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Abstract

Whereas nominative subjects in early child L2 English have been taken as evidence for functional projections (Haznedar 1997; Haznedar & Schwartz 1997), following Vainikka & Young-Scholten (1994) we argue that learners project only an L1-based VP at the earliest stages. Based on longitudinal data from two Farsi-speaking children acquiring English, we show that the non-contrastive use of early nominative subjects points to initial absence of case marking. The children display patterns similar to those in data from L1 English children both in terms of initial lack of subject pronoun contrasts (Vainikka 1993/4) and presence of null subjects, which invariably co-occur with non-finite verbs. The earliest evidence of pronominal contrasts is in utterances with the copula, supporting Hawkins' (2001) proposal that it triggers the projection of AgrP in English.

Introduction

At the centre of the decade-old debate on whether functional categories are available at the initial state of second language acquisition (Schwartz & Sprouse, 1996; Vainikka & Young-Scholten, 1996) lie the early subjects learners produce. For Hazednar (1997)/Haznedar & Schwartz (1997) longitudinal data from a Turkish boy (Erdem) acquiring English reveals early subjects appropriately marked for nominative case, indicating the existence of a functional projection that entails nominative case marking. Additional evidence for such a projection is Erdem's early non-optionality of subjects. We present new longitudinal data from two Farsi-speaking children

learning English who - unlike what is concluded for Erdem - display patterns similar to those found in the data from young children learning English as their first language. These two children's earliest thematic verbs are non-finite and their early subjects are either full NPs, null or when pronominal, non-contrastive. There is thus support from child L2 English for the initial projection of just a bare VP, similar to what is argued for the L1 acquisition of English in Vainikka (1993/4) and for L2 acquisition in Vainikka & Young-Scholten (1994; see also 2005, 2007 on Organic Grammar, which subsumes all earlier work). Subsequent development by the two children shows a decline in null subject use with emergence of finite verbs and nominative case marking. Just prior to the point at which the two children mark nominative case in contrast to other cases (particularly genitive), nominative case marking emerges with the copula. These data give the appearance of rote-learned chunks (see Myles 2004) because subject + copula is often used incorrectly. However, their systematicity prior to evidence for case-marked subjects in utterances with thematic verbs points to the function of these copular utterances as triggers, along the lines of Hawkins (2001).

We begin our chapter by considering strong continuity approaches to children's early subjects and move on to weak continuity approaches, where we summarize Vainikka's (1993/4) analysis of early subjects in L1 English to establish how acquisition proceeds when the only possible sources of knowledge are Universal Grammar (UG) and primary linguistic data. After presenting Hazendar (1997)/Haznedar & Schwartz's (1997) Full Transfer view of Erdem's early subjects, we move on to new L2 data whose analysis we argue instead supports the alternative Organic Grammar position. The heart of the chapter is the examination of these longitudinal data from 'Bernard' and 'Melissa'. Subject data from their earliest

samples reveal pronouns in various forms which are not case marked, in particular the first person singular subject *my*, and optionality of subjects in utterances with non-finite verbs. With this pattern in mind, we consider the claim by Hazendar (1997) and Hazendar & Schwartz (1997) based on similar longitudinal data that early child L2 grammars include functional categories. In addressing the question why Haznedar's Turkish-speaking learner, 'Erdem' seems to follow at alternative pattern,

we ask whether substantive differences between Farsi and Turkish – as would be assumed under Schwartz & Sprouse's (1996) Full Transfer/Full Access – exist that would account for these apparent differences. We conclude that while there are several points where the two languages differ, the native language facts are wholly unrelated to the three children's early L2 English. Rather Erdem, Bernard and Meliss mirror several of the slightly different patterns displayed by the L1 English children discussed in Vainikka (1993/4).

Children's early subjects

Children's early subjects potentially reveal a great deal about their syntax. What they do reveal is considered from two perspectives, one which assumes the child begins with a full, universal syntactic tree, and one which assumes that syntax emerges, that functional projections grow.

Strong continuity approaches

The strong continuity view of children's earliest L1 grammars has long assumed not only that they are constrained by UG, but also that a universal syntactic structure is available from the start (e.g. Boser, Lust, Santelmann & Whitman, 1992; Hyams, 1992; Poeppel & Wexler, 1993; Weissenborn, 1990) However, those who adopt a

single syntactic tree have confronted problems when trying to account for the occurrence of L1 acquisition phenomena unattested in adult languages. An account of one such phenomenon is the Truncation Hypothesis (Rizzi 1993/4) under which it is argued that children's use of non-finite verbs together with the optionality of subjects, i.e. Root Infinitives, means projection of CP is optional. Where upper layers of the syntactic tree are omitted or truncated, properties associated with functional categories are not relevant. While Rizzi's account assumes that maturation occurs around age three to extinguish children's option of truncating structure, for other strong continuity theorists, this need not necessarily be so. For example, in Wexler, Schütze & Rice (1998), Wexler's (1994) Optional Infinitive stage becomes an Extended Optional Infinitive stage to account for the slower development of children with Specific Language Impairment. Data from children aged 4;9 to 5;5 indicates projection of just a VP is possible (with Tense and Agreement optional).

Wexler et al. (1998) also point to utterances containing non-finite main verbs (bare or *–ing* forms) together with pronominal subjects which are not in nominative form, as in utterances such as *him run* and *her watching tv.* Indeed, it has long been observed that unexceptional children learning English as a first language produce a variety of pronominal subject forms, where the earliest ones may appear in accusative or genitive form. For example, Huxley (1970) observed subjects in accusative form and, less frequently, in genitive (only *my*) while studying the acquisition of children's pronouns, and Brown (1973) gives examples of *her* subjects by Sarah and *me s*ubjects by Adam. Hamburger & Crain (1982) found that children also use *my* subjects in their early relative clauses. For Radford (1990), early subject forms such as *me* are examples of NPs which lack case, thus supporting his claim that case theory is not

mature at the early stages of the acquisition of English. Under his analysis only accusative case is operating at this point. Here the idea is that children use accusative as default case, as suggested by Schütze & Wexler (1996a). This is based on the assumption that children learning English produce no object case marking errors (although this kind of error has been shown for children learning Russian; Babyonyshev, 1993, and for German, Schütze, 1995). However, in his analysis of data from 12 children, Rispoli (1994) cites instances where *he* and *they* are used as non-subjects. We can nonetheless conclude that even if accusative does not function as the default case, the evidence points to lack of productivity of nominative case marking at the early stages of L1 English.

Further relevant evidence regarding an IP-level projection relates to the form of thematic verbs children produce (i.e. finite vs. non-finite) in utterances with subjects not in nominative form, as well as in utterances without subjects. Children's failure to produce any verbs needs also to be considered. Gruber's (1967) syntactic treatment of case assignment in child English revealed that when the subject of a copular sentence was not nominative, the copula was invariably omitted. Where successful nominative case assignment has been used to argue for the presence of functional syntax in children's early grammars, researchers (e.g. Haegeman 1995; Hyams 1992; Radford 1995; Rizzi, 1994) have pointed to children's use of non-nominative subjects in the Root Infinitive/Optional Infinitives that do not involve a functional projection. We argue that while this is correct, nominative case assignment developmentally coincides with the language learner's projection of functional syntax, after an initial stage at which only VP exists. In the new L2 data we discuss below, we consider utterances with pronominal subjects, null subjects and utterances with and without

copulas. But before turning to second language acquisition, let us consider in more depth how a weak continuity approach accounts for early subjects in child L1 English.

The Minimal Trees of Organic Grammar

Since the early 1990s, a number of researchers have followed a weak continuity approach, proposing that children learning their first language begin with some sort of syntactically reduced structure. (For English, Dutch, German and Swedish see Clahsen, 1991; Clahsen & Penke, 1992; Clahsen, Eisenbeiss & Vainikka, 1994; Guilfoyle & Noonan, 1992; Lebeaux, 1989; Platzack, 1990; Radford, 1988, 1995; Rizzi, 1993/4; Vainikka, 1993/4; Wijnen, 1994.) Under what is now termed Organic Grammar (Vainikka & Young-Scholten, 2005; 2007), Vainikka & Young-Scholten (e.g. 1994; 1996a/b) have argued that both first and second language learners project only a Minimal Tree at the start of acquisition, and that the only instance of L1 transfer is lexical: the bare VP initially projected by the L2 learner resembles that of his/her L1 in terms of its headedness. Acquisition is driven by the input received by the learner, based on full access to UG, and without maturation of functional projections, unlike in Radford (1990). Where for Rizzi syntactic structure is truncated or for Wexler it is optional, under Organic Grammar, functional structure is simply not present in the learner's grammar at the earliest stages. One source of evidence in support of the idea that the learner's initial grammar consists only of Minimal Trees comes from the study of the acquisition of German, where early data from both L1 and L2 learners show a preponderance of non-finite main verbs, a lack of verb raising, no copula or auxiliary verbs and no embedded clauses (see Hawkins, 2001 for a similar account for L2 English). At the earliest stages of development, subjects are optional, but in German there appears to be little, if any, systematic confusion by either L1 or L2 learners regarding pronominal forms, at least for subjects.

Along with the well-known overall optionality of subjects referred to above, the well-attested use of oblique subjects by children learning English – as in the examples referred to in Vainikka (1993/94) and shown below – is expected at the earliest stages of both the L1 and the L2 acquisition of English under Organic Grammar.[1]

(1) a. My see that. Adam see that. (Adam 2;3)
b. My play bulldozer, hmm. (Adam 2;3)
c. My climb. Climb. (Adam 2;3)
d. My need her. (Nina 2;0)
e. My make red table. (Nina 2;0)

The learner initially projects a bare VP, and when the step-wise development of functional projections occurs one by one, from the bottom up, subjects become obligatory and morphologically correct. Vainikka discusses longitudinal data from CHILDES from several children learning English: Adam, Eve, Sarah, Nina and Naomi. Regarding their pronominal forms and related elements, not only are nominative subjects but also non-nominative/oblique subject pronouns attested in the production of each child. At least in terms of the data collected, these children illustrate what has been observed by a number of researchers: children differ not only with respect to their use of oblique forms (e.g. *me* vs. *my*) but also in the extent to which oblique forms are produced (see e.g. Powers 1995).

Vainikka points out that these children's non-adult pronoun use is systematic, and that - in addition to their non-adult verbal production and their non-adult Wh-questions - their use of non-adult pronoun forms constitutes evidence for the children's earliest

[1]We have not examined data from naturalistic adult L2 English learners' early production, but we would be surprised not to find use of incorrect subject pronoun forms. Indeed the third author can point to anecdotal evidence from an adult Mandarin speaker of English who systematically produces them, for example in copula-less WH-questions such as 'How old him?' (and even resists correction).

grammars consisting of a bare VP. At this stage, because the child's grammar lacks INFL, nominative case assignment is not possible. Paying particular attention to Nina, who mainly uses the oblique subject *my*, Vainikka observes that Nina's subsequent acquisition of nominative case closely parallels her acquisition of inflectional elements and thus is evidence of projection of IP. However, with the acquisition of nominative case and INFL-related elements, there is no evidence that other functional projections such as CP are posited. Data from all five children Vainikka considers reveal the re-emergence of oblique subjects with Wh-questions when these start to increase in frequency, even though by this point nominative subjects were invariably used elsewhere.

Subjects in early L2 acquisition

We now turn to second language acquisition. Under approaches assuming UG operation, with native language influence limited to VP transfer (as in Vainikka & Young-Scholten's 2005; 2007 Organic Grammar), we expect the same patterns as in L1 acquisition. Under the opposing Full Transfer/Full Access hypothesis (Schwartz & Sprouse 1996), evidence of functional projections and of L1 influence are expected from the start. Under FT/FA, the relationship between morphology and syntax is more remote than in L1 acquisition. Just as in L1 acquisition, while there is intra-learner morphological and syntactic variation, the issue at hand in L2 acquisition is whether variation is systematic. For example, the idea of Root Infinitives seems fairly well accepted for L1 acquisition, but their existence in L2 acquisition is debated.

Null subjects

Based on longitudinal data from two English-speaking children acquiring French, Prévost (1997) notes the proportion of Root Infinitive clauses with null subjects for

the two children, Kenny and Gregg, as 30% and 53%, respectively. Here the co-occurrence of non-finite forms with null subjects in L2 acquisition parallels L1 acquisition. For child L2 German, Prévost (2003) notes that while null subjects occur with various verb forms, 62% of null subjects occur in infinitival clauses and only 9% occur with inflected verbs.

Nominative pronouns in early L2 English

An alternative claim for child second language acquisition is made by Haznedar 1997/Haznedar & Schwartz (1997), who argue that L2 English children's apparent Root Infinitive forms are actually finite, and the infinitival ending is used as a substitute for finite marking due to a mapping problem between morphology and syntax. This is the Missing (Surface) Inflection Hypothesis; see also Lardiere (1998) and Hawkins (2000).[2] Data from Haznedar's (1997) data longitudinal study of a Turkish boy (Erdem) learning English while residing in the UK, are held up as support for the MSIH. Erdem's production of both null subjects and of pronominal subjects in any case but nominative is low, as shown in Table 1 (Samples 1 and 2 are excluded as Erdem produces no subjects whatsoever). It is perhaps not surprising that Erdem produces few subjects in cases other than nominative when his overall subject production is extremely low at the earliest stages of development (represented by the first seven samples).

Table 1. Erdem's early subjects

Sample	Full NP subjects	Null subjects	Pronominal subjects
3	0/2	2/2	0

[2]Prévost & White (2000a/b/c) argue that child and adult L2 learners differ with respect to developmental connections between inflectional morphology and syntax. The adult data point to the Missing Surface Inflection, the child L2 data point to use of RIs, supporting Truncation. See Vainikka & Young-Scholten (2007) on the inapplicability of maturation-based Truncation to child L2 acquisition, where further analysis of the L2 adult points to RIs.

4	0/2	0/2	I (2)
5	8/10	1/10	you (1)
6	1/3	2/3	0
7	3/3	0/3	0
8	17/26	5/26	I (1) you (3); me (1)
9	33/50	3/50	I (10), you (4) me (1)
10	47/82	11/82	I (33), you (2)
11	54/76	8/76	I (17) you (4) we (1)
12	26/40	14/40	I (8), you (5), s/he (1)
13	30/105	7/105	I (50), you (9), s/he (6), we (10)
14	11/27	2/27	I (15), s/he (1), me (1)

It is in Samples 8 and 9, when Erdem begins to produce considerably more full NP subjects, that we find two of the three pronominal subjects not in nominative form that occur in his data. With respect to null subjects, Haznedar notes their relatively high overall occurrence (100%, then dropping to 20%) between Samples 3 and 8. In utterances only with thematic verbs, null subjects occur in Sample 8, (2/2 or 100%), in Sample 10, (5/8 or 63%), in Sample 11 (3/6 or 50% and in Sample 12 (2/12 83%). The first context for copulas, which would indicate something beyond a bare VP, in Sample 5, but in all five such utterances it's missing. Sample 6 is the first instance of a copula supplied in such a context. However in Sample 7, all four utterances requiring copulas are again missing them. From Sample 8 onwards, the percentage of copula correctly supplied reaches above 90%, and by Sample 13, Brown's criteria have been met. At the same time, pronominal subjects increase in number and expand in form.

While early production of nominative pronominal subjects, extremely low production of subjects in any other case form, null subjects that increase in frequency and early copulas indicate for Haznedar & Schwartz the existence of a grammar with functional categories at the initial state, our interpretation of these data is that Erdem does not

posit a functional projection until some time after Sample 8. Thus while Haznedar's study prompts White (2003) to suggest that child L2 acquisition differs from L1 acquisition, we will argue that this is a premature conclusion. Erdem's early production of pronominal subjects indeed differs from that of the L1 child whose use of subjects not in nominative case was most systematic, namely, Nina (as discussed above). But as noted above, researchers (e.g. Powers 1995) have observed that L1 children differ not only with respect to the specific forms they substitute for nominative forms, but also in the extent to which they do so at all. It must also be kept in mind that the data base for child L2 English is still meager when compared to the L1 English data base. Erdem's pattern of pronominal development may well be unexceptional within the wider context of the acquisition of English (be it L1 or L2 acquisition).With this in mind, we turn to our new data.

4. Farsi children's acquisition of English

Here we discuss longitudinal data from two Farsi-speaking children who learned English under conditions closely paralleling those for Erdem (see Haznedar 1997 for details). Because Farsi and Turkish resemble each other in important ways (see below) a comparison of the three children's development can shed light on the status of subjects and on overall early syntactic development.

Data collection

Starting shortly after their arrival in England for a period of 20 months data were collected from two Farsi-speaking siblings, 'Bernard' and 'Melissa' by the first author, with the assistance of two native English-speaking university students. Prior to their arrival in England on 26 February 2003, the siblings had had no exposure to English. Haznedar's (1997) study sought to provide more information about the initial

state than had previous longitudinal L2 English studies, e.g. Grondin & White (1996) and Lakshmanan & Selinker (1994), and like Haznedar, the researcher (the first author) began data collection as soon as possible after the family had settled in and the children had been enrolled in the local state primary school. Prior to moving to the England, the language of the home had been established as Farsi, and although the father was trained as an English teacher, both parents continued to speak Farsi exclusively at home once the family moved. There were no other family members living with them. Both children attended the local primary school for six hours a day from shortly after their arrival, and the first data collection session took place when the two children had been in England for a month, when Melissa was 7;4 and Bernard was 8;4. There was only one other Farsi-speaking child at the school, and apart from three or four sessions during their first month with a Farsi-speaking English woman and hour-long weekly sessions with an ESL tutor for the first eleven months, no special English language assistance was provided. At home the children watched television only in English and during their first year, began to read in English (Bernard was already an avid reader in Farsi, and he gradually became one in English).[3] As it turned out, both children acquired English with sufficient speed to be keeping up with their peers in their school subjects by the end of the school year, in July.

Over the 20-month period, the collection of data on a weekly, fortnightly or (less often) monthly basis (when the student assistants were away) yielded 41 samples in audio-recorded and later transcribed form. During each session, recordings started after five or ten minutes and varied in length from 90 to 120 minutes.

[3]Under the national curriculum in England, school children are assigned homework which includes daily reading at home. This situation resulted in some parental assistance when Bernard and Melissa began to meet with success in their attempts to tackle such assignments, from around month 12.

Farsi

The examples in (2a) and (2b) show that in Farsi the VP and other verbal projections are head final, null subjects are allowed and verbal agreement is marked through suffixation. Given the above discussion of Erdem's L2 development, we also include information on Turkish here. While unrelated,[4] in some key respects Turkish (2c) patterns like Farsi: in both languages verbal projections are head-final, null subjects allowed and agreement with the subject is marked by suffixes on the verb. Turkish and Farsi both have a single nominative pronoun for masculine, feminine and neuter: *o*, and *oo*, respectively, for third person singular. In addition, the first person singular agreement suffixes in both languages end in *–m* as shown in (2b) and (2c).

(2) a. *Ali ketab mi-khan-ad* (Farsi)
Ali book pres-read-3sg
'Ali reads a/the book.'

b. *(mæn) ketab mi-nevis-am* (Farsi)
(I) book pres-write-1sg
'(I) write a/the book.'

c. *(Ben) kitab-i ok-uyor-um*. (Turkish)
(I) book read –prog-1sg
'(I) read a/the book.'

An important difference between the two languages is that Farsi has a copula (3a) and (3b), while in Turkish those utterances which require a copula in Farsi (or English) are expressed without one in the present, as in (3c) and (3d).

(3) a. (*Mæn) khæste hæst-am.* (Farsi)
(I) tired be-1 sg
'I am tired.'

[4] Farsi is an Indo-European and Turkish an Altaic language.

b. *Moœllem khoshhal æst.* (Farsi)
teacher happy is-3 sg
'The teacher is happy'.

c. *(Ben) yorgun-um.* (Turkish)
(I) tired – 1sg
'I am tired.'

d. *Orhan mutlu.* (Turkish)
Orhan happy
'Orhan is happy.'

Another difference between Turkish and Farsi is that the latter makes use of the same pronominal forms to mark all cases, with case particles/prepositions either preceding or following them, and in different position. This is shown in (4a), where *mæn* is a direct object, and (4b), where *mæn* is possessive. Possession is also shown by suffixes on the noun, as in example (4c). *Ra* is a case marker, referred to in descriptions of Farsi as an object marker. For possession two possibilities exist: adding *e* to a noun as in *ketab e man* 'book of me/my/mine' (my book), where the suffix is used irrespective of gender or animacy. The second possibility is *mal + e*, used when the possessed has already mentioned as in *mal e man ast,* 'possession of me/my /mine is' (this is mine) or (4b).

(4) a. *Oo mæn ra did*
S/he me obj saw
'S/he saw me.'

b. *In ketab male mæn æst*
This book for my/mine is
'This book is mine.'

c. *In medad-æm æst*
This my pencil is
'This is my pencil.'

The morpho-syntactic facts illustrated in these examples suggest predictions for Turkish learners of English along similar lines to those in Vainikka & Young-

Scholten (1994) for Turkish learners of German: learners' head final lexical projections (here VP) will transfer. Under Organic Grammar, subsequent development will be non-L1 based. In assuming that the entirely of the L2 learners' L1 grammar is available at the initial state of development, Schwartz & Sprouse's (1996) Full Transfer hypothesis makes the following set of specific hypotheses for the early stages of L2 development in English (1) both lexical and function projections will be head-final; (2) subject-verb agreement will be unproblematic (we will however, not pursue this further here); (3) null subjects will occur with finite verbs. These hypotheses are equally applicable to Farsi learners of English as the two languages resemble each other in the three respects to which they refer. Hypotheses (4) and (5) make reference to the differences between Turkish and Farsi. Hypothesis 4 predicts that Farsi learners will not – unlike Turkish learners - have problems with the copula in English. Hypothesis 5 predicts that the lack of pronominal distinctions represented by free morphemes in Farsi will result in problems for Farsi learners. With these predictions in mind, we now turn to the Farsi data. We reconsider Haznedar's Turkish data in the discussion section below.

VP transfer

Little can be said about Bernard and Melissa's syntax when the first three samples were collected, as there are simply no utterances with thematic verbs. Table 2 therefore provides information about their word order from the point at which the children produced thematic verbs along with other words such as direct objects and adverbs (see Vainikka & Young-Scholten 1994 on the criteria used to determine VP headedness). Three months after the children's arrival in the UK and their starting

school, the children produced such verbs, and consistently placed all other sentential material before these verbs. The examples in (5) illustrate typical utterances.

(5) a. My ice-cream like. (Melissa S 4)
b. We tennis play. (Bernard S 4)
c. Spot cupboard have. (Melissa S 7)
d. This chicken on the tractor sitting. (Melissa S 8)
e. Monday apple eat. (Bernard S 9)

There is then a period during which few thematic verbs are produced during data collection sessions, but when they again are produced, in Samples 7, 8 and 9, VP has begun to shift from head-final (as in (5c – e) to the head-initial English value. After a gap of little or no thematic verb production, Sample 13 shows that their VP has become head-initial. After this point, thematic verbs undergo a striking increase in files 16 and 17, where Bernard produces 23 and 27, and Melissa 17 and 27. Here we only consider data up to Sample 14, when we claim the children project an AgrP.

Table 2. Word order in multi-word utterances with thematic verbs

Sample	XV		VX		Total thematic verbs	
	Bernard	Melissa	Bernard	Melissa	Bernard	Melissa
4	12	7	0	1	12	8
5	0	0	0	0	0	0
6	0	2	3	0	3	2
7	0	2	1	0	4	2
8	2	4	2	2	11	13
9	0	8	0	0	7	10
10	1	1	5	2	7	3
11	0	0	0	0	1	0
12	0	0	0	0	1	1
13	0	0	4	1	11	6
14	0	0	3	1	4	3

These data and their analysis closely parallel what a range of researchers have confirmed since Vainikka & Young-Scholten (1994), that at the earliest stages of L2

acquisition, VP headedness is transferred from the learner's native language. This can be best observed when native and target language headedness diverge, as for Romance language and English-speaking learners of German (Vainikka & Young-Scholten 1996b; 2005) and for Japanese learners of English (Yamada-Yamamoto 1993) as well as in Haznedar's (1997) study of Erdem. The current general consensus in UG-driven work is that VP transfers (see Vainikka & Young-Scholten 2005), where any debate revolves around the extent to which functional syntax transfers.

The children's subjects

Before we consider a subset of Bernard's and Melissa's subject forms, we present in Table 3 all pronominal forms the two children were documented as producing during the period under scrutiny. Samples 1 through 3 are again excluded due to absence of pronouns and thematic verbs.

Table 3 Bernard's and Melissa's early pronouns

	Nominative context		**Accusative context**		**Genitive context**	
	Bernard	Melissa	**B**	**M**	**B**	**M**
4	my (6), she (3), we (1), you (4)	my (5), she (2), we (1), you (4)	0	0	0	her (1)
5	He (2), she (1)	0	0	0	0	your (1)
6	She (22), they (16), you (1)	I (1), my (1) he (2), she (19), they (5), you (4)	0	0	0	0
7	My (3), he (1), she (3), they (16), you (2)	I (2), my (3), you (3), he (1), they (8)	0	0	my (1)	my (1)
8	My (14), he (4), she (6), they (18), we (8)	My (14), you (8), he (4), she (6), they (9)	0	0	my (2), he (4), her (7), your (3)	my (1), her (2), he (3), she (1), you (3), they (1)
9	I (1), my (1), he (9),	I (1), my (10), he (11), they (1)	0	0	my (1), he (1), his (4)	I (1)
10	I (2), my (2), you (3), he (1), she (1)	I (1), my (3), you (4), he (2), she (1)	my (1), she (1), her (1), we (1), they (1), he (1), him (1), your (2)	my (2), you (1)	my (3), her (5), , your (1), he (2), his (2), she (4), we (2), you (1), they (1)	my (4), he (1), you (3), we (1), she (1)
11	He (2), she (4),	He (1), she (3),	0	0	0	0

	they (2)	they (1)				
12	I (5), you (6), he (8), she (5), we (3), they (7)	I (7), he (4), she (4), we (8), they (11)	Her (1)	He (1)	My (1), our (3), he (4), she (1), you (2),	I (2), we (1), she (1), my (2), her (1)
13	My (5), you (9), he (7), she (3), we (5), they (6)	I (4), my (4), you (15), he (8), she (9), we (8), they (8)	0	My (1), me (1)	My (1), your (3), he (1), she (2), we (1), you (1), they (3)	He (2), we (1), she (2), me (1), your (1), they (1)
14	I (19), you (8), he (16), she (3), we (10), they (16)	I (16), you (6), he (17), she (2), we (11), they (15)	0	My (1), me (2)	My (14), your (3), our (1), they (1)	I (2), my (16), her (1), me (1), your (4), they (1), us (1), our (1)

The table reveals the same sort of systematicity noted, for example, in Vainikka (1993/4) in children's early first language utterances, supporting the line of argumentation that we pursue here. Under Meisel, the assumption that two forms are necessary to state that a function exists, we conclude that no case distinctions are made by the children in the earliest samples. Children's production is initially only of nominative pronoun forms and then of nominative and genitive forms which are overgeneralized to both nominative and genitive contexts. There are almost no accusative pronoun forms up to Sample 14; nearly all utterances that involve accusative contexts contain full NPs. This points to the conclusion that case marking emerges. Under Organic Grammar neither an L1-based AgrP nor an English AgrP is projected until the learner has received sufficient input to do so. Let us look at each person in turn.

For third person singular and plural, up to Sample 7, there is a single, nominative form. In Samples 8-14, this form is extended to the genitive context:

(6) She jumper is yellow. (Bernard S8)
'Her jumper is yellow.'

The children appear to be using a single form as a lexical entry and this is used productively, but does not mark case. For second person, there is again a single form used up to Sample 7 which is used only in nominative contexts. As with third person forms, in Samples 8-12, the nominative form is extended to use in genitive contexts. Samples 13 and 14 show the first signs of true case marking, where 'you' is used in nominative contexts and 'your' is used in genitive contexts. First person plural follows the same pattern, where between Samples 8 and 10 nominative forms are used to mark possession as shown in (7). The first instances of 'our' occur in Sample 12. At this point 'our and 'we' are used in their correct contexts.

(7) a. We house is white. (Bernard S8)
'Our house is white.'

b. We leg is eight (Bernard S 10)
'Our legs are eight.'[5]

When looking at pronominal subjects in English, the problematic phonological representation of some pronouns and the early omission of copula/auxiliary *be* means forms other than *I* and *my* can be easily confused by the researcher, as in *your* vs. *you're*, *its* vs. *it's*, *his* vs. *he's*, *their* vs. *they're*; see Vainikka 1993/4). Forms such as *you* reveal less case marking in the first place. We can thus be more confident in the reliability of what we have documented regarding the status of subjects by looking at first person singular. Bernard and Melissa also produced relatively more first person singular pronouns overall than other pronoun forms, and thus patterns observed can be said to be robust.

[5] This was in response to the research assistant's question: How many legs do we (the four of us) have? and seems to be a word-for-word translation from the Farsi:

Pa- ha-ye ma hast ta hast-and
leg-pl-of us eight ones is – 3 pl

For first person singular, there is use of the genitive form ‘my’ as a default first person pronoun from the point at which the children begin to produce pronouns. Up to Sample 6, there are 12 instances of ‘my’ where it is used exclusively in nominative contexts. In Samples 6 – 11, there are all together 51 instances of ‘my’ in nominative contexts. From Sample 7 onwards, ‘my’ is extended to genitive contexts. Up to Sample 6, there is a single instance of ‘I’, but thereafter and up to Sample 11, there are nine instances of ‘I’, and all but one is incorrect in terms of context. In Sample 12 and Sample 13, there are nine instances of incorrect ‘my’ and two correct, in genitive context. However, 16 out of the 18 instances of ‘I’ are correct. At Sample 14, all instances of ‘I’ and ‘my’ are used in their appropriate contexts.

The patterns for first person plural and second and third persons differ from those observed for first person singular where it is the genitive rather than nominative form that is initially used as a default pronoun. In addition, ‘my’ continues to be heavily used in nominative contexts alongside ‘I’, which is rarely used in genitive contexts. Although these patters differ, our analysis of the data point to the conclusion that true case marking is not in evidence until Sample 14. Prior to Sample 14, subject pronouns begin pattern differently in relation to verb type, where we find that context is more often correct with copula verbs. We address this below. But first let us reconsider all the subjects the children produced.

An overview of the entire subject data from Bernard and Melissa from the point at which they produced their first thematic verbs in Sample 4, until Sample 14 provides further evidence of children’s projection of an AgrP at Sample 14. Out of the 108

utterances with thematic verbs the children produced up to this point, subjects were null 38% of the time, 6% were in nominative and 53% were in genitive form. In Sample 10, Bernard's null subject production with variable nominative or genitive pronoun use shows he has not projected an AgrP. When at Sample 14, he again produces nominative pronouns, both these and genitive forms are used in their correct contexts and null subjects all but disappear. Melissa follows the same pattern.

Table 4. Subjects in utterances with thematic verbs

S	Null Subjects		Pronominal Subjects		Full NP Subjects		Total utterances w/ verbs	
	Bernard	Melissa	Bernard	Melissa	Bernard	Melissa	B	M
4	3	1	7	5	2	2	12	8
5	0	0	0	0	0	0	0	0
6	1	3	0	0	0	0	1	3
7	3	0	1	2	0	0	4	2
8	0	2	11	11	0	0	11	13
9	7	2	0	8	0	0	7	10
10	1	0	6	3	0	0	7	3
11	1	0	0	0	0	0	1	0
12	1	1	0	0	0	0	1	1
13	7	5	4	1	0	0	11	6
14	1	2	4	2	0	0	4	3

Focusing on the children's production of nominative first person singular in copula contexts, there are no instances of *I* until Sample 12, when Bernard responded to the researcher's question with what might be a partially analyzed chunk, given his failure to use the correct pronoun (*you*) and verb (*do*) in his response (see Myles 2004 on rote chunk use in early L2 French).

(8) Researcher: Do I like dogs?
I am not like dogs. (Bernard S12)

In Sample 13 both learners use *I*, and while Bernard produces a target-like utterance, Melissa does not, and rather than representing a subject, *I* marks possession. Up to this point, both children produced the genitive form ‘my in all other copula contexts where *I* was required

(9) a. I am a not a student. (Bernard S13)

b. I friends not here. (Melissa S13)

The evidence discussed thus far points to the projection of AgrP around Sample 14. The copula data suggest a precursor to AgrP.

The copula and a pre-AgrP stage

We find in the data subjects not in the nominative case which occur with copular constructions, but only when the copula is missing. This pattern is indicative in two ways. First, as also observed by Gruber (1967), in Bernard and Melissa’s data we observe a correspondence between absence of nominative pronominal subjects and copula omission, as shown in Table 5. As was the case with thematic verbs, there were also no relevant contexts requiring a copula until Sample 4. We exclude null subjects, as there is too little information regarding type of utterance to draw any conclusions when both subject and verb are absent. What is immediately apparent is that the copula is frequently absent when full NP subjects are produced.

Table 5: Utterances without copula with regard to subject type

S	Pronominal subjects		Full NP subjects.	
	Bernard	Melissa	Bernard	Melissa
4	0	0	1	0
5	0	0	2	0

6	3	0	4	3
7	2	1	19	10
8	2	1	12	6
9	0	1	14	3
10	0	0	4	2
11	0	0	10	6
12	0	0	14	4
13	2	1	19	7
14	0	0	11	7

Up to Sample 14, out of Bernard's 134 and Melissa's 60 copula constructions in which the copula is not supplied, only four (3%) – all Bernard's - have nominative pronominal subjects. On the other hand, only five of Bernard's and four of Melissa's copula contexts in which subjects in occur in other cases have missing copulas, as in the examples in (10).

(10) a. My boy. (Bernard S 8)
' I am a boy.'

b. My girl yes. (Melissa S 8)
'I am a girl, yes.'

c. My here on the chair. (Melissa S 9)
'I am here on the chair.'

d. My not a girl. (Bernard S13)
'I am not a girl.'

In the entire corpus, there is not a single instance of an utterance with subject other than a nominative one together with a copula. Tables 6 and 7 show the breakdown of copula suppliance by person, further illustrating that the pattern described above holds for all forms. Production of *is* exceeds production of *are* and far exceeds production of *am* which is not represented in tabular form as the children produced only no examples before Sample 7, then five between Samples 7 and 13, and finally six in Sample 14. All occur with nominative subject pronouns.

Table 6: Copula *is* and subject type

S	Null subjects		Nominative subjects		Genitive subjects		Full NP subjects.		Total *is*	
	B	M	B	M	B	M	B	M	B	M
3	0	0	2	0	0	0	0	1	2	1
4	0	0	0	0	0	0	0	0	0	0
5	0	0	2	0	0	0	0	0	2	0
6	0	0	0	0	0	0	0	1	0	1
7	0	0	17	17	0	0	0	0	17	17
8	5	0	2	8	0	0	0	4	7	12
9	1	0	13	3	0	0	1	3	15	6
10	7	3	1	6	0	0	22	9	30	18
11	0	0	2	2	0	0	3	0	5	2
12	0	0	9	9	0	0	14	14	23	23
13	0	0	2	11	0	0	21	24	23	35
14	0	2	4	2	0	0	7	13	11	17

Table 7: Copula *are* and subject type

S	Null subjects		Nominative subjects.		Genitive subjects		Full NP subjects		Total *are*	
	B	M	B	M	B	M	B	M	B	M
3	0	0	1	0	0	0	0	0	1	0
4	0	0	2	0	0	0	0	0	2	0
5	0	0	0	0	0	0	0	0	0	0
6	0	0	16	7	0	0	0	0	16	7
7	0	0	16	10	0	0	0	0	16	10
8	0	0	22	13	0	0	0	0	22	13
9	0	0	0	1	0	0	0	0	0	1
10	0	0	0	0	0	0	0	0	0	0
11	0	0	1	3	0	0	0	0	1	3
12	0	0	4	15	0	0	0	5	4	20
13	0	0	2	2	0	0	0	0	2	2
14	0	0	14	6	0	0	1	3	15	9

The nominative case + copula data point to the children's positing of an early functional projection where case indeed begins to be marked. However, note that this cannot yet be AgrP based on our above analysis and based on these data, where copulas are systematically absent with full NP subjects until Sample 10 for 'is' and Sample 12 for 'are'. We instead propose that the copula acts as a trigger for AgrP, along the lines of what Hawkins (2001) proposes for L2 English (see also Vainikka

and Young-Scholten 1998 on triggers in L2 German). In fact, the utterances that contain copulas, particularly 'is', give the appearance of being rote-learned chunks. They may indeed be partly analyzed since they are not always used correctly, as in examples (8) and (9a); (11) shows a further two examples, where the children seem to be repeating in their answers parts of the researcher's questions, in this case 'is this.'

(11) a. Is this a notebook?
No, is this a book. (Bernard S10)

b. Whose bicycle is this?
My bicycle is this. (Melissa S10)

The proposal that the copula triggers a functional projection is consistent with the observation that learners respond to something in the input (by producing it), but they do not fully analyze it to the extent that one would be able to claim that the copula or case marking have actually been acquired.

Is there evidence of other functional categories in Bernard's and Melissa's early data? In his claim that Root Infinitives are the result of truncation, Rizzi (1993/4) indicates the child can start derivation below CP. Roeper & Rohrbacher (1994) argue against truncation on the basis of the null subjects found in Adam's CHILDES data, as in *Where go?* (Adam 2;3). Non-subject Wh-questions such as Bernard's and Melissa's shown in (12) should not be allowed because null subjects occur when the subject is the specifier of a root and the specifier of the root in Wh-questions is filled with the Wh-phrase.

(12) a. What see on the table? (Bernard S13)

b. Where going? (Melissa S14)

c. What colour like? (Bernard S13)

d. What time go to the school? (Melissa S14)

To calculate the percentage of null subjects, the total number of Wh-questions with null subjects versus those with pronominal subjects was considered. Subject Wh-questions and Wh-questions with lexical subjects are not included in the counts since the former does not require movement to C, and the latter does not show case assignment. The total numbers of Wh-questions with null subjects is compared with the number of declarative null subject utterances within the same period. In Samples 13 and 14, eight out of the 19 (43%) non-subject WH-questions without lexical subjects produced by Bernard contained null subjects and for Melissa five out of 13 had null subjects (38%). During the same period, the rate of null subjects with declarative sentences for Bernard was two out of 112 (2%) and for Melissa 0 out of 89. We leave the further analysis of the children's syntax regarding higher functional projections to future work.

Discussion

What are we to make of child L2 data that resemble child L1 data (the present data) and child L2 data that appear not to (Haznedar's data)? Let us consider the five hypotheses put forward above. Taking a Full Transfer position, it was predicted in the form of the hypotheses above that Bernard and Melissa and Erdem should differ only in two respects: problems with copula for Erdem and problems with case marking for Bernard and Melissa. It was also predicted under FT that learners would transfer the entirety of their syntax (both lexical and functional projections), and we only find evidence for transfer of VP. Bernard and Melissa's utterances that can be analyzed as representing functional projections are not head final – and neither are Erdem's. While the null subject data are less clear for Erdem, they are clearer for Bernard and

Melissa: they co-occur only with non-finite verbs, and they disappear at the same time as pronominal case contracts are evident. However, contrary to Farsi-based expectations, Bernard and Melissa often omitted the copula. As we saw, however, copula omission and use of pronominal subjects where copulas are supplied is highly systematic. But we do observe that Bernard and Melissa have more problems with case marking than did Erdem, and this could well be attributed to their L1 case morphology. Given Farsi's lack of the range of pronominal forms for different cases that English has, what we may be observing is the strengthening of an existing tendency to initially misanalyse pronoun forms as non-case-marked. Use of another –*m* form *æm* 'my' as in *medadæm* 'my pencil' along with the phonological resemblance of 'my' to Farsi first person singular *mæn* and first person plural *ma* may have further strengthened this tendency. Researchers such as Zobl (1980) have long proposed that the learner's L1 can subtly reinforce a developmental pattern where the learner experiences relatively more difficulty restructuring an interlanguage grammar when it reflects the L1 grammar. Lack of pronominal distinction in Farsi might produce such an effect, resulting in the children's slightly slower development of the English pronominal system when compared with Erdem's progress. Without further data from Farsi learners of English, we can of course only speculate. However, the variation displayed by these three children does not fall outside the bounds of variation displayed by children learning English as their first language.

Bernard and Melissa nonetheless follow an L1-like route to resolving their difficulties by first treating pronominal forms as lexical entries and then making case distinctions. That null subjects decline in parallel with the rise of case marking points to emergence rather than specification of an already existing AgrP. There is little

evidence, from either the two Farsi-speaking children or the Turkish speaking child of the head-final functional projections that would be expected with Full Transfer. Nor do we find in either set of data null subjects in tandem with finite verbs when AgrP is projected, precisely the opposite of what would be expected if subject features transferred.

We conclude that apart from their early transfer of VP, all three children are similar to children learning English as their first language in terms of the variation observed across such children. With respect to non-target pronominal subjects, it might seem surprising that the first singular person *–m–*final suffix in both Farsi and Turkish did not prompt all three learners to use *my* or *me* as early subjects. But again, the population of L1 English children displays the same sort of variation. The data from Bernard and Melissa are somewhat similar to Nina's (L1 English) data discussed in Vainikka 1993/4, where for her *my* was clearly the standard first person singular subject form before she projected an AgrP. Given that not all L1 English children seem to produce oblique subjects (e.g. Powers 1995), we are safe in concluding that any differences between Bernard and Melissa and Erdem represent the same sort of variation found across children learning English as their first language.

Conclusion

Under Organic Grammar, we do not expect Farsi- and Turkish-speaking children to display different patterns with respect to their English morpho-syntactic development. The data discussed here reveal early lexical transfer, of the head-final VP, similar to what Haznedar found. For Bernard and Melissa as well as for Erdem, the copula and nominative case marking on thematic verbs emerge in quick succession after several

months of exposure to English, indicating projection of AgrP at that point. Where we find systematic use of *my* as a subject pronoun by Bernard and Melissa (together with copula absence in those constructions) and relatively less straightforward 9and possibly slower0 development, we can speculate that the facts of Farsi conspire to prompt these two L2 children to do what many L1 English children already do. Without further data from children acquiring English in a similar naturalistic context, it is not possible to draw a conclusion other than that Erdem is like the L1 English children who, for whatever reason, take a different path in their early subject pronoun production.

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