2;1.14	2.043	00-05.cha	
	2;2.12	2.208	00-06.cha	
	2;3.13	2.459	00-07.cha	
	2;4.14	2.711	00-08.cha	
Child	Age	MLU	File	Source
Pep	1;8.3	1.299	01-16.cha	Serra-Solé
	1;10.6	1.575	01-17.cha	
	1;11.6	1.716	01-18.cha	
	2;0.0	1.564	01.19.cha	
	2;1.1	1.945	01-20.cha	
	2;2.3	1.963	01-21.cha	
	2;3.10	2.826	01-22.cha	
	2;4.4	2.222	01-23.cha	
	2;5.4	2.652	01-24.cha	
Child	Age	MLU	File	Source
Pere	1;9.15	1.451	02-01.cha	M. Capdevila
	1;10.11	1.873	02-02.cha	
	1;11.10	2.181	02-03.cha	
	2;0.14	2.208	02-04.cha	
	2;1.16	2.355	02-05.cha	
	2;2.15	2.772	02-06.cha	
	2;3.13	2.701	02-07.cha	
	2;4.12	3.020	02-08.cha	

Table 2
English Subjects

Child	Age	MLU	File	Source
Peter[2]	1;9,25	1.392	03-01.cha	Bloom, 1970
	1;10,11	2.062	03-02.cha	
	1;11,17	2.150	03-03.cha	
	2;0,10	2.488	03-04.cha	
	2;1,0	2.670	03-05.cha	
	2;2,13	3.893	03-06.cha	
	2;3,24	2.693	03-07.cha	
	2;4,15	3.227	03-08.cha	
	2;5,3	3.150	03-09.cha	
Child	Age	MLU	File	Source
Naomi[3]	1;9,10	1.404	04-01.cha	Sachs, 1983
	1;9,26	1.625	04-02.cha	
	1;10,10	1.790	04-03.cha	
	1;10,17	2.412	04-04.cha	
	1;10,23	2.084	04-05.cha	
	1;11,2	2.204	04-06.cha	
	1;11,11	2.521	04-07.cha	
	2;0,26	2.328	04-08.cha	
	2;1,17	2.413	04-09.cha	
	2;2,25	2.750	04-10.cha	
	2;3,19	3.524	04-11.cha	
	2;4,13	2.816	04-12.cha	
	2;5,8	3.527	04-13.cha	
Child	Age	MLU	File	Source
Tow[4]	1;8,4	1.654	05-01.cha	Post, 1992; 1994
	1;9,9	2.106	05-02.cha	
	1;10,15	2.277	05-03.cha	
	1;11,21	2.615	05-04.cha	
	2;0,24	2.241	05-05.cha	
	2;1,22	2.699	05-06.cha	
	2;2,27	3.019	05-07.cha	
	2;3,24	2.782	05-08.cha	
	2;5,3	3.940	05-09.cha	

All the data from the children accessed through the CHILDES database appear transcribed according to CHAT, the standard transcription system for the CHILDES Project (MacWhinney, 1991).

RESULTS

The results obtained from the analysis of the Catalan and English children show that although the process of acquisition of Catalan and English differs in some re-

spects, children acquiring these languages go through a first stage –which, following Tsimpli (1992), I have called prefunctional stage –in which the functional projections Agreement and Tense are not available. The first two-word combinations in both languages are characterised by the absence of inflectional syntactic categories, thus supporting the explanation of the process of acquisition of a language in terms of the Maturation of functional categories. The main predictions that this hypothesis makes are borne out by the data analysed.

A. PREFUNCTIONAL STAGE

Inflectional Affixation

The results on the acquisition of inflectional affixation show that Catalan and English children, during the prefunctional stage, use a variety of verb forms, even though these are limited when compared to the target grammar. In particular, children use forms in the present, the imperative, and non-finite forms, infinitives, gerunds and participles, as shown in the examples in (3) and (4):

(3)	a.	Pencil write	(Peter 1;10,11)
	b.	Him crying	(Tow 1;9,9)
	c.	Recorder all gone	(Naomi 1;9,26)
	d.	Close!	(Peter 1;9,25)

(4)	a.	Mirar conte Look at story book	(Pere 1;9,15)
	b.	Dormint Sleeping	(Pere 1;9,15)
	c.	Anat Gone	(Martí 1;9,16)
	d.	Dóna a colom Give a pigeon	(Pep 1;10,6)
	e.	Tanca! Close!	(Pep 1;10,6)

An analysis of these verb forms, however, reveals that their existence does not constitute evidence for the availability of a Tense and Agreement functional projection. The main argument for the absence of a Tense functional projection lies in the absence of tense contrasts in both languages during this first stage. Since children at this stage of development do not use past or future forms, we may analyze children's present tense forms as unmarked forms, that is, forms underspecified for tense features. In other words, I suggest that the forms which appear identical to adult present forms are not grammatically inflected for tense in early grammars.

Further evidence for the non-availability of Tense is provided by the absence of modals, auxiliaries and the copula from early Catalan and English data, and the absence of the infinitival particle *to* in English, on the assumption that all these elements that head their own functional projection are intimately linked to Agreement and Tense.

As far as the other functional category at stake, namely AGR-S, the data show that this projection is also absent from early speech. However, the characterization of early verbal forms in Catalan and English is different, as expected by the different

nature of verb stems in the respective adult grammars. Whereas in early Catalan finite verbs show a certain amount of variation in the inflectional affixation that appears on the verbal stem, in early English finite verbs surface in their root form.

In the case of the acquisition of English, on the one hand, the main piece of evidence for the lack of an Agreement functional head is provided by the complete absence of agreement contrasts, as shown in the examples in (5):

(5) a. Car go (Peter 2;0,10)
b. Lamb sleep (Naomi 1;10,17)
c. He eat (Tow 1;8,4)

In early Catalan, on the other hand, the evidence for the claim that Agreement is absent is given by the overwhelming majority of third person singular forms attested in the data and by the absence of productive grammatical feature sharing between the verb's inflectional morpheme and the subject.

With respect to the predominant use of third person singular, I propose, following several suggestions in the acquisition literature, that this form instantiates the form unspecified for agreement features. This claim is supported by the two following considerations. On the one hand, the third person singular of the present has long been considered to be the most neutral or unmarked form for person reference, as argued for, for example in Benveniste (1946) and Lyons (1977), among others. On the other hand, and as Tsimpli (1992) notes, the third person singular is the form used in impersonal constructions where no thematic subject is involved, thus implying that phi-features, i.e. features for person, number and gender, are not relevant.

Nevertheless, the results show that the third person is not the only attested form, but some forms in the first and second person singular and third person of the plural have been found in the data. In spite of the presence of these affixes, the process of affixation cannot be claimed to be syntactic, for the child does not make subjects and verbs agree in a productive way. On the one hand, verb forms in the third person singular can appear with first and third person plural subjects, either overt or understood, as shown in the examples under (6) and (7):

(6) a. a cigrons crema (Pere 1;9,15)
a chick-peas burn
b. [5]*FAT: i ara oita què fan els gossos.
and now look what the dogs are doing
*FAT: què fan?
what are they doing?
[5]*MAR: salta. (Martí 1;10,14)
jump
c. [5]*MOT: què fan els nens?
what are the children doing?
*MAR: mulla (Martí 1;10,14)
gets wet

(7) a. (NP1SG) treu aquí (Pep 1;10,6)
(NP1SG) takes out here

b. (NP1SG) aixafa (Martí 1;9,16)
(NP1SG) flattens
c. (NP1SG) menja (Pere 1;9,15)
(NP1SG) eats

On the other hand, verb forms which appear in the third person plural, may have a third person singular subject, as in (8):

(8) *MOT: què fan el cavall?
what is the horse doing?
*MAR: salten (Martí 1;9,16)
jump

In order to have more evidence about the productivity of inflectional affixes at this point in development, Berko's technique (Berko, 1958) was used. In particular, the child was given a verb-like invented form in the singular and he was asked to provide the plural form. The results show that the child would never supply the plural inflection, but would provide a singular morpheme:

(9) *MOT: oita Martí, aquesta cullera nica.
look Martí, this spoon nica-3SG
*MOT: què fa Martí aquesta cullera?
*MAR: nica.
nica-3SG
*MOT: molt bé, nica, i què fan aquestes culleres?
good, nica-3SG, and what do these spoons do?
*MAR: NICA.
NICA-3SG

When the child was given a new, but existing word, failure to generalise third person plural also occurred:

(10) *MOT: què fa aquest ratolí?
what is this mouse doing?
*MAR: rellisca.
slips
*MOT: i aquests ratolins què fan?
and what are these mice doing?
*MAR: rellisca.
slips

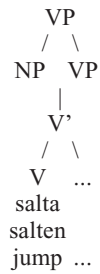
On the basis of the rest of persons of the paradigm used by children, namely first and second persons, one cannot attribute to the child knowledge of syntactic agreement morphology. The instances of first person singular are largely restricted to the irregular first person singular of the verb *voler* (*vull*) and second person forms are used with a first person singular subject.

The reason why agreement affixes are then used by children, although not productively, follows from the nature of verbs in languages like Catalan, as already put

forward by Tsimpli (1992). Given the affixal nature of verbs in Catalan, in the sense that they cannot surface in their root form, the presence of inflectional morphemes can be claimed to be required by a general UG principle. The principle in question has received different names in the acquisition literature, like the Stray-Affix Filter (Baker, 1988), Lasnik's Filter (Pesetsky, 1989) and the Affix Principle (Ouhalla, 1988), and it specifies that affixal/bound morphemes must attach to an appropriate host. In the absence of functional projections, this UG principle cannot be assumed to hold at the syntactic level, but it can be satisfied in the lexicon.

Therefore, verbs in English and Catalan during the prefunctional stage are analyzed as being base-generated in the head of the VP already in their surface form, as shown in the tree diagram under (11), as proposed elsewhere in the maturational acquisition literature (Lebeaux, 1988; Radford, 1990; Tsimpli, 1992):

(11)



The other verbal forms that English and Catalan children use at the stage under discussion, imperatives and non-finite forms, are also accounted for by the tree structure under (11). The main characteristic of the non-finite forms used by children is that, contrary to the target grammars, they appear as main clause declaratives, that is, they are never accompanied by an auxiliary or a main-clause finite verb on which to depend. What we find, however, is the occurrence of a schwa before them, as in (12) and (13):

(12)

	b.	a broken	(Naomi 1;9,26)
	c.	a turning	(Tow 1;8,4)

(13)

	b.	a trencat a broken	(Martí 1;10,6)
	c.	a dormint a sleeping	(Pere 1;9,15)

Although at first sight the schwa could be taken as an early auxiliary, a close look at the data shows that this cannot be the case, since its distribution is not restricted to verbal forms, but it can precede many other categories, such as negation, pronouns, nouns and adjectives, as I show below:

(14) *a + Pronoun*

	a.	a meu a mine	(Martí 1;9.16)

b. a tu (Pere 1;9.15)
a you

(15) *a + Noun*
a. Busca a enanito (Pep 1;10.6)
Look for a little dwarf
b. Aquest a Teo (Martí 1;9.16)
This a Teo
c. Teu a mama (Martí 1;9.16)
Yours a mama

(16) *a + Adjective*
a. a molt maco (Pep 1;10.6)
a very nice
b. a blau (Martí 1;9.16)
a blue

(17) *a + Negation*
a. a no queda aigua a granota (Pep 1;10.6)
a not left a water a frog

Early participles and gerunds can thus be claimed to be lexical categories base-generated under the VP projection without the activation of any functional node. Nevertheless, these early forms do express aspect, that is, early participles express the final point in the description of a situation, whereas gerunds indicate the duration of a given process or situation. In this sense, although in the target grammars the affixes *-ed* and *-ing* are claimed to be the hosts of an Aspectual functional projection, I propose that in children's grammars no aspectual syntactic projection is involved. Rather, aspectual affixation in children's grammars is a lexical process. The essence of my argumentation is based on Higginbotham's (1985) claim that the thematic structure of verbs includes an event (E) thematic position in the theta-grid of verbs which must be saturated, i.e. discharged, in the syntax. In prefunctional grammars, crucially, the process of saturation of the E-position, in the absence of functional, syntactic projections, takes place at the lexical level. The absence of an auxiliary in the early expression of aspect is crucial for the claim that the notion of aspect is expressed lexically, rather than syntactically in children's grammar. More precisely, as the *-ed* and *-ing* affixes require the presence of an auxiliary for the syntactic expression of tense and aspect (Espunya, 1996), the absence of auxiliaries at this point in development suggests that children's grammar does not contain an Aspectual functional projection.

Finally, the use of main-clause infinitives, or root infinitives in early Catalan, as in *mirar conte* (*look at story book*) or *donar un caramel* (*give a sweet*), deserves special attention, since only in this language, but not in English, they are claimed to move as high as AGR-S in the tree structure. Infinitives in adult Catalan are only allowed to appear in embedded constructions or in verbal sequences preceded by an auxiliary, as in *va marxar*. Within the theoretical framework adopted in this paper in these configurations, the tense variable is correctly bound either by the main-clause tense value in the case of embedded infinitival clauses or by the auxiliary in the case of verbal sequences. Nonetheless, in children's speech, the occurrence of main-clause

infinitives cannot be the result of movement of the infinitive to AGR-S, because this movement would result in a violation of the principle of full interpretation, which requires all variables to be bound by an operator (Chomsky, 1988). On the crucial assumption that only finite morphology can fix the value of the tense variable, root infinitives can only arise as bare VPs, as proposed in the analysis under (11).

Further evidence for the absence of the functional projections Agreement and Tense during the stage under discussion is provided by the behaviour of early subjects and negation.

Subjects

The data analysed show that both early Catalan and early English have null, preverbal and postverbal subjects, as predicted by the absence of an Agreement functional head. The relevant examples are shown in (18) and (19):

(18) *Null Subjects*

A)	ENGLISH	
a.	(NP3SG)turn	(Peter 1;9,25)
b.	(NP3SG) crying	(Peter 1;9,25)
c.	(NP1SG) egg open	(Peter 1;10,11)
d.	(NP1SG) want my dinner	(Peter 2;0,10)
e.	(NP1SG) brush	(Naomi 1;9,10)
f.	(NP1SG) need sugar	(Naomi 1;10,17)
g.	(NP1SG) want more	(Naomi 1;10,17)
h.	(NP3SG) fall down	(Naomi 1;10,23)
i.	(NP3PL) eat	(Tow 1;8,4)
j.	(NP1SG) brush hair	(Tow 1;9,1)
k.	(NP1SG) see ball	(Tow 1;9,1)
l.	(NP3PL) eat hot dog	(Tow 1;9,1)

B)	CATALAN	
a.	(NP3SG) ara crema (NPP3SG) now burns	(Pep 1;8,30)
b.	(NP1SG) busca a enanito (NP1SG) looks for dwarf	(Pep 1;10,6)
c.	(NP1SG) lleteta vol (NP1SG) milk wants	(Pep 1;10,6)
d.	(NP3SG) vola (NP3SG) flies	(Martí 1;9,16)
e.	(NP3SG) jugar (NP3SG) play	(Pere 1;9,15)

(19) *Postverbal Subjects*

A)	ENGLISH	
a.	All finished this	(Peter 2;0,10)
b.	Going recorder	(Naomi 1;9,10)
c.	Sleeping SanDy	(Naomi 1;10,10)
d.	a ride girl	(Tow 1;8,4)
e.	Eat horsie	(Tow 1;8,4)

B) CATALAN

a.	a peixet a trobat a Pep a little fish a found a Pep	(Pep 1;10,6)
b.	a clau a perdut aquest enanito a key a lost this dwarf	(Pep 1;10,6)
c.	Cau això Falls down this	(Martí 1;10,14)
d.	Menja a nen Eats a child	(Martí 1;10,14)
e.	a crema ou a burns egg	(Pere 1;9,15)

(20) *Preverbal Subjects*

A) ENGLISH

a.	Egg a broken	(Peter 1;10,11)
b.	He go in there	(Tow 1;9,1)
c.	Man crying	(Naomi 1;10,10)
d.	My fix it	(Peter 1;11,17)
e.	They fall	(Tow 1;8,4)

B) CATALAN

a.	Aquest pipiu amagat a clau This bird hidden a key	(Pep 1;10,6)
b.	a pallasso cau a clown falls down	(Martí 1;10,14)
c.	Arròs crema Rice burns	(Pere 1;9,15)
d.	Això fet pumba This fallen down	(Pere 1;9,15)

The occurrence of the three types of subjects is, in fact, accounted for by the tree structure under (11). On the assumption that the functional category AGR-S licenses null and postverbal subjects in adult Catalan, but not in adult English, the similarities observed in early grammars follow in a straightforward fashion from the lack of the functional category at stake. In other words, in the absence of AGR-S, no restrictions hold and children's grammars license null, preverbl and postverbal subjects.

Proponents of the Continuity Hypothesis, on the other hand, would claim that the similarities observed are a result of the pro-drop parameter not being fixed. The main problem with the suggestion that earlynull and postverbal subjects are licensed by an AGR-S functional projection is that one is forced to assume that children's grammars contain default values for a given parameter. However, there is no linguistic motivation to assume that a given value A is unmarked with respect to value B. In other words, the theoretical bases on which one can establish the default value for a given parameter remain unclear.

Negation

The English and Catalan data on negation also provide evidence for the existence of a prefunctional stage. Although in the target grammars negation occupies a fixed

position in the tree structure, early negation is characterised by a great mobility, as shown in the examples in (21) and (22):

(21) ENGLISH

a.	I no do it	(Tow 1;9,9)
b.	No see it	(Peter 1;11,17)
c.	Wear mitten no	(K and B, 1967)

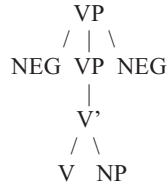
(22) CATALAN

a.	Crema no	(Pere 1;9,15)
b.	No tapa	(Martí 1;10,14)

English children at this stage express negation in several ways. On the one hand, the negative particle *no* is used both in pre- and postverbal position, preceded by a null or an overt subject. The negated modals *can't* and *don't*, on the other hand, are also used at this point of development. As already observed by Klima and Bellugi (1966) *can't* and *don't* seem to be unitary negative words, not *can* and *do* with the negative *-n't* attached. The main reason for considering the two negated modals as a single unit follows from the observation that they are never used in the affirmative form. Catalan children also use *no* in preverbal and postverbal position. Catalan children, on the other hand, and contrary to the target grammar also instantiate cases of postverbal negation.

The analysis that I propose for early negative sentences is basically the one under (23), where the negative particle is adjoined to the VP, either to the right or to the left, thus explaining its mobility (as shown, in Capdevila and Llinàs, in press).

(23)



To summarize, the absence and non-productive use of inflectional affixation, the occurrence of both null and postverbal subjects and the mobility of the negative particle constitute conclusive evidence for the claim that the functional projections Agreement and Tense are not available during the prefunctional stage, as predicted by the Maturation of Functional Categories Hypothesis. Later in development, functional categories start to emerge and their availability brings about a change in children's grammar. I'll now turn to the changes that indicate that children are entering a functional stage.

B. FUNCTIONAL STAGE

Shift in Children's Grammars

First of all, and as far as inflectional affixation is concerned, a common change to the two languages which indicates the beginning of a functional stage is the emer-

gence of tense contrasts, that is, the grammaticalised expression of present, past and future time, as shown in the examples in (24) and (25):

(24)	a.	He said hey	(Tow 1;10,15)
	b.	I'll open that	(Peter 2;1,0)
	c.	Am gonna get a horsie	(Peter 2;1,0)
	d.	I'm trying	(Naomi 1;11,2)
	e.	That hurts	(Peter 2;1,0)

(25)	a.	Menjava Ate	(Martí 1;11,11)
	b.	Jugaràs Will-play	(Martí 1;11,11)
	c.	L'he tancada It-have closed	(Pere 1;10,11)
	d.	Està dormint Is sleeping	(Pep 1;11,6)
	e.	No va i no puc It does not work and I cannot	(Pere 1;10,11)

The claim that the tense morphology enters the child grammar at this particular point is a qualitative, not a quantitative claim. In other words, the primary contrast between the first and the second stage is that only in the second do children start to mark tense in their morphological system. Children show that they have grammatical means to contrast the present, past and future tense. The emergence of a tense functional projection later in development was already proposed by Grinstead (1994) in his study of the acquisition of the Catalan inflectional system.

English children start to use agreement affixes at this point in development, as shown in (26), although the majority of verbal forms still appear in their root form:

(26)	a.	That stays up here	(Naomi 1;11,2)
	b.	More tape goes around	(Peter 2;1,0)

Agreement constrats, as we will see later, are also in operation in children's use of the copula and the progressive auxiliary. The contrasts of agreement in Catalan, on the other hand, are characterised at this point by the productive feature-sharing between the verb and the subject, and the lack of attested agreement errors, as shown in (27):

(27)	a.	*MOT: què fan els lleons? what do lions do?	(Martí 1;11,11)
		*MAR: mosseguen. bite -PL	
		*MOT: això sí que és un lleó. this is a lion	(Martí 1;11,11)
		*MAR: mossega. bites	

b. *MOT: castells.
castles
*PER: no n'hi han. (Pere 1;10,11)
there aren't any

Further evidence for the availability of an Agreement and Tense functional projection is provided by the emergence of aspectual auxiliaries in the two languages, as shown in (28) and (29):

(28) a. Am going to (gonna) get a horsie (Peter 2;1,0)
b. I'm trying (Naomi 1;11,2)
c. What is him doing (Tow 1;10,15)

(29) a. He tret a bata (Martí 1;11,11)
Have taken out a gown
b. Ja he aparcat Pere 1;10,11)
I have already parked
c. Se n'ha anat a pilota (Pep 1;11,6)
it-has gone a ball

The copula also starts to be used in a productive way at this point:

(30) a. This is wagon (Peter 2;1,0)
b. It is off (Naomi 1;11,11)
c. This one is yours (Tow 1;10,15)
d. They're little (Tow 1;10,15)

(31) a. Això és pasta (Martí 1;11,11)
This is pasta
b. És un osset (Pere 1;10,11)
Is a teddy-bear
c. Està enfadat (Pep 1;11,6)
Is angry
d. Aquest és molt maco (Pep 1;11,6)
This one is very nice

Both English and Catalan children start to produce modals in their speech:

(32) a. a daddy could put back (Peter 2;1,0)
b. Have to screw it (Peter 2;1,0)
c. I can climb up (Naomi 1;11,11)
d. I can do it (Tow 1;10,15)

(33) a. Vull pintar (Martí 1;11,11)
want to paint
b. No va i no puc (Pere 1;10,11)
It does not work and I cannot

c. He d'obrir (Pere 1;10,11)
Have to open

Finally, the infinitival particle *to*, appears for the first time in English:

(34) a. Going to take a nap (Naomi 1;11,11)
b. Want to write (Peter 2;1,0)
c. I want to see the kangaroo (Tow 1;10,15)

The behaviour of subjects is also indicative of the change that is taking place in children's grammars. As shown in table 1 below, there is a large decrease in the number of null subjects in English (75% to 41.2%), but not in Catalan (83.9% to 96.3%), as expected by the different nature of the two target grammars. As for 'true' postverbal subjects, during the first functional stage, they are completely absent from English structures, and constitute a minority in the case of Catalan. The kind of postverbal subjects found in English at this second stage are restricted to *there*-constructions and questions, which are also allowed in the target grammars.

Table 1
Percentage of Null, Postverbal and Preverbal subjects

	Null	Postverbal	Preverbal	TOTAL
ENGLISH				
Prefunctional	389 (75%)	29 (5.5%)	100 (19.3%)	518
Functional	115 (41.2%)	24 (8.6%)	140 (50.1%)	279
CATALAN				
Prefunctional	141 (89.9%)	15 (8.9%)	12 (7.1%)	168
Functional	209 (96.3%)	3 (1.3%)	7 (3.2%)	217

The productivity and variety of agreement affixes in Catalan children's speech presupposes a syntactic process of affixation. In other words, the lack of attested agreement errors between the subject and the verb at this point of development argues for the availability of a syntactic functional projection for Agreement. That is, the Spec-head agreement principle that requires the head and the specifier to agree in relevant features comes in operation with the maturation of AGR-S. The poor inflectional paradigm of adult English, on the other hand, determines the acquisition of agreeing forms in this language. In this respect, although third person singular forms start to be used by children, the vast majority of verbal forms still appear in their root form. The copula and the auxiliary *be*, richer in terms of agreement morphology, are the only verbal forms that are consistently used in their inflected form and thus show that the functional projection AGR-S is involved in their derivation.

Finally, negation also indicates the shift towards a functional grammar. In English, children for the first time start to use the auxiliary *do* in the formation of negatives and do not produce any instances of postverbal negation, as in (31):

(35) a. I don't want (Tow 1;10,15)
b. Don't like it (Naomi 1;11,2)

In Catalan the most important changes are observed in the absence of attested cases of postverbal negation and in the appearance of medial negation, as shown in (36):

(36) a. a l'altre gat no té martell (Martí 1;11,11)
a the other cat does not have hammer
b. Aquest no cau (Pere 1;10,11)
This one does not fall down

The crucial point about the emergence of functional categories is that their implementation in children's grammar is not instantaneous. In other words, it is not the case that once functional projections have matured, they are always used by children. On the contrary, children go through a period characterised by the co-occurrence of functional structures and prefunctional ones. In essence, the main property of the first functional stage in Catalan and in English is, then, the existence of both 'mature' and 'immature' structures. In other words, it is not the case that once functional categories have matured, all of a sudden, children's productions are adult-like, but children acquiring the two languages go through a stage characterised by the variability of structures. For example, children say things such as:

(37) a. This goes right here (Tow 1;10,15)
b. He go for a ride (Tow 1;10,15)
c. I'm trying (Naomi 1;11,2)
d. I playing (Naomi 1;11,2)

(38) a. Treballo (Martí 1;11,11)
(I) work
b. Treballar (Martí 1;11,11)
(To) work
c. Això un castell (Pere 1;10,11)
This a castle
d. Això és un castell (Pere 1;10,11)
This is a castle

The co-occurrence of agreeing and non-agreeing verbal forms may be analysed as a result of a process of truncation, that is, as a result of the option of stripping off external clausal layers. In other words, children have the possibility to truncate structures during the first functional stage, hence giving rise to the observed variability of structures. As proposed by Rizzi (1994a and 1994b) although in the adult model the principle CP=root, as in (39), ensures that all structures start at this level, in children's speech, the selected point of departure to generate a structure is optional. The basic idea is that when truncation applies, all the projections above the truncating point are also missing.

(39) CP<AGR-S"<TNSP< ... VP/
/ Truncation

Essentially, my argument is that truncation is an available option in early speech, because the principle CP=root, which ensures that a sentential structure always starts from a CP layer in adult speech, is not operative yet. In this respect, I am suggesting that the operativeness of the principle may be related to the maturation of the functional projection CP, to which the principle in question is associated. That is, in the absence of the functional projection responsible for the operation of the principle, structures canstart at any level.

In particular, the level at which the attested cases of non-agreeing forms (root infinitives, gerunds and participles) start is the VP layer. An important advantage of this proposal is that it captures the similarity between root forms during the prefunctional and the first functional stage, for they are granted the same VP structure.

As for the prevalence, although to a lesser extent, of null subjects in English during the first functional stage, I suggest that this phenomenon is due to the activation of the two values associated with the pro-drop parameter. In other words, although AGR-S is in operation, as shown by the decrease in the number of empty subjects, children play around for a time with the two parametric values, thus allowing the generation of null subjects. With time and evidence, English children will set the parameter to the appropriate value. In Catalan, on the other hand, the fact that the percentage of null subjects does not decrease is attributable to the vast array of evidence children have at their disposal to conclude that AGR-S in this language is rich, an hence, licenses null elements. That is, the evident morphological richness of Catalan and the high frequency of empty subjects in the input children receive facilitates the setting of the parameter.

CONCLUSION

The process of Catalan and English acquisition supports the approach to language acquisition in terms of the Maturation of functional categories. As predicted by this hypothesis, children acquiring English and Catalan go through a prefunctional stage which contains only lexical projections. In particular, early verb forms in the two languages are simple VP projections, to which different constituents can adjoin, for example the subject and the negative particle. The different shape that verbal forms take in the two languages results from the different nature of these forms in the target grammars. Thus, although Catalan verbs appear at an initial stage with some inflectional morphemes, the presence of the latter does not reflect a syntactic process of affixation, as I have argued. Rather, their presence is related to a general requirement about the well-formedness of verbal forms in this language. On the other hand, inflectional affixation is all but absent from early English verbal forms, as predicted by the Maturation Hypothesis and by the nature of verbs in the target grammar, i.e. the possibility to surface in their root forms.

With the maturation of the functional projections for Tense and Agreement, children's grammars incorporate a whole new set of elements which trigger specific syntactic phenomena. The availability of functional projections, however, does not imply a sudden shift towards an adult-like grammar. Rather, functional structures co-exist for a time with bare VPs, that is, with structures that characterise the prefunctional grammars.

Notes

1."Year; months. days"
2. The selected files for Peter in the CHILDES database appear under the following names: PETER02; PETER03; PETER05; PETER06; PETER07; PETER09; PETER11; PETER12 and PETER13.
3. For Naomi, the selected, representative files are NO7; NO8; N10; N16; N18; N21; N25; N40; N47; N51; N54; N59 and N62.
4. The original names of Tow's files in the CHILDES database are TOW2; TOW3; TOW4; TOW5; TOW6; TOW7; TOW8; TOW9 and TOW10.
5. The initials *FAT, *MAR and *MOT stand for FATHER, MARTI and MOTHER respectively in the CHILDES system

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