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0. Introduction

Under the most recent version of generative syntax, the Minimalist Program (Chomsky 1995, 2000, 2001), the role of syntax is reduced to two operations: Merge (for creating hierarchical structure) and Move. Although we agree that structure and movement constitute perhaps the most crucial components of syntactic theory, we take issue with the assumptions about structure which are made in Minimalism as well as in previous versions of the theory. [1] In this paper we present an alternative set of assumptions about structure that is based on work on the first and second language acquisition of syntax. We name the resulting theory *Organic Syntax*.

1. The trouble with Minimalism

Despite more than a decade of work using Minimalism, the Minimalist Program is still only an "approach" to syntax (Lasnik 2002: 436), with few new insights (Koopman 2000: 2). It is a research program based on ideals that Chomsky believes are desirable (see e.g. Chomsky's interview on Minimalism, 2002:92-161), in particular that in a "perfect" language each feature would be semantic or phonetic; syntax is just the two operations Merge and Move. Newmeyer argues in his critique of Minimalism (as represented in Chomsky's 2002 interview) that the Minimalist Program does not, in fact, represent progress over the previous version of the theory (the Government-Binding Theory of Chomsky 1981) since

[1] Although we also take issue with the assumptions regarding movement in Minimalism, this topic falls outside the scope of the present paper; for early ideas on movement, see Vainikka (1996).

"the empirical coverage of the MP is vastly reduced compared to GB" (Newmeyer 2003: 589). Pinker and Jackendoff (2005) point out that Minimalism chooses to ignore most phenomena in phonology and morphology (both derivational and inflectional), and many basic processes in syntax are considered "imperfections", such as case, agreement and word order. Furthermore, our contention is that Minimalist-based work in L1 and L2 acquisition notwithstanding, see e.g. Herschensohn (2000) Minimalism has failed to provide any new insights on language acquisition.

Although Minimalism may in itself be desirable, the development of the Minimalist Program has resulted in a situation where there is in effect no established theory of syntax. On the one hand, because many of the fundamental assumptions of the previous version of the theory (the Government-Binding Theory) are being questioned by the new theory (Minimalism), the working syntactician cannot freely continue to maintain the old assumptions. But on the other hand, the new theory is not sufficiently developed to be usable, nor does its future usability appear promising. The same situation holds for the acquisitionist attempting to explain how syntax comes about.

As a first step to remedy the situation, we wish to acknowledge that probably every generative syntactician would agree with these assumptions: (1) syntactic structure exists and (2) syntactic movement exists. These two assumptions correspond to Merge and Move in Minimalism. An additional basic assumption of generative syntax is: (3) syntactic phenomena exist that are dependent on structure and/or movement. Much of the new phenomena that have been discovered during the decades of work on Chomskyan generative syntax would fall under (3), for example binding, parasitic gaps, and long-distance WH-movement. In addition, some of the more traditional phenomena have turned out to be related to structure or movement, such as structural case marking or passive and question formation. One of the main problems with Minimalism is that insightful and fruitful analyses of many of these phenomena are no longer available.

In addition to these three basic assumptions, our work in first and second language acquisition of syntax is based on the final assumption we include here: (4) the idea that stages of acquisition are dependent on structure and/or movement. Many of the insights from this work are also not available within Minimalism.

As a second step in remedying the situation, we propose that in order to make progress on the phenomena belonging to (3) or (4), the working

syntactician needs to establish his/her assumptions about structure and movement, be they those suggested in the Minimalist Program or some other set of assumptions. At this point in the development of the field, Minimalism represents but one such set of assumptions; since that particular set has no particular arguments going for it, any other set of assumptions is equally valid.

In this paper, we present an alternative set of assumptions about syntactic structure. This set of assumptions is strongly influenced by our work on the first language (L1) and second language (L2) acquisition of syntax (e.g. Clahsen, Eisenbeiss and Vainikka 1994 on L1 acquisition, and Vainikka and Young-Scholten 1994 on L2 acquisition). We first present our assumptions, with discussion from syntax; for the first application of Organic Syntax to a syntactic phenomenon – the distribution of adverbs – see Vainikka (2003, 2005). Next we relate this approach to first and second language acquisition and consider in depth a recent challenge to our approach.

2. An alternative: Organic Syntax

As an alternative to the assumptions about structure in the Minimalist Program, we present the following ten assumptions about syntactic structure which form the basis of Organic Syntax. The first seven assumptions define the idea of a Master Tree, the backbone of syntactic structure, while the last three deal with related issues. Although most of the assumptions dealing with the Master Tree have been (implicitly) made in our work on first and second language acquisition, the idea of the Master Tree is new.

Assumption 1: *Each language has a Master Tree that includes all possible projections occurring in the language.*

A working syntactician needs to determine whether he/she believes that all sentences in all languages have the same structure, a CP-tree with fixed functional projections directly provided by Universal Grammar. This is the standard approach in generative syntax; see e.g. Kayne (1994), who further assumes that all languages are head-initial, and Cinque (1999), who explicitly states that more than 30 functional projections are needed for each sentence in each language. The main advantage of the standard view is that it does *not* require a specific mechanism for the acquisition of syntactic trees. However, we

contend that the acquisition data in fact support the existence of such a mechanism, as evidenced by the gradual development of functional projections. Furthermore, the acquisition mechanism that we are proposing here is not particularly costly to the theory since much of it is derivable from assumptions that also apply in adult syntax.[2]

Thus, contrary to the standard view, we believe that different structures do exist, both across languages and within a language. The idea of a Master Tree allows us to record in the grammar which functional projections are available in a particular language.

Assumption 2: *All and only those projections occur in the Master Tree for which there is evidence in the language.*

The second assumption relates to Baker's (1985) Mirror Principle, developed further in Grimshaw (1986): Inflectional morphology mirrors syntax, in particular, functional projections. This assumption allows room for differences in headedness of projections (contra Kayne 1994), and for differences between languages in terms of which functional projections are posited (contra Cinque 1999). Assumption 2 also follows the spirit of Giorgio and Pianesi (1997; Grimshaw (1997), Speas (2001) and Fukui and Sakai (2003), and much of the work in Optimality Theory: Posit as few functional projections as needed.

Assumption 2 is a crucial component of the acquisition mechanism referred to above. Without some version of Economy of Projection (Speas 2001), and the idea of overt evidence for a projection, the child would not be able to decide which functional projections are possible in his/her language.

Assumption 3: *Universal Grammar provides the tools for acquiring the Master Tree, based on input.*

This assumption makes explicit the need for some sort of acquisition mechanism, given that we do not accept the idea that all languages/structures share the same syntactic tree.

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[2]See Vainikka and Young-Scholten (in press) for discussion of what we take to be a costlier model, Pienemann's Processability (e.g. Pienemann 2003), as it does not assume this mechanism is directly derivable from the syntax.

Assumption 4: *The Master Tree is acquired from the bottom up.*

Assumption 4 allows for intermediate stages of development where "truncated" forms of the Master Tree are evidenced in both first and second language acquisition (regardless of age). As we will see in the discussion on acquisition below, there is good evidence for an early stage with a bare VP-projection which is followed by subsequent stages involving individual functional projections, in the order expected, given the adult tree.

Assumption 4 is the only one of the assumptions that is specific to the acquisition mechanism discussed above. However, even this assumption is closely related to (and perhaps derivable from) Assumptions 6 and 7 for adult syntax.

Assumption 5: *The Acquisition-Syntax Correspondence* (Vainikka 2003)*: syntax mirrors acquisition.*

This assumption makes explicit the strong prediction that stages in language acquisition correspond to the acquisition of specific functional projections within the Master Tree, moving from the bottom up. Assumption 5 is a consequence of Assumptions 1 through 4. We review some of the results from acquisition in this paper.

Assumption 6: *Actual instantiations of the tree are projected from the bottom up, based on the Master Tree.*

Assumption 6 is similar to what is assumed in the Minimalist Program, and is the Grassroots Principle of Vainikka (2003). As described in Vainikka, functional projections are posited from the bottom up based on the features of the verb, not selected from top to bottom as in previous versions of generative syntax. Assumption 6 is the adult syntax corollary to Assumption 4.

Assumption 7: *Partial trees may be projected for constructions which do not involve the full Master Tree structure.*

That is, whether during early stages of acquisition, or at the end state when the learner converges on the target language, there exist structures in the language which involve just a portion of the Master Tree. This may be limited to truncating of the structure (see Rizzi 1993/4), i.e. leaving out higher projections. It follows from Assumption 4 that truncated structures are found during stages of acquisition, but Assumption 7 is more general in that it covers adult syntax (e.g. some infinitival or imperative constructions may involve less than the full CP projection).

Assumption 8: *Lexical and functional projections differ in terms of how they are represented in the grammar.*

It may turn out to be the case that lexical projections are included in the Master Tree without explicit evidence, unlike functional projections. Some version of this assumption has been crucially used by us in our work on second language acquisition, starting with Vainikka and Young-Scholten (1991). In particular, we have argued that lexical projections can be transferred from the learner's first language to the second language, while functional projections cannot be (see Section 3 for further discussion). This dichotomy would not be surprising if UG directly provided lexical projections as part of the Master Tree, without the child having to discover them. If this is correct, we would expect very little or no cross-linguistic variation in lexical projections. However, we would still want to allow for variation in terms of headedness of even lexical projections.

Assumption 9: *Cross-categorial generalizations about structure are possible.*

That is, something akin to Jackendoff's (1977) X'-theory exists, where the grammar makes a real distinction between specifier and complement positions, contra Chomsky (2002), who under Minimalism would like the first Merge and the second Merge to be no different in kind. Strong evidence in support of this is provided by the distribution of structural case in Finnish, where genitive occurs in the specifier position of all lexical heads, and partitive occurs in the

complement position of lexical heads (Vainikka 1989, 1993). Presumably cross-categorial generalizations can be stated in the grammar based on the Master Tree.

Assumption 10: *Only as much adjunction is posited as necessary.*

This assumption is in the spirit of Kayne (1994); however, we crucially do *not* assume that all languages are head-initial. Assumption 10 is, we believe, also in the spirit of Emonds' (1985) Structure Preserving Hypothesis. The idea would be that the Master Tree does not include any adjoined projections; and it therefore would be costly for the grammar to posit adjoined projections since they do not automatically follow from the Master Tree.

With these 10 assumptions in mind, in the next and subsequent sections, we discuss work in acquisition that supports Organic Syntax and forms the basis of the syntactic ideas introduced in this paper.

3. Structure Building in first language acquisition

The Structure Building approach was originally developed for first language acquisition by various researchers starting in the 1980s: for English in Britain by Radford (1988, 1995), in the United States by and Lebeaux (1989) and Vainikka (1993/4) and in Canada by Guilfoyle and Noonan (1992). For German this included Clahsen (1991) and Clahsen and Penke (1992), and for Swedish Platzack (1990). Subsequent works include Rizzi (1993/4) and Clahsen, Eisenbeiss and Vainikka (1994) on various languages, Wijnen (1994) on Dutch, and Radford (1995), with refinements, on English. All these researchers subscribed to a general approach under which the child starts with few or no functional projections and later adds further (functional) projections. Structure Building is most clearly defined and argued for in Guilfoyle and Noonan (1992), who introduced the term the "Structure Building Hypothesis".

It is, in fact, straightforward to demonstrate cross-linguistically that at the level of "coarse" functional projections,[3] CP is acquired later than IP, as shown

[3]Based on descriptive data, it is difficult to determine the order of acquisition of more fine-grained functional projections.

in Table 1. There is less evidence for stages of development before IP (i.e. VP to IP), although some can be found; see e.g. Vainikka (1993/4). The relative lack of evidence is due to the paucity of relevant data from children at this stage, from whom data would typically have to be collected between one and two years of age. Table 1 summarizes production data described in Slobin (1985/1992) from 12 languages. These data are relevant to the acquisition of IP-elements and CP-elements, demonstrating that IP-elements emerge prior to CP-elements. While the original data in Slobin are presented atheoretically, in encyclopedic form, there are nevertheless no data in these works which would support the opposite order of acquisition, i.e. CP before IP.

Table 1. L1 acquisition of IP and CP

	IP-elements acquired earlier [before or around age 2]	**CP-elements acquired later** [after age 2]
English	tense auxiliary verbs	relative clauses sentential complementation
Polish	tense/aspect	relative clauses complex sentences
Scandinavian	negation	relative pronoun
French	clitic pronouns tense negation	subordinate clauses relative clauses
Hebrew	tense negation agreement	relative clauses causal and temporal linking of clauses
Turkish	verb inflection	conjunctions
Georgian	agreement inflection	two-clause constructions
Mandarin Chinese	modals aspect marking	topicalization discourse particles
Japanese	verbal inflections	relative clauses
Kaluli	tense	discourse particles subordination

Sesotho	tense/aspect	relative clauses topicalization
K'iche' Maya	aspect negation	yes/no question particle

The Structure Building approach to acquisition has encountered much opposition from those researchers who maintain the so-called Strong Continuity Hypothesis (e.g. Boser, Lust, Santelmann and Whitman 1992; Hyams 1992, Poeppel and Wexler 1993, Weissenborn 1990). Strong Continuity is based on an assumption about structure according to which UG provides a single syntactic tree, as discussed in Section 1 above for syntax (Assumptions 1-3); since there is just one tree, all languages must have the same tree, and all possible projections in any language must be included in that tree.

We claim that the assumption about syntax on which the Strong Continuity Hypothesis is based, namely that UG contains a single, fixed, structure for all languages, is misguided. In fact, even under the Minimalist Program, one might not expect the possibility of UG providing a fixed tree of the sort that is apparently assumed by the proponents of the Strong Continuity Hypothesis. If, on the other hand, we are correct in assuming that languages vary in terms of the specifics of their syntactic tree, there must be a mechanism whereby the structure of language is acquired. We contend that Structure Building, and in particular its current variant Organic Syntax, fits the bill.

4. Structure Building and Organic Grammar in L2 acquisition

In second language acquisition, the Structure Building approach was first taken up by Vainikka and Young-Scholten (1991), and then in a series of publications (Vainikka and Young-Scholten 1994, 1996, 1998, 2003a, among others). We have argued that in the L2 acquisition of German by speakers of various language types, the VP-level projection is transferred from the native language to German. This involves a stage at which only the VP is projected, similar to children, as shown below. Production of non-finite verbs and subject omission (2) are characteristic of this stage. Koreans' VP transfer results in the German head-final VP (3), but learners whose L1 transfer results in a head-initial VP (4), pass through sub-stage where VP headedness switches (5). At this sub-stage,

only the VP continues to be projected. Examples (1) and (2) are from Rohrbacher and Vainikka (1994), example (3) from Vainikka and Young-Scholten (1994), (4) from Vainikka and Young-Scholten (1998) and (5) from Dimroth (2002); no mention of month indicates cross-sectional data.

(1) Auto hier wahren. (Katrin 1;5)
car here drive-INF
[Das Auto f ährt hier.]
'The car goes here.'

(2) Tift haben. (Katrin 1;5)
pen have-INF
[Ich möchte den Stift haben.]
'I want the pencil.'

(3) Eine Katze Fisch alle essen. (Changsu/Korean L1)
a cat fish all eat-INF
[Eine Katze hat den ganzen Fisch gefressen.]
'A cat ate the whole fish.'

(4) Peter lernen die Buch. (Paul/English L1, month 2)
Peter learn-INF the book.
[Peter liest das Buch.]
'Peter reads the book.'

(5) Rote man Bier trinken. (Russian #10; Dimroth 2002)
red man beer drink-INF
[(Der) rote Mann trinkt Bier.]'
'(The) red man is drinking beer.'

Functional projections then develop during stages of development, based on the target language input. With Structure Building operating for both child and adult first and second language learners, the developmental stages during the first and second language acquisition of German are similar. For example, although AgrP in adult German is head-final, for both first and second language learners the first functional projection is head-initial (Vainikka and Young-Scholten 1994). In his textbook on second language syntax, Hawkins (2001) covers the second

language acquisition of English and provides evidence from a broad range of learners from various language backgrounds for the Structure Building approach.[4] More recent work on a VP-level stage and Structure Building includes Myles (2005), who extends this approach to the acquisition of French by young classroom learners.

With Structure Building initially being applied to first language acquisition, it was perhaps inevitable for researchers to assume that maturation was involved in children's late development of functional projections. In fact, maturation of functional projections was explicitly proposed in both Radford (1990) and Guilfoyle and Noonan (1992). However, with the application of Structure Building to second language acquisition, maturation was untenable as an explanation, and some other mechanism was required to explain the emergence of functional projections for adults. Whatever this mechanism is, it is reasonable to suppose that it operates similarly in both first and second language acquisition.[5] Under the present approach, the mechanism is captured in the assumptions outlined in Section 2 above.

We have recently introduced the term *Organic Grammar* in L2 acquisition in order to arrest the terminological confusion about Structure Building, and to encompass both the Structure Building and the Economy aspects of our approach (Vainikka and Young-Scholten in press); terms such as "Minimal Trees/Structure Building" and "Weak Continuity Hypothesis" have been variously and sometimes incorrectly applied to our approach. In addition, the term "structure building" has also often been used in the Minimalist Program under assumptions different from ours. The natural extension of Organic Grammar into adult syntax is *Organic Syntax,* as presented earlier in this paper.

As in L1 acquisition, the Structure Building approach to L2 acquisition has been argued against based on conceptual grounds by the proponents of the Strong Continuity Hypothesis (see e.g. Eubank and Schwartz 1996, and papers therein). These conceptual grounds include the now-familiar assumption that there is a single, fixed tree in UG, and therefore no developmental stages

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[4]Hawkins indeed allows for modulation by first-language knowledge during L2 development; his approach, however is still very much in the spirit of Structure Building as we conceive of it (see e.g. Vainikka and Young-Scholten (2003b) for a review of Hawkins).

[5]Which is not to say that development is invariably similar; see e.g. Vainikka and Young-Scholten (1998), where similarities and differences in children's and adults' use of triggers are discussed.

relating to structure are expected. Furthermore, under the assumption that both the learner's first and second language have the same tree, full transfer of elements involving any portion of that tree is expected to be possible (as in the Full Transfer/Full Access approach of Schwartz and Sprouse 1996).

Recent influential work by Prévost and White (2000a, b, c) attempts to end the debate in L2 acquisition on which of two approaches to acquisition of phrase structure is supported by the distribution of non-finite forms, some examples of which are shown in (1) through (5) above and in (7) below. Does the evidence support the Missing Surface Inflection Hypothesis – a version of the Strong Continuity Hypothesis under which a full syntactic tree is always projected? Or do the data to which Prévost and White refer support an approach under which less than the full structure may be posited? We now turn to a detailed reanalysis of the data discussed by Prévost and White and to a reconsideration of their conclusions, with the additional aim of clarifying the operation of Organic Grammar in second language acquisition.

5. Two analyses of root infinitives

A well-documented phenomenon in child language, Root Infinitives (RIs) refer to children's production of non-target-like sentences with a verb that is not finite. For further discussion and data from a number of child languages, see the survey articles of Phillips (1995) and Wexler (1994). The analyses of RIs for child language fall into two types: (1) those that assume a bare VP structure such as Rizzi (1993/4) and Rohrbacher and Vainikka (1994), and (2) those that assume a full, functional structure, such as Hyams (1992).

While RIs have been reported in both the first and the second language acquisition of various languages, there is some controversy about whether the same phenomenon occurs in both situations. For example, White (2003:188) argues based on Haznedar and Schwartz (1997) that the Turkish boy Erdem's L2 English data are different from L1 English data. However, a comparison of Erdem's data with the L1 English data reported in Powers (1995) and Vainikka (1993/4) reveals that there is no difference between the L1 and the L2 data.[6] We

[6]White (2003) claims that Erdem's data differ from L1 data in terms of usage of subject case marking and in terms of null subjects. However, as far as subject case is concerned, although many English L1 children produce non-nominative subjects, others (including Erdem) do not. As far as null subjects are concerned, prior to file 12, Erdem produces

will take as our starting point the assumption that RIs involve the same structure in both first and second language acquisition.

In their definitive study of RIs in L2 acquisition, Prévost and White (2000a, b, c) discuss data from various combinations of first and second languages. The data to which they refer come from learners of two second languages. The L2 French learners include two English-speaking children and two Moroccan Arabic-speaking adults, and the L2 German learners include two Italian-speaking children and two Romance-language speaking adults. To account for the typical variability in non-finite vs. finite verb production which P&W also find in these data, P&W contrast two central approaches to RIs: the Truncation Hypothesis (Rizzi 1993/4) and the Missing (Surface) Inflection Hypothesis (Haznedar and Schwartz 1997; Lardiere 1998; Hawkins 2000). Table 2 classifies these and the other approaches discussed here based on assumptions about phrase structure (see references in text).

Table 2. The two approaches to phrase structure (in L1 and L2)

full tree from the beginning	*less than full tree possible during acquisition*
Missing Surface Inflection Hypothesis	Truncation Hypothesis
Strong Continuity Hypothesis	Weak Continuity Hypothesis
Full Transfer/Full Access	Minimal Trees/Structure Building
	Structure Building Hypothesis

null subjects, similarly to early L1 English children, but from file 12 onwards, his null subjects are almost non-existent. Since IP-related elements show up in Erdem's data in files 11 and 12, we would claim that he is acquiring the IP, along with the non-pro-drop setting of English, around file 12.

As shown in the table, the Missing Surface Inflection Hypothesis is a version of the Strong Continuity Hypothesis under which a full syntactic tree is always projected, and inflection may be omitted due to non-syntactic factors (e.g. processing). The Truncation Hypothesis of Rizzi (1993/4) holds that during acquisition upper layers of the syntactic tree may be omitted or truncated, and that this might explain the (bare) VP structure and occurrence of RIs in acquisition.

P&W conclude that both approaches are actually supported by the data they discuss; the child L2 data provide evidence for the Truncation Hypothesis, while the adult L2 data support the Missing Surface Inflection Hypothesis. In what follows we reanalyze these data and attempt to show that both data sets support Organic Grammar.

5.1 Prévost and White's child second language acquisition data

On the basis of the arguments summarized by us in (6) below, Prévost and White argue that the L2 children's data provide strong evidence that RIs are structurally determined and involve something like a bare VP structure. We completely agree with this conclusion.

(6) Summary of RI findings based on P&W's L2 child data

a. RIs do not occur in CP constructions[7]
b. Auxiliaries and modals occur only in finite forms (not with RIs)
c. Null subjects and RIs disappear together
d. Subject clitics occur only with finite verbs (not with RIs)
e. RIs follow negation (no verb raising occurs), while finite

[7]This statement turns out to be too strong even for P&W's child data; see Section 5.2 on Concetta's data. Furthermore, the generalization in (6a) does not hold for L1 acquisition; see e.g. Roeper and Rohrbacher (1994). In Vainikka (1993/4) where oblique subject constructions in L1 English are taken to be equivalent to RI constructions in that both involve a bare VP-structure, oblique subjects occur briefly in early CP-constructions and then disappear.

forms precede negation (verb raising occurs)

Under Organic Grammar, RIs involve a bare VP structure (see examples (1) through (5) above), and those elements that involve an IP-level or CP-level projection are not expected to co-occur with RIs. The bare VP structure of RIs can explain all of P&W's findings: given the lack of IP-level projections in the learners' grammars, auxiliaries and modals (b), obligatory overt subjects (c), subject clitics (d), and verb raising (e) do not co-occur with RIs, and lack of a CP in the RI constructions explains (a) (but see footnote 6). P&W's child L2 data indeed support the Truncation Hypothesis, but the data also support the other approaches listed in the rightmost column of Table 2, including Organic Grammar.

Although in our view the child L2 data support both the Truncation Hypothesis and Organic Grammar, there is a serious problem in applying Rizzi's Truncation Hypothesis to any second language acquisition data. In proposing the Truncation Hypothesis, Rizzi (1993/4) suggests that, although all functional projections are available throughout (first) language acquisition, at the early stages of acquisition, the learner's syntax allows the projection of something less than the full tree. Once the principle that requires that all sentences be CPs (the Root Principle) matures, truncation by the child is no longer expected. The problem in applying this approach to the child L2 data Prévost and White consider is that at least some of the children are considerably older than the age at which the Root Principle presumably matures. We can probably reject the idea that the Root Principle has yet not matured for the 5-year-old children, and most certainly for the 8-year-old children given the likely status of their L1 grammars. Thus, it appears that an explanation which relies on maturation - Truncation will actually not account for these child L2 data.

Of the available second language acquisition theories, the only one that allows for a bare VP projection in acquisition without invoking maturation is Organic Grammar (and its precursors). However, P&W claim that they have argued against the application of a Structure Building approach to their data. For them, the co-occurrence of bare VP structures with functional projections is evidence against Structure Building, but clearly any account of acquisition data has to address the issue of overlap of stages (and we have addressed it in our previous work). Thus, although we would expect only bare VPs in the very earliest data, some bare VPs indeed "hang around" even after functional projections emerge. Allowing for some overlap of stages, the only approach that

accounts for P&W's child L2 data is one positing an early bare VP stage, without maturation.

5.2 Prévost and White's adult L2 data

Given the uniform, strong patterns in the child L2 data summarized in (6) above, it is not necessary to consider here individual children's data. However, the adult data are more complex, and it turns out that the group data are not very revealing. These examples from Prévost and White (2000c) indicate that their L2 adults' use of non-finite verb forms in non-finite contexts (7) is similar their L2 children's, while adults' use of non-finite and otherwise non-target verb forms in finite contexts and finite in verbs in non-finite contexts (8) is not similar to children's distribution of such forms.

(7)

a. für nehmen (Ana, month 4)
for take-INF

b. ich weiss nich machen (Zita, month 11.7)
I know not make-INF

c. je veux partir (Zahra, month 21.7)
I want leave-INF

(8)

a. il faut marche
it must walk-1/2/3S (Abdelmalek, month 36.7)

b. du willst nich arbeite hier (Zita, month 24.4)
you want not work-1S here

c. monsieur il arriver (Zahra, month 18.5)
mister he arrives-INF

As a group, the four adults exhibit a pattern that P&W claim supports the Missing Surface Inflection Hypothesis, but a more detailed examination of the

individual adult data uncovers the rather different picture we present here, beginning with Abdelmalek (L1 Arabic/L2 French).

5.2.1 Abdelmalek

Of the various tests that Prévost and White consider, the word order data from negation is perhaps the best indicator of the proportion of truncated structures vs. missing inflection structure (i.e. point [6e] above). For the L2 children, the non-finite form always follows negation, suggesting lack of verb raising, while finite forms precede negation. The only adult with a similar correlation between finiteness and word order in a negative sentence is Abdelmalek: 86% of his uninflected verb forms follow negation, while 92% of his finite verb forms precede negation (Prévost and White's 2000c Table 7). This pattern suggests that most of Abdelmalek's uninflected verb forms actually involve a truncated bare VP structure, similar to what the authors concluded for the L2 children. However, there is a small proportion of RI examples that may involve functional projections with missing surface inflection: perhaps the 14% of Abdelmalek's uninflected verb forms that precede negation.

In considering Abdelmalek's data, further patterns can be discerned if the following two developmental stages are recognized in his data, before and after 32 months of exposure. Under Organic Grammar, an IP-level projection would emerge for Abdelmalek at 32 months. In (9) below, "prior to IP" refers to all the data before 32 months of exposure, while "after IP" refers to all the later data. Given this division of the data into two stages, Abdelmalek's data reveal three other patterns similar to those found in the L2 children's data, as shown here in (9a) through (9c). :

(9)

a. The rate of RI usage reduces from 36% prior to IP acquisition to 20% after IP acquisition;[8]

b. Overall, null subject usage correlates with the form of the verb: 25% of non-finite verbs have a null subject

[8]P&W's figures: 196/552 (36%) and 76/373 (20%). The difference between Abdelmalek and the children is that when null subjects effectively disappear in the children's data, RIs also do, while Abdelmalek continues to produce RIs at the rate of 20%. We assume that at least some of these later RIs do involve missing surface inflection.

while only 8% of the finite verbs do;

c. With *finite* verbs, null subjects are used 11% of the time prior to IP acquisition, but this drops to just 4% of the time after IP acquisition.

Abdelmalek's (9a) corresponds to the general connection between RIs and bare VP projections found in the child data, while (9b) and (9c) are similar to the children's pattern as stated in (6c) above. In addition, Prévost and White note that the adult L2 French speakers, of which Abdelmalek was one, did not produce RIs with auxiliaries or modals. Thus, of the five characteristics of the L2 children's syntax shown in (6), three are exhibited in Abdelmalek's data, i.e. (6b/c/e).

With respect to the remaining two items found in the children's data, on the other hand, Abdelmalek's data differ from the L2 children's data: subject clitics do co-occur with RIs, and RIs occur in CP-constructions. However, we consider the clitic data to be inconclusive since Prévost and White themselves conclude that the data from strong pronouns (DPs and case marking, i.e. functional elements associated with nouns, a class to which clitics belong) support neither the truncation approach nor missing inflection; in addition, clitics might be misanalyzed as strong pronouns by the two adults for whom they are relevant (L2 French learners Abdelmalek and Zahra).

Finally, the generalization that RIs are not used in CP-constructions (6a) does appear to pose a more serious problem for treating the majority of Abdelmalek's data as involving a bare VP projection. A comparison of Prévost and White's tabulated data for the individual adults and the children shows that Abdelmalek used uninflected verb forms as frequently in CP constructions (e.g. WH-questions, yes/no questions and embedded clauses) as in non-CP constructions. However, these data reveal that one of the L2 *children*, Concetta, also produced RIs at a similar rate in CP and non-CP constructions. Thus, the generalization in (6a) is not completely accurate (see also fn.7). Alternatively, those L2 learners – whether children or adults – who produced fewer CP constructions were somewhat more likely to use RIs in their CP constructions.[9]

[9]The pattern of producing fewer RIs in the CP constructions obtained for three of the four children: these three children produced CPs over 25% of the time. The fourth child, Concetta, produced CP constructions 11% of the time. Most of the adults produced CPs less than 20% of the time (14% for Abdelmalek), and the pattern found with the three

We conclude that the speakers with fewer CP constructions represent an earlier stage of acquisition where the CP is not yet fully developed. At this early stage some of the constructions that in the target language grammar involve a CP may, in fact, be truncated. RI usage would then not be surprising.[10]

To the extent that Abdelmalek's early CP constructions can be handled, his data support the truncated bare VP analysis of RIs, and thus Organic Grammar. What finally throws suspicion on his data as an argument against Structure Building is that data collection began after 14 months of exposure to French: his data cannot represent the very earliest stage of acquisition, at which bare VP structures are common. Given more than a year of exposure to French, we would expect any bare VP structures to co-occur with IP and emerging CP constructions.

5.2.2 The other adults

Of the four adults discussed by Prévost and White, Ana's data (L1 Spanish/L2 German) most resemble the child L2 data in terms of the overall low proportion of non-finite verbs, and her input may have also most resembled that received by L1 children. Her data were collected starting at three months' exposure to German, and during the 25 months of collection, she received plentiful non-classroom input, as she had a German boyfriend.

Before 10 months of exposure, Ana produced non-finite forms 13% of the time, while after the 10th month, the proportion of non-finite forms dropped to 5%, as calculated by P&W. Like the L2 children, she almost never produced non-finite auxiliaries (only 2 out of 62). We concur with Prévost and White that both truncation and missing surface inflection are operative in Ana's data, with the 5% rate (after the 10th month) representing the latter. But unlike Abdelmalek and the L2 children, Ana's RIs are not correlated with null subjects either before

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children was not replicated. Zahra's pattern (L1 Arabic/L2 French), however, does not fit the new generalization, either; she produced CPs 25% of the time, and still used RIs at the same rate in both contexts.

[10]In particular, the single example of a CP construction provided by P&W from Abdelmalek's data does not necessarily involve a CP, given the lack of any actual CP elements:

Il faut tu partir *(Abdelmalek, month 24; P&W 2000c ex.10a)*
It has+to you go-INF
'It is necessary that you go.'

or after the 10th month. RIs also do not correlate with verb position in her data, with both V Neg and Neg V orders found (although the numbers are small). Under our analysis, Ana's later RI data (5% of the sentences) represent mostly missing surface inflection,[11] while most of Abdelmalek's data involve reduced structure (truncation). For the remaining two adults, and for Ana's data prior to the 10th month, it may be impossible to tease apart the two sources of RIs.[12]

Thus, P&W's adult L2 data – rather than just providing evidence for the Missing Surface Inflection Hypothesis – also provide evidence for both a low proportion of structures with missing inflection *and* for reduced structure at the early stages of data collection. Allowing for the possibility of around 10% performance errors (resulting in missing surface inflection), even P&W's adult data – not just the child L2 data – support or are consistent with Organic Grammar.

6. Conclusion

Work on the development of syntax by children and by child and adult second language learners provides considerable evidence in support of the assumptions of Organic Grammar outlined in section 2. We have seen how contributions such as Prévost and White's, which offer apparent evidence against an Organic Grammar approach for adult second language acquisition, can be contested when one looks at the data from a different perspective.

We believe that the ten assumptions Organic Syntax are a much more reasonable and promising set of assumptions than those found in the Minimalist Program, where "Merge" is typically combined with ad-hoc assumptions specific to the analysis at hand. It remains to be seen how insightful Organic Syntax is beyond acquisition.

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[11]Constructions and forms in the production of meta-linguistically aware adult learners (such as instructed or otherwise cognitively sophisticated learners) may well involve the additional use of general cognitive (rather than linguistic) mechanisms, resulting in the variable production of inflection in the data P&W discuss; see Vainikka and Young-Scholten (2003a).

[12]It is of course also possible that a small proportion of the children's L2 data is also attributable to missing surface inflection, contrary to P&W's conclusions.

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