Why Child L2 Acquisition?*

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1. Introduction

In recent work (Schwartz 2003a, 2003b, under review), I have begun to explore the question of the status of child L2 acquisition, and my reading of the relevant research is that in some ways it resembles L1 acquisition and in other ways it resembles adult L2 acquisition. Specifically, I have suggested what I call the 'Domain by Age Model (DAM)',[1] arguing that in the realm of syntax, child L2 acquisition is (more) like adult L2 acquisition, but that in the realm of inflectional morphology, child L2 acquisition is (more) like L1 acquisition. The purpose of this paper, however, is not to defend this DAM proposal, but rather to try to persuade you of something much more general: the import of child L2 acquisition to the field. Adopting the comparative method with child L2 data, i.e. making comparisons with child L1 data and with adult L2 data, has the potential to refine our understanding of native language acquisition and adult L2 acquisition. It is precisely because the L2 child shares certain inherent characteristics of the L1-acquiring child and other inherent characteristics of the L2-acquiring adult that child L2 data may be able to disentangle theoretical claims in both L1 acquisition and adult L2 acquisition.

2. Background assumptions (1)

For the sake of explicitness, I define 'L2 child' as a child whose *initial* exposure to the nonnative language is between the ages of, approximately, 4 and 7. There are reasons for these particular lower and upper limits.

First, the lower limit: It is fairly well established that the bulk of the L1 grammar is in place by the age of 4. As such, acquiring a new language at this point constitutes a case of L2 acquisition as opposed to bilingual language acquisition (but cf. McLaughlin 1978). In bilingual acquisition contexts, the grammars of two languages are being worked out in tandem (whether simultaneously or sequentially).[2]

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[1] My thanks to Nina Hyams for suggesting this name.

[2] Typically, a distinction is also made between simultaneous bilingual acquisition and sequential bilingual acquisition. I recognize that there may well be nontrivial differences between these two contexts. The line I am trying to draw, however, is between constructing each of two grammars during the same time period vs. starting to build a grammar of a new language only after the first is essentially concluded. See also Lakshmanan (1995:322, fn. 5).

Bilingual acquisition contexts are thus in principle clearly differentiated from child L2 acquisition contexts, since in the latter a child begins acquiring a new language only after having previously created a grammar that is (in most respects) complete.

Second, I set the upper boundary for age of onset at 7. One reason for this comes from studies on age and L2 ultimate attainment, such as DeKeyser (2000) and Johnson & Newport (1989, 1991). The results of these studies show that L2 children who commence before age 8 perform as native speakers do on a variety of tasks on a variety of (morpho-syntactic) phenomena. Such L2 ultimate attainment results are *prima facie* evidence that L2 children whose onset is (minimally) no later than age 7 are utilizing the same acquisition processes as children use in L1 acquisition.

Notice that to say that L1 and L2 children make use of the same acquisition processes does not necessarily mean that child L2 acquisition replicates, i.e. follows the same developmental course or the same time course as, native language acquisition. It means what it says: The L2 child and the L1 child avail themselves of the same procedures in the creation of the Target Language (TL) grammar. Therefore, for the domains of language that are governed by UG, these preliminary observations lead us to the first assumption: Both L1 acquisition and child L2 acquisition are guided by UG. I believe this assumption is, in fact, uncontroversial.

The second assumption is also uncontroversial. At the commencement of acquiring the TL, the L2 child is more mature than the L1 child (but less mature than the L2 adult), both biologically and cognitively.

With these two assumptions, we can set out the logic underlying the L2 child–L1 child comparison, and then see how the logic bears on certain influential theoretical proposals in L1 acquisition.

3.0 The L2 child–L1 child comparison: Implications for L1 acquisition

The first case we consider is maturation-based explanations of L1 development, i.e. accounts of the L1 child's (presumed) grammar evolution that are ascribed to inherent maturational factors. One version focuses on the maturation of linguistic knowledge itself (Felix 1984), for example in the early work by Borer and Wexler (1987) on passives, by Radford (1988, 1990) on clause and phrase structure, and by Rizzi (1993/1994) on Root Infinitives. The basic idea is that properties specific to the linguistic system are each preprogrammed for certain maturational points, that is, some subset of UG is subject to a later maturational schedule.

For Borer and Wexler (1987, 1992), maturation corresponds to the *falling away* of a (purported) UG principle that was previously there (e.g. their Unique External Argument Principle). Linguistic maturation for Radford (1988, 1990) and Rizzi (1993/1994), by contrast, refers to the *coming in* of UG properties that were initially not 'implementable'. For the sake of exposition, I focus on this latter take on linguistic maturation (although the argumentation holds equally under the Borer and Wexler one), that is, that at the points of maturation, aspects of the target grammar that were previously absent in the child's representations become present.

In brief: Radford's hypothesis was that (the Case Filter and) functional categories mature around the age of 20 months (±20%). And the essence of Rizzi's hypothesis was that the Root Principle—which says all root clauses are CPs (Rizzi 1994)—matures between the ages of 2 and 3 (see Rizzi 1993/1994: 384, fn. 4).

The direct cause for L1 grammatical development under linguistic maturation, in sum, takes the abstract form given in (1).

(1) Linguistic maturation as an explanation of development*
Age < Time $T_{\textbf{maturation}}$: [– UG Property P] → nontarget Phenomena **F´**
Age = Time $T_{\textbf{maturation}}$: [+ UG Property P] → target Phenomena **F**
* but cf. Borer and Wexler (1987, 1992)

The schema in (1) is merely trying to convey that before Time T, the phenomena associated with UG Property P are nontargetlike because this UG property has yet to mature, but that at Time T, the maturation point, they become targetlike. As such, the biologically determined maturation of Property P explains development from F´ to F in L1 child grammars.

3.1 The logic of the L2 child–L1 child comparison

With (1) as the basic maturational schema for L1 acquisition, we are now in a position to see how child L2 data can shed light on proposals embracing it. To make matters simpler, we will, for the moment, put aside the question of L1 influence.

Recall assumptions 1 and 2: UG guides both L1 acquisition and child L2 acquisition, and the L2 child is more mature than the L1 child. Given this, the logic behind the L2 child–L1 child comparison is as follows: If in L1 acquisition, maturation of UG Property P at Time T is the explanation for the development of Phenomena F, then child L2 acquisition that starts *after* Time T should *not* evince the L1 developmental course of F´ to F.[3] In other words, if the development of Phenomena F in the L2 child is *distinct* from that of the L1 child, this is *compatible* with a maturational account of L1 acquisition. By contrast, if one finds that the L1 child and the L2 child follow the *same* developmental course for F, i.e. from F´ to F, then this would be evidence *against* the maturational explanation of L1 development (but see more below). I have tried to depict these two scenarios in (2) and (3).

(2) Child L2 development ≠ L1 development: *Compatible with L1 maturation account*
a. Age at onset > Time T: target phenomena **F**
b. Age at onset > Time T: (. . .) nontarget phenomena **F´´** < target phenomena **F**

(3) Child L2 development = L1 development:* *Incompatible with L1 maturation account*
Age at onset > Time T: (. . .) nontarget phenomena **F´** < target phenomena **F**
* *when L1 influence could not be the source of* ***F´***

[3] This of course assumes that a UG property can mature only once. See also, for child L2 acquisition, Haznedar and Schwartz (1997); Ionin and Wexler (2002); Lakshmanan (1993/1994), (1995); Lakshmanan and Selinker (1994); Prévost (1997b:180-82), and for adult L2 acquisition, Schwartz (1991:298-300); Vainikka and Young-Scholten (1994:267).

In (2), I have laid out two ways in which the child L2 development of F could differ from the L1 development of F. The L2 child, whose initial exposure to the TL is after the maturational point Time T, either could start out targetlike as in (2a) or could go through some developmental sequence, as in (2b), that is distinct from the L1 developmental course. Either way, the point is that development of F in the L1 child differs from that of the L2 child, and this would not argue for or against a maturational explanation of the L1 development (but would be compatible with it).

As for (3), child L2 results of this sort can lead to firmer conclusions. Where a single developmental sequence of F´ to F characterizes both L1 and child L2 acquisition, this would argue against a maturational explanation of L1 development (with respect to UG property P). Notice that in (3), F´ need not occur at the earliest L2 stage; the point is what causes the development from F´ to F. In child L2 acquisition that starts later than Time T, maturation cannot be the cause, and if it is not maturation in child L2, then it is not maturation in child L1. However, a caveat is in order here. We need to ensure that the L1 could not be the source of F´. Child L2 comparisons to the Radford and Rizzi generalizations are next; we will see that L1 influence here does not compromise the logic of the argumentation in either case.

3.2 Lakshmanan (1993/1994) and Lakshmanan and Selinker (1994) vis à vis Radford (1990)

As mentioned earlier, Radford's (1988, 1990) central idea was that (the Case Filter and) functional projections mature around the age of 20 months (±20%). The absence of DP, IP and CP in early child English was thus used to explain the low incidence of lexical material associated with those categories, e.g., determiners, auxiliaries, infinitival *to*, tense and agreement morphology and complementizers, as well as the low incidence of fronted *wh*-words and auxiliaries in questions. So now we ask what child L2 acquisition of English looks like for these sorts of phenomena.

Relevant data come from Lakshmanan (1993/1994) and Lakshmanan & Selinker (1994). Lakshmanan's prediction was that if Radford's maturational account is right for child L1 English, then child L2 English data should show early evidence of functional structure of the type Radford claims is missing in L1 child English. She tested this hypothesis with production data originally collected by Cazden, Cancino, Rosansky and Schumann (1975) from a child Spanish speaker acquiring English. What Lakshmanan found was that the L2 child data support the prediction. This is a case of L2 child–L1 child differences and is thus neutral in regard to L1 maturation.

The subject of Lakshmanan's studies was Marta, a Puerto Rican girl who moved to the US at the age of 4 years, 5 months.[4] The investigation of Marta's English began very soon after, about a month after her arrival, at which time she was attending an all-English nursery school. Marta's data were collected approximately every 2 weeks for 8 months, giving 15 samples total. In light of the questions of

[4] Lakshmanan (1991) points out that prior to Marta's US arrival, she had received no formal training in English and "had only had informal contact with speakers of English (at school and at [Spanish-language] summer camp)..." (p. 395). Lakshmanan also states that at the start of the investigation, Marta "had some limited passive comprehension of simple English phrases, and she knew some English words, primarily nouns" (p. 395).

interest to us, however, we will focus on the very early data, specifically, Samples 1 to 4, when Marta's approximate age was between 4;6 and 4;7,14 (Lakshmanan 1993/1994:57). It is important to emphasize just how early these early data are: within the first 2 and a half months of her exposure to English input in the US.

With respect to IP, we start with copula *be*, very early examples of which are given in (4), (5) and (6). Lakshmanan notes that the copula is the first verb to emerge and that "in Marta's early L2 utterances [it] is almost never omitted" (p. 58).

(4) Samples 1 (age 4;6) or 2 (age 4;6,15)
   a. **Is** mine.
   b. **Is** basketball?
   c. No **is** wet. (from Lakshmanan 1991:399, (10))

(5) a. Mother **is** Mary Jo Fuster. (S1: 4;6)
   b. **Is** Hymie. [= That's Hymie] (S1: 4;6)
   c. My teacher . . . **is** Christine. (S2: 4;6,15)
   d. This **is** Big Bird. (S2: 4;6,15)
   e. This dress **is** here. (S2: 4;6,15)
   f. **Is** black. (S2: 4;6,15)
   g. Sesame Street **is** up here. (S2: 4;6,15)
   (Lakshmanan 1993/1994:58, (1a))

(6) a. This **is** for him. (in response to "Whose house is this?") (S3: 4;7)
   b. This **is** for him. (in response to "Whose sandwich is this?") (S3: 4;7)
   (from Lakshmanan 1993/1994:64, (6))

Auxiliary *be* in Marta's L2 English likewise first appears very early (how frequently, we're not told), as exemplified in (7) from Samples 1 and 2. Moreover, Lakshmanan notes that in elicited imitation tasks, Marta converts a contracted auxiliary into its uncontracted form, thereby indicating that she really does analyze it as an auxiliary (p. 59). Two such examples from Sample 2 are provided in (8).

(7) Samples 1 (age 4;6) or 2 (age 4;6,15)
   a. **Is** going in the floor.
   b. **Is** no going to rain there in Puerto Rico. (from Lakshmanan 1991:399, (10))

(8) a. Native speaker prompt: Mother's cooking supper.
   Marta: Mother **is** cooking supper. (S2: 4;6,15)
   b. Native speaker prompt: Where's the baby sleeping?
   Marta: Where **is** the baby sleeping? (S2: 4;6,15)
   (from Lakshmanan 1993/1994:59, (1b))

Marta's first *to*-infinitival complement occurs at Sample 2, in (9), although other instances of infinitival *to* are also found, in fact even in the first sample (in (10a)).

(9) I wan**ta** see you tomorrow. (S2: 4;6,15)
   (Lakshmanan 1993/1994:83, (21))

(10) a. Be **to** pull the baby. (S1: 4;6)
b. This girl is **to** wash your hand and wash your feet. (S2: 4;6,15)
"This girl is washing her hand and her feet."
(from Lakshmanan 1993/1994:71, (11))

Thus, within the first two months of Marta's data, we find evidence of overt lexical material that is typically associated with the Infl node. Moreover, if finite copula and auxiliary *be* are in Infl, then one can conclude that the subject, to the left of these *be* forms, is in Spec,IP (see (5), (6), (9) and (10) as well as (11) and (12) below). While the range of data is rather meager, the fact remains that this picture of Marta's L2 development is distinct from the one found for children acquiring English as their native language. In early stages L1 English, copula *be* is often missing, as Becker (2000a, 2000b) discusses at length.

As for material associated with CP, consider Marta's utterances reproduced in (11) from Samples 1 to 4. In both yes/no and *wh*-questions, the first fronted verbal form was *is*, as both copula and auxiliary. Lakshmanan notes that for *wh*-questions, "*is* always occurred in the [pre-subject position] from the very beginning" (p. 60). Moreover, as illustrated in (11c)-(11e), the *wh*-phrase in nonsubject constituent questions is likewise "always preposed" (Lakshmanan and Selinker 1994:35). Finally, Marta produced her first indirect question at Sample 3, given in (12):

(11) a. **Is** the cat the bunny? (S1: 4;6)
b. **Is** this a car? (S2: 4;6,15)
c. What **is** your name for this, huh? (S2: 4;6,15)
d. Where **is** the baby sleeping? (S2: 4;6,15)
e. What **is** the date? (S4: 4;7,14)
(from Lakshmanan 1993/1994:60, (1d))

(12) I don't know **what it is**. (S3: 4;7)
(from Lakshmanan and Selinker 1994:36, (12))

All in all, Marta's very early data indicate the presence of CP. Subject-Aux Inversion is evident in main clause questions as is *wh*-movement in both root and embedded questions. Plus these data look decidedly different from L1 child English, first because *is* is obligatorily fronted in (nonsubject) *wh*-questions and second because these types of questions occur so soon after initial exposure to English.

In sum, the L2 English data of this 4-year-old L1 Spanish speaker do not mirror the early development of L1 English with respect to inflectional elements associated with IP or with respect to the morpho-syntax of questions associated with CP.

Further evidence for developmental differences concerns suppliance of 3sg *-s* and past *-ed*. In L1 child English, the development of *be* (Becker 2000a, 2000b) and the development of inflection on main verbs (Phillips 1995) tend to pattern together, in that they are both optional for an extended period of time. Recall that the absence of verbal inflection was one type of data that Radford (1990) drew upon to argue that IP itself is initially absent. In Marta's data, however, there is a dissociation. While we have seen very early production of both kinds of *be*, her inflection on main verbs in obligatory contexts lags behind considerably, as shown in Table 1.

Sample # (Age)	3sg *-s*		*-ed*		Total	
1 (4;6)	–	–	–	–	–	–
2 (4;6,15)	–	–	**0/2**	**(0%)**	**0/2**	**(0%)**
3 (4;7)	–	–	**0/1**	**(0%)**	**0/1**	**(0%)**
4 (4;7,14)	**0/1**	**(0%)**	–	–	**0/1**	**(0%)**
5 (4;8)	1/4	(25.00%)	–	–	1/4	(25.00%)
6 (4;9)	1/3	(33.36%)	2/3	(66.67%)	3/6	(50.00%)
7 (4;9,14)	2/16	(12.50%)	3/16	(18.75%)	5/32	(15.63%)
8 (4;10)	1/2	(50.00%)	0/1	(0.00%)	1/3	(33.33%)
9 (4;10,13)	7/15	(46.67%)	1/1	(100.00%)	8/16	(50.00%)
10 (4;11)	1/11	(9.09%)	1/1	(100.00%)	2/12	(16.67%)
11 (4;11,14)	12/15	(80.00%)	6/10	(60.00%)	18/25	(72.00%)
12 (5;0)	5/14	(35.71%)	7/14	(50.00%)	12/28	(42.86%)
13 (5;0,14)	11/22	(50.00%)	7/13	(53.85%)	18/35	(51.43%)
14 (5;1)	6/6	(100.00%)	10/15	(66.67%)	16/21	(76.19%)
15 (5;1,14)	13/16	(81.25%)	6/6	(100.00%)	19/22	(86.36%)

Table 1: Marta's inflection on L2 English main verbs in obligatory contexts (adapted from Lakshmanan 1991:401, Table 2)

3.3 A brief look at Haznedar (1997a, 2001)

Even more compelling support for the dissociation in child L2 English development between inflected copula *be* and inflected main verbs is found in Haznedar's (1997a, 2001) longitudinal study of Erdem, a 4-year-old Turkish boy acquiring English. The first data sample was when he was 4;3 (9 March 1994), a mere $1^1/_2$ months after his initial exposure to English (at nursery school). Thereafter, data collection took place on average three times a month, for over a year and a half. Erdem's data samples are more frequent, and in fact start even earlier, than Marta's.

Erdem's development looks like this: For the first two months (7 samples, $3^1/_2$ months' exposure), copula *be* is not produced; in 10 obligatory contexts, it occurs once. A mere two weeks later, at Sample 8 (20 May 1994), Erdem produced it in 17 out of 18 contexts (94.44%), and in all subsequent samples, copula *be* is consistently present at very high levels. Auxiliary *be* develops much more slowly, first hitting 90% suppliance more than a year after initial exposure at Sample 29 (26 January 1995). 3sg *-s* is more gradual still, the 90% mark being crossed only once at Sample 45 (7 July 1995), more than a year and half after his initial exposure. Finally, past *-ed* is even more protracted, never hitting 90% for either regular or irregular verbs, and in fact rarely making it to 50% suppliance. So, for Erdem, copula *be* is acquired very early and very abruptly, with auxiliary *be* later and more gradually, followed by the very gradual development of 3sg *-s* and (slower still) past *-ed*.

3.4 The point: *Developmental differences* between child L1 and child L2

The longitudinal data from Marta, supplemented by the longitudinal data from Erdem, indicate differences from L1 English development. This then is a case that exemplifies the logic of (2). As such, taking the findings together does not argue against a maturational account of L1 development. On Radford's (1990) approach, functional categories mature around the age of 2. But we have seen that the same types of evidence that Radford adduces for this explanation show a *different*

developmental profile in child L2 acquisition of English. Specifically, by Radford's criteria, functional categories are present in child L2 acquisition from the earliest points, very soon after—if not at—the first data samples, which were very soon after initial exposure to English. This, then, exemplifies the logic of (2a). As for the logic of (2b), this is exemplified by the L2 child English dissociation of the development of *be*, particularly the copula, from inflection on main verbs (the latter also being quite gradual in L1 English). In short, examining the development of this collection of English phenomena from Radford's perspective points to differences between the L1 child and the L2 child, and thus these findings are compatible with an explanation that posits linguistic maturation as the cause of L1 developmental change.

3.5 Prévost (1997b) and Prévost and White (1999) vis à vis Rizzi (1993/1994)

Our next case study looks at the development of a collection of phenomena from Rizzi's (1993/1994) perspective. As is well known, early child L1 grammars (of non-null-subject languages) display a set of properties which has become known as the Optional Infinitive (Wexler 1994) or Root Infinitive (Rizzi 1993/1994) stage. This stage is most notably characterized by the alternation between finite and nonfinite verbs in (root) sentences that in the adult language would require finite forms. Importantly, certain syntactic contingencies are found with each of the two verb forms, as will shortly be reviewed. Pivotal to Rizzi's explanation of all this is his Root Principle (1994:162, (32)), which says that all root clauses are CPs. According to Rizzi, the Root Principle is lacking in early child L1 grammar but matures between the ages of 2 and 3. Prior to maturation, grammars are able to 'truncate' root-clause declaratives anywhere below CP, and after maturation, this option—and hence the collection of phenomena argued to follow from it—is no longer possible. This is known as the Truncation Hypothesis.

Prévost (1997a, 1997b) set out to determine whether the Root Infinitive (RI) stage characterizes L2 acquisition as well. The most extensive sets of child L2 data he examined come from Lightbown's (1977) longitudinal study of two English-speaking boys acquiring (Québecois) French. Spontaneous production data were collected from one child, Kenny, for close to $2^1/_2$ years and from the other child, Greg, for 2 years (see Table 2 below). The sessions started when the two boys were first enrolled in French kindergarten, Kenny at age 5;8 and Gregg at age 5;4.[5]

Of interest, first, is whether these two children, who (at ages 5;8 and 5;4) were past the RI stage in their L1 English,[6] exhibited the alternation between finite and nonfinite verbs in their L2 French. The answer is yes, as detailed in Table 2 and exemplified in (13) and (14). Kenny's highest nonfinite rate occurs at month 9, with 26.32% (5/19), and Greg's at month 10, with 18.84% (13/69). Table 2 shows, most clearly for Kenny, that these nonfinite utterances do not subside quickly. Prévost

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[5] According to Grondin and White (1996), despite having attended a French-English bilingual nursery program for almost a year, "[a]t the end of the program, the children produced very few spontaneous utterances in French" (p. 3).

[6] Grondin and White (1996) note "that in their L1 English, the children used determiners, modals, auxiliaries, case, agreement, subject-auxiliary inversion, complementizers, and *wh*-questions..." (p. 4, fn. 1).

(1997b:108) argues that month 18 is the cut-off, with a significant difference in the incidence of nonfinite root declaratives up to month 18 (inclusive) vs. after.

	Kenny			Greg		
Month	**Finite (#)**	**Nonfinite (#)**	**% "RI"***	**Finite (#)**	**Nonfinite (#)**	**% "RI"***
0.3	0	1	100.00			
0.5	1	0	0			
1	5	0	0			
2	4	1	20.00			
3	6	4	40.00			
4	18	0	0			
5	17	5	22.73	36	7	16.28
7	37	6	13.95			
8	25	7	21.88			
9	14	5	26.32			
9.5	23	8	25.81	36	3	7.69
10	25	5	16.67	56	13	18.84
11	33	6	15.38	22	2	8.33
14	57	10	14.93	121	13	9.7
15	63	11	14.86	196	13	6.22
18	100	7	6.54	124	7	5.34
20	109	1	0.91	154	2	1.28
25	133	1	0.75	309	1	0.32
27	136	1	0.73	218	0	0
29	146	0	0	226	1	0.44
Total	952	79	7.66	1498	62	3.97
Up to 18	428	76	**15.08**	591	58	**8.94**
After 18	524	3	**0.57**	907	4	**0.44**

***** % "Root Infinitives"—but more accurately, % nonfinite utterances out of total utterances

Table 2: Finite vs. nonfinite L2 French declaratives for Kenny and Greg
(adapted from Prévost and White 1999:227, Table 8.8)

(13) a. Toi faire ça. (Kenny, month 8)
you do-INF this
b. Le papa vache fait ça.
the daddy cow do-3sg this (Prévost 1997b:111, (2a), (2b))

(14) a. Moi jouer avec le train. (Greg, month 5)
me play-INF with the train
b. Moi je joue avec une.
me I play-1sg with one (Prévost 1997b:111, (1a), (1b))

Is this finding, in and of itself, enough to counter all maturational approaches to Root/Optional Infinitives? If L2 children, well beyond the maturation point of the Root Principle, also sometimes use nonfinite verbs in what should be finite contexts, isn't this then evidence against Rizzi's maturational account? The answer is "no," for two reasons. First, these *morphologically* nonfinite forms may in fact be

syntactically finite. The second reason, related to the first, is that the finite-nonfinite alternation is not the sole defining criterion of the RI stage. Crucial is whether the *syntactic contingencies* found for the L1 child's finite and nonfinite forms are replicated in the child L2 data. And it was precisely these contingencies that Prévost (1997b) tested, in fact, ten of them, but for the purposes of illustration, we look at only a subset, specifically, those that most closely parallel the L1 French findings.

The first contingency concerns sentence types that are uncontroversially taken to be CPs. Under Rizzi's Truncation Hypothesis, if embedded clauses, (non-subject) *wh*-questions and yes/no questions necessitate the projection of CP, then the verb in these sentence types should not be the nonfinite form. This is what Crisma (1992) found for the L1 acquisition of French. And Prévost found the same thing in the L2 data of Kenny and Greg, exemplified in (15) with two early utterances. Table 3 provides the breakdown in numbers by CP-type and shows that their CP-sentences overwhelmingly contain a finite verb. It is important to point out, as Prévost does, that these CP-sentences occur when nonfinite utterances are still frequent.

(15) a. Pourquoi i pleure? (Kenny, month 3)
why he cry-3sg

b. Où ça va? (Greg, month 5)
where this go-3sg (Prévost 1997b:122, (22c), (22a))

	CPs	Total	Finite	Nonfinite
Kenny	Embedded	49	47 (95.92%)	2 (4.08%)
	wh-questions	58	54 (93.1%)	4 (6.9%)
	yes/no questions	40	37 (92.5%)	3 (7.5%)
	Total	**147**	**138 (93.88%)**	**9 (6.12%)**
Greg	Embedded	82	78 (95.12%)	4 (4.88%)
	wh-questions	52	51 (98.08%)	1 (1.92%)
	yes/no questions	26	25 (96.15%)	1 (3.85%)
	Total	**160**	**154 (96.25%)**	**6 (3.75%)**

Table 3: Total number of finite and nonfinite CPs in child L2 French (mths. 3-18) (from Prévost 1997b:121, Table 8)

The second contingency we consider is null subjects. On Rizzi's account, before the Root Principle matures, both finite and nonfinite root clauses allow null subjects. Rizzi (1993/1994) proposes that these null subjects are of two types, either a PRO in nonfinite utterances or a 'null constant' (<–anaphor>, <–pronoun>, <–variable>). Now, the null constant is possible in both clause types, because it can be licensed and discourse-identified in the specifier of the highest projection of the root clause, whether that projection be a truncated VP or IP. It has been argued that since either PRO or the null constant can occur with a truncated VP, one can expect a higher proportion of null subjects in nonfinite root clauses than in finite ones. Moreover, once the Root Principle kicks in, null subjects in *finite* clauses are expected to fall away, since the preconditions for licensing the null constant are no longer available. Both these predictions were confirmed in Rasetti's (1999) longitudinal examination of six French-speaking children.

The child L2 results are very similar. First, although both children have null subjects in finite and nonfinite root declaratives, as exemplified in (16) and (17), they are more frequent in the latter, especially for Greg, as shown in Table 4. Second, Prévost finds that null subjects in finite roots are rare after month 18: 2.86% for Kenny (15/524) and 1.66% for Greg (15/907). Thus the demise of nonfinite root clauses coincides with the demise of null subjects in finite root clauses.

(16) a. Va là. (Kenny, month 4)
go-3sg there

b. Et là sont jaunes. (Greg, month 9.5)
and there are yellow (Prévost 1997b:130, (32a), (33a))

(17) a. Jouer de hockey. (Kenny, month 9.5)
play-INF of hockey

b. Manger les oreilles. (Greg, month 10)
eat-INF the ears (Prévost 1997b:130, (34a), (35a))

	Finite (total)	**Null Subjects**	**Nonfinite (total)**	**Null Subjects**
Kennv	428	87 (20.33%)	76	23 (30.26%)
Greg	591	59 (9.98%)	58	31 (53.45%)

Table 4: Null subjects in child L2 French finite and nonfinite roots (mths. 1-18)
(adapted from Prévost 1997b:130, Table 14)

Another contingency tested for was the distribution of clitic subjects. French subject clitics must attach to a finite verb in some functional head. This predicts that if RIs are truly syntactically nonfinite, they will not permit subject clitics. The work by Crisma (1992) and Pierce (1992) on the L1 acquisition of French confirms this prediction. As for the child L2 French data, Prévost found, as shown in Table 5, that both children were significantly more likely to use a clitic when the verb was finite than when it was nonfinite. Two early examples are reproduced in (18).[7]

	Finite (total)	**Clitics**	**Nonfinite (total)**	**Clitics**
Kennv	428	159 (37.15%)	76	3 (3.95%)
Greg	591	411 (69.54%)	58	13 (22.41%)

Table 5: Clitic subjects in child L2 French finite and nonfinite roots (mths. 1-18)
(from Prévost 1997b:152, Table 28)

(18) a. J'veux un jaune. (Kenny, month 1)
I want a yellow

b. Le bébé i va là. (Greg, month 5)
the baby he go-3sg there (Prévost 1997b:151, (74a), (73c))

[7] It should be noted that 22.14% (13/58) of Greg's nonfinite sentences do have a clitic subject. Nevertheless, he was more than three times more likely to produce a subject clitic in the context of a finite root declarative as opposed to a nonfinite root declarative.

3.6 The point: *Developmental parallelism* between child L1 and child L2

To sum up: This illustrative comparison of child L2 development with child L1 development indicates that they do pattern alike. This circumscribed case thus exemplifies the logic of (3), and so in light of that logic we are led to conclude that Rizzi's maturation proposal for L1 acquisition is problematic (see also Prévost 1997b:180; Prévost and White 1999:225). UG principles mature only once, and these L2 children, at L2 onset, were well past the maturational point of the Root Principle, and yet a collection of phenomena hypothesized to arise from the absence of the Root Principle is common to child L1 grammar and child L2 grammar. Note that such parallel findings only call into question the proposal that the Root Principle matures, not the validity of the Root Principle itself nor even the possibility that it is initially inoperative for other reasons. Prévost (1997b), for instance, shifted the blame to early processing difficulties. He suggested that for L1 and L2 children, processing demands in early phases of acquisition are so great that the Root Principle is (essentially) overridden until more of the grammar comes in and processing demands are eased. This allows Prévost to maintain both the Root Principle and the Truncation Hypothesis, but eliminate maturation of the Root Principle itself. Prévost and White (1999) similarly safeguard the Root Principle and the Truncation Hypothesis, but offer an explanation that targets pragmatics. Recognizing that in adult language there are discourse contexts, albeit limited, that do permit RIs, they suggest that what children initially lack is "control over the limited pragmatic conditions under which [R]oot [I]nfinitives can appear" (p. 226). Notice that since the children are out of the RI stage in their L1, this second account requires either that the pragmatic conditions for RIs vary cross-linguistically, or that if they do not, L1 transfer of pragmatic knowledge is blocked here. (See also below.) Whatever the merits of such proposals, at issue is the cause of the demise of the L1 RI stage, and what the parallelism between the child L1 and child L2 data tells us—at this point—is that the explanation is not maturation of the Root Principle.

3.7 Taking stock: Child L1 and child L2 comparisons—complications ...

The main reason for my presenting these comparisons was to demonstrate a methodological point. We went through two case studies, one pointing to child L1–child L2 differences, the other to child L1–child L2 similarities. Maturational accounts are sustainable when we find differences, but not when we find similarities.

In actual fact, however, the second case study is not as clear cut as I made it out to be (see Schwartz and Sprouse 2002). Other syntactic contingencies in the RI stage that I did not review *diverge* in the two French contexts. Given this, would this case then fall under the logic of (2), i.e. child L1–child L2 differences? That's one possibility. Another is that the acquisition theory itself is in need of revision. In other words, the fact that the language phenomena split in the child L2 data may be telling us that these phenomena do not all follow from a single factor and so should not be grouped together. Is there a way to tease these possibilities apart?

I believe there is, and this is with more child L1–child L2 comparisons. What we need is comparisons that systematically vary source and target languages. Take for instance the L2 French phenomena that Prévost examined. What would the

patterns be for 5-year-olds with L1s distinct from English, say, 5-year-old speakers of Danish, Italian, Korean or Turkish? Would they pattern like Kenny and Greg, i.e. with the same split, or would each group split up the phenomena differently? Were they all to pattern like Kenny and Greg, this would indicate that the phenomena should not be treated as a single cluster in L1 acquisition, and those that are part of the cluster are then subject to the logic of (3), i.e. child L1–child L2 similarities. But if each L2 group were to pattern *distinctly*, then this would indicate that there are real child L1–child L2 differences, bringing us back to the logic of (2). In this latter case, moreover, it would be evidence that the L1 is exerting influence. And this leads us (rather naturally) into the next section, L2 child–L2 adult comparisons.

4. Background assumptions (2)

There are two assumptions underlying my comparison between adult and child L2 acquisition. One we have already seen, namely, that for the domains of language governed by UG, child L2 acquisition is guided by UG. The second assumption is that the L1 grammar affects both adult and child L2 acquisition. That adult L2 acquisition is characterized by (extensive) L1 transfer is not in doubt; there is also evidence of L1 transfer in child L2 acquisition, for example, in the Haznedar (1997a, 1997b) study referred to earlier. In brief, in the very early English of this 4-year-old Turkish speaker—specifically, within the first 4 months of his exposure to English—there was consistent use of Turkish-influenced word orders. Unlike in English, verb-final and negative-final utterances predominated (at levels over 90%). Other evidence for L1 transfer in child L2 acquisition will be shown in what follows.

Armed with these two assumptions—that UG constrains child L2 acquisition; that the L1 influences both the L2 adult and the L2 child—we are now in a position to see what the study of child L2 acquisition can tell us about adult L2 acquisition.

5.0 The L2 child–L2 adult comparison: Implications for adult L2 acquisition

In generative L2 acquisition research, one of the central questions is whether UG constrains adult L2 acquisition. The research on ultimate attainment I alluded to earlier suggests that as opposed to L2 children, L2 acquirers (L2ers) who first start as adults are very unlikely to perform, ever, as native speakers do. Is this sufficient to conclude that adult L2 acquisition falls outside the strictures of UG?

For some time now I have argued that in adult L2 acquisition, we need to separate the issue of ultimate attainment from the issue of development (Schwartz 1987, 1992, 2003a, 2003b, under review). It could be that *developmentally*, adult and child L2ers pattern the same, while it is only L2 children who are more likely to reach native-speaker levels.[8] Endstate differences notwithstanding, developmental comparisons between child and adult L2ers should be able to shed light on the UG question in adult L2 acquisition. The logic of this comparison is next.

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[8] I hesitate to state categorically that L2 child grammars converge on the grammar of the Target Language. What is needed is research that systematically compares the endstate grammars of native speakers with the endstate grammars of L2 acquirers whose initial exposure began between the ages of 4 and 7.

5.1 The logic of the L2 child–L2 adult comparison

First we have to hold constant the native language of the L2ers, so as to make comparable possible L1 influence. Then on the assumption that child L2 acquisition is guided by UG, we have two possible outcomes, as schematized in (19) and (20).

(19) Child L2 development = Adult L2 development:[a, b] *Adult L2 acquisition is constrained by UG*

[a] *holding the L1 constant*
[b] *for UG-governed language properties*

(20) Child L2 development ≠ Adult L2 development:[a, b] *Adult L2 acquisition is not constrained by UG*

[a] *holding the L1 constant*
[b] *for UG-governed language properties*

If, as in (19), the developmental paths of L2 children and adults look the same, this is evidence for UG guiding adult L2 acquisition; but if, as in (20), the developmental course of the L2 adult diverges from that of the L2 child, this is evidence that adult L2 acquisition is not UG-constrained. Note that the logic of both (19) and (20) applies only to those areas of language that fall within the realm of UG (e.g. not the language-particular expression of morphemes or even grammatical features).

5.2 Unsworth (2002a, 2002b): L2 development of Dutch scrambling

Comparative child L2–adult L2 studies of development are rare. Even rarer are studies of this sort that are longitudinal or that employ the same methodology. An in-progress cross-sectional exploration of the latter type comes from the doctoral work of Sharon Unsworth, at Utrecht University (see also Gilkerson in progress).

Unsworth is investigating the acquisition of Dutch scrambling by native English speakers. Scrambling is a syntactic movement operation that results in word orders different from the base (e.g. Müller and Sternefeld 1994; Webelhuth 1992). For example, as shown in (21) for (SOV) Dutch, scrambling moves a phrasal constituent, here the DO *de bloem* ("the flower"), from its base position inside VP (in (21a)) over a sentential adverbial, here the negator *niet* ("not"), deriving the order XP Neg V (in (21b)), i.e. with the scrambled phrase in front of the negator. Notice that in this example and the ones to follow, we abstract away from the phenomenon of verb second, which in these cases puts the auxiliary *gaat* ("goes") in second position.

(21) a. Base order (Dutch is SOV)
Nijntje gaat niet **de bloem** plukken.
Miffy goes not **the flower** pick
"It isn't the flower that Miffy is going to pick."

b. Scrambling of (definite) DO: DO Neg V
Nijntje gaat **de bloem** niet plukken.
Miffy goes **the flower** not pick
"Miffy will not pick the flower." (adapted from Unsworth 2002b: (1), (2))

In the context of Unsworth's experiment, a (partial) replication of Schaeffer (2000) on the L1 acquisition of Dutch, scrambling of the definite DO is obligatory. By contrast, English does not have scrambling. The normal word order for a negated transitive sentence in English, as illustrated in the gloss of (21b), is Neg V DO.

The design of the experiment was a combination of a truth-value judgment task and an elicited-production task. Unsworth has so far tested 36 L1 English speakers and 11 native Dutch controls. The L2ers varied in terms of age at arrival—from 1 to 32—length of residence—from 2 months to 27 years—and age at testing—from 5;3.25 to 50;6.30 (see Unsworth 2002a). In order to make comparisons, then, the L2 subjects were asked to complete a picture-description task, from which a general proficiency score was calculated (following Whong-Barr and Schwartz 2002).

Unsworth's results show, first, that as in Schaeffer's study, the protocol was appropriate: When the native speakers produced a definite DP object in the context of negation, it was scrambled in all but one case (59/60), for a rate of 98.3%. As for the L2 acquirers, a variety of patterns was produced, as shown in Table 6, alongside which is the number of subjects falling into each pattern as well as the corresponding range for age at arrival in The Netherlands and the corresponding range in proficiency scores. (For more details, see Unsworth 2002a, 2002b.)

Word order in subjects' responses	**Number of subjects**	**Age at arrival (range)**	**Proficiency score (range)**
Neg V O	4	3;2 – 5;2	0 – 16.491
Neg V O & Neg O V	4	5 – 32	0 – 19.588
Neg O V	7	4 – 27	14.855 – 24.333
Neg O V & O Neg V	5	4 – 28	14.255 – 27.857
O Neg V	14	2 – 28	17.377 – 28.633
Total	34*		

* Two subjects do not fit into these patterns: one who produced all three orders, and one who in this task produced Neg V O and O Neg V but in another also produced Neg O V.

Table 6: Patterns in L2ers' responses in the definite DP condition
(adapted from Unsworth 2002a, 2002b)

In Table 6 we see that there are 14 subjects who always scramble, producing the target O Neg V order, and 15 who never scramble (those in the first three rows), and one group of 5 who sometimes scramble. Of the 15 who never scramble, 8 produce the English-like Neg V O order—4 exclusively—as illustrated in (22).

(22) Neg V O
Nijntje gaat niet plukken de bloem.
Miffy goes not pick the flower (Unsworth 2002b: (5))

With just two exceptions, the only subjects who produce the target O Neg V order are those who do *not* produce the Neg V O order as in (22), i.e. those who scramble do not produce the English-like order. Unsworth therefore concludes that native English speakers acquiring Dutch pass through a Neg O V stage on their way to acquiring scrambling with definite direct objects. She further argues that the proficiency score results by and large support this claim as well: Subjects in the middle Neg O V pattern—the one that is not English-like and not scrambled either—

have scores generally higher than subjects' scores in the preceding Neg V O pattern and lower than subjects' scores in the target scrambled pattern, O Neg V. The developmental sequence Unsworth thus infers is in fact the order in Table 6.

As for the L2 child–L2 adult comparison, Table 6 shows that in terms of age at arrival, children and adults are found in every stage except that first one. So, for example, the 4 subjects in the second stage (producing Neg V O and Neg O V) were first exposed to Dutch at the ages of 5, 6, 8 and 32. Therefore age at arrival does not seem to distinguish L2 children from L2 adults in terms of development—except for that first stage. Now, the finding that the first stage, Neg V O, *is* in fact restricted to children is interesting, especially since experience (and intuition) might lead one to expect L1 influence to be more persistent in the Interlanguage of the L2 adult than that of the L2 child. Unsworth's observations about proficiency level are relevant here. She notes that for the adults, there is a confound between age of first exposure to Dutch and Dutch proficiency level: That there are no adults in the earliest stage is related to their higher proficiency in Dutch.[9] (The lesson here is that L2 proficiency level and therefore timing of data collection can be crucial.)

Nevertheless, findings on the L2 acquisition of German by adult native speakers of VO Romance are suggestive in this regard: According to Clahsen (1988), they go through an initial Neg V O stage, exemplified in (23):

(23) Nich sprechen italien.
not speak.inf Italian
"He doesn't speak Italian." (Clahsen 1988:137, (24a))

5.3 The point: *Developmental Parallelism* between adult L2 and child L2

In sum: The data from Unsworth's study show parallelism between the L2 children and the L2 adults. There is clear evidence of L1 influence for the L2 children, and with a little help from Clahsen's (1988) data, the same seems to be true of the L2 adults. These results, then, argue that in the L2 development of Dutch scrambling, English-speaking children and adults pattern alike. As such, this case falls under the logic of (19). And this says that since the L2 children and adults follow the same development path, and since child L2 development is guided by UG, then we can conclude that adult L2 development is likewise guided by UG.

5.4 A side note

Another way that research on child L2 acquisition can illuminate the UG issue in adult L2 acquisition is by testing for specific UG constraints. This has been a rather common set-up in adult L2 research. Indeed, there is a class of adult L2 studies that take the following form, first initiated in the work by Bley-Vroman, Felix and Ioup (1988) with subjacency: Find a universal, parameterized or not; take a group of adult L2ers whose L1 differs from the TL with respect to this constraint; and test whether they observe the constraint as native speakers do. A number of

[9] Additional testing has uncovered another low proficiency adult L2er who also makes extensive use of Neg V O (Sharon Unsworth p.c., 19 October 2003).

studies of this type have found that the L2 adults do not behave as native speakers. Interpretations of such findings differ, with some people arguing that this is evidence that adult L2ers violate UG (e.g. Schachter 1989, 1990), and others trying to offer an alternative UG-based analysis of the apparent UG violations (e.g. White 1992).

The reason I bring this up is because it would be possible to test whether L2 children, at some intermediate stage, do the same things as the L2 adults do. So we could test L2 children on precisely the same sort of phenomena that have been used in adult L2 research, again holding the L1 constant. Granted, it might be a challenge to test for subjacency (but see Otsu 1981); yet there are other phenomena that might be more amenable to child experiments, specifically using oral grammaticality judgment tasks. Melinda Whong-Barr (Whong-Barr 1999), closely following the footsteps of McDaniel and Cairns (1990, 1996), has successfully used this technique with L2 children as young as 6 (see also Whong-Barr and Schwartz 2002).

An example where this technique might prove fruitful concerns the work of Elaine Klein (1993, 1995) on a phenomenon she dubbed 'Null Prep'. In her well-done studies, 196 adult L2 acquirers of English, at three proficiency levels and with a variety of L1s, were tested on the acceptability of sentences like those in (24):

(24) a. The student is worrying about the exam.
b. *Here's the exam the student is worrying ø.
c. *Which exam is the student worrying ø? (Klein 1993, 1995)

In English, all three sentences in (24) require the preposition. Other languages allow the (24b)-type, a relative clause without the preposition, even when required in the (24a)-type. However, universally excluded in Klein's broad cross-linguistic survey is the (24c)-type, a null preposition in interrogatives. By contrast, L2 adults who have shown that they know that English sentences like (24a) require the preposition accept both (24b) and (24c) quite readily. Klein suggests that their high acceptance of questions like (24c) indicates that these L2 adults have Interlanguages that cross the boundaries of UG. (But see Dekydtspotter, Sprouse and Anderson 1998.)

What I am advocating here is that L2 children acquiring English be tested on the acceptability of the paradigm in (24). If they never allow Null-Prep questions like (24c), this would bolster Klein's conclusion. By contrast if L2 children, like the L2 adults, accept Null-Prep interrogatives in English like (24c), when they know the declarative counterpart requires the preposition, this would cast serious doubt on Klein's conclusion about adult L2 acquisition. Child L2 acquisition is constrained by UG, and so if the L2 children's results match those of Klein's L2 adults, the latter would no longer pose a problem to theories of UG-constrained adult L2 acquisition.

6. So, why child L2 acquisition?

The main aim of this paper has been to suggest that the L2 child might just be the perfect natural experiment. With respect to UG, it can be safely assumed that the L2 child is like the L1 child. With respect to cognition, it can be safely assumed that the L2 child is more cognitively mature than the L1 child but less cognitively mature than the L2 adult. And with respect to L1 influence, it can be pretty safely assumed that the L2 child is like the L2 adult. With these characteristics, the L2 child is just

waiting to arbitrate between different theories of L1 acquisition and adult L2 acquisition. Implicit in all of the above, moreover, is the L1 child–L2 child–L2 adult comparison. This three-way comparison is, I suspect, likely to be key to figuring out the precise ways in which adult L2 acquisition differs from child L2 acquisition, and the reasons for age-dependent differences in L2 ultimate attainment. In conclusion, my hope is that soon no one will feel the need to ask, "Why child L2 acquisition?"

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