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The roots of syntax and how they grow: Organic Grammar, the Basic Variety and Processability Theory.

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While there is general agreement that the second language (L2) acquisition of syntax proceeds in a step-like fashion, because disagreement exists on the stones comprising the path, mechanisms responsible for development have remained muddy. Two recent approaches which in combination offer an account of L2 development from early stages are Klein and Perdue's (1992, 1997) Basic Variety and Pienemann's (1998a, b) Processability Theory. The stepping stones on which both are based are contested, diminishing their import. An alternative approach addresses development on the basis of the same and similar data; Vainikka and Young-Scholten's (1991, 1994) Organic Grammar originates in the broadly accepted post-1980s reanalysis of the data upon which the Basic Variety and Processability Theory are based, providing a morpho-syntactic-driven account of morpho-syntactic development.

1. Introduction

Over the last several decades, there has been considerable discussion of data from children as well as from adults learning a second language, particularly those receiving little or no instruction (naturalistic learners). Researchers have varied in their claims regarding which source of knowledge crucially accounts for the stages of development observed in these data: (1) the learner's first language (L1), (2) the input language, i.e. the second/target language (L2), (3) Universal Grammar (UG) or (4) general cognitive structures (details in White 1989). What has not been satisfactorily addressed is the nature and operation of the mechanisms that drive development from one stage to the next. A less central but still important concern is the nature of the earliest stages of L2

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development. Two contributions towards the end of the last millennium reopened debate on both issues. Klein and Perdue's Basic Variety (1992, 1997) explains the L2 learner's earliest interlanguage as a system based on syntactic, semantic and pragmatic discourse principles. Pienemann's (1998a, b) Processability Theory takes up the issue of developmental mechanisms, and ascribes grammatical development to lexically-driven incremental procedures.

Referring to previous work (e.g. Vainikka & Young-Scholten 1991, 1994, 1996b) and critical reviews by others, we show that in morpho-syntactic terms the Basic Variety is not a single variety. Rather, it encompasses both the earliest – lexical – projection and the first functional projection under the Structure Building proposed in Vainikka and Young-Scholten (1991, 1994). Within Klein and Perdue's model, we isolate the basic roots of development, i.e. the Minimal bare VP. Structure Building then replaces Processability Theory to achieve the same level of predictive power claimed for the latter by Pienemann. Minimal Trees + Structure Building comprise Organic Grammar, which offers an account of the same and similar data as do the Basic Variety and Processability Theory, and where these two approaches invoke non-syntactic and non-linguistic principles and mix these with syntactic ones, Organic Grammar achieves the desirable goal of providing a wholly morpho-syntactic account of morpho-syntactic development.

The first half of our paper concentrates on the early stages of L2 acquisition, introducing the Basic Variety and discussing ours and others' arguments against Klein and Perdue's proposal. Without an alternative to the Basic Variety proposed by its critics, we argue that Organic Grammar accomplishes what Basic Variety fails to: it accounts for the earliest stages of linguistic development. In the second half of the paper we describe the Processability Theoretic account of development from early to advanced stages of L2 acquisition, and a similar conclusion is reached, namely that Organic Grammar better accounts for morpho-syntactic development.

2. Sowing the seeds

2.1 The Basic Variety

The Basic Variety (Klein & Perdue 1992, 1997) is a treatment of early interlanguage claimed also to apply to all basic learner languages. The idea rests on data primarily from adults learning various L2s without instruction (the European Science Foundation study of learners of English, Dutch, German,

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French and Swedish; Klein & Perdue 1992). To account for their initial system, it is proposed that learners operate under constraints on (1) the form and order of constituents; (2) the case role properties of arguments; and (3) discourse/pragmatics which are combined with certain syntactic concepts developed in Minimalism (Chomsky 1995). The morpho-syntactic properties of the Basic Variety are summarized below (see Klein & Perdue 1997; Schwartz 1997).

(1) Morphosyntactic properties of the Basic Variety
   a. basically SVO word order
   b. lack of inflectional morphology and other grammatical morphemes (agreement, tense, case)
   c. optional determiners
   d. aspectual distinctions found
   e. lack of subordination and overt complementisers
   f. no movement

Klein and Perdue note that the Basic Variety bears some superficial resemblance to ideas advanced to account for the earliest stages of L1 acquisition, i.e. Slobin (1985, Basic Child Grammar), Givón, (1979, the specific pragmatic mode) and Bickerton (1984, Protolanguage).

2.2 Does the Basic Variety hold up under scrutiny?

2.2.1 *Transfer from the L1*

Under the now widely held assumption that the process of adult L2 acquisition involves the human language learning faculty and is guided by Universal Grammar (see White 2003), the learner draws on three sources of knowledge: UG, the L1 and the L2. Over the last 30 years, researchers working on the general concept of UG-constrained L2 acquisition have varied in the relative prominence they assign to these three sources of knowledge. Jordens (2001) notes the early prominence assigned to L2 knowledge by Corder (1978) and Dulay, Burt and Krashen (1982), all of whom considered L1 influence only a performance factor. Along with Schwartz (1997), Jordens (2001) points out that while current research focuses on the role of universal properties, L2 influence is nonetheless assumed. The role of the L1 again took centre stage in the 1990s when the initial state debate began (see *Second Language Research* special issue 1996), pitting approaches assuming little L1 influence such as Minimal Trees and Structure Building (Vainikka & Young-Scholten 1996a) against those assuming considerably more, such as Full Transfer/Full Access (Schwartz & Sprouse 1996).

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Against this background, it is easy to understand why Schwartz's main criticism of the Basic Variety involves the pivotal role of the L1 (Schwartz 1997; in *Second Language Research* special issue on the Basic Variety). For Schwartz, the Basic Variety might represent a point in L2 development, and she notes that about a third of the 40 adult informants discussed appear to have fossilized at this "stage". Whereas Klein and Perdue downplay L1 influence, it is widely attested with evidence of L1 VP transfer from studies of L2 Dutch as early as Jansen, Lalleman and Muysken (1981), and from more recent studies by Jagtman and Bongaerts (1994) and Haznedar (1997) on L2 English. Schwartz further notes that in L2 German, Korean and Turkish learners start with an L1 OV order while Italian and Spanish learners start with an L1 VO order (Vainikka & Young-Scholten 1991, 1994, 1996b). Early L1-dependent word order differences indeed exist in Klein and Perdue's data: Punjabi and Turkish speakers exhibit SOV order in English, Dutch or German, while Italian and Moroccan Arabic speakers exhibit SVO order in acquiring these languages. Klein and Perdue acknowledge L1 influence, yet they argue that longitudinally speaking, SOV is restricted within the Basic Variety, with learners converging on SVO. Noting that one expects greater L1 influence at early stages with subsequent convergence on SVO as the most common surface order in all three L2s discussed by Klein and Perdue (English, Dutch, German), Schwartz takes them to task for clouding the issue by adopting a longitudinal perspective for a single variety, a point second by Comrie 1997.[1]

Based on these and others' (see below) assessments of the proposal, we conclude that the data presented in support of the Basic Variety data cover more than one stage of L2 development. In fact, we argue that the data cover three separate stages of development, where only Stage 3 seems to be what Klein and Perdue take to be the Basic Variety:

(2) The three identifiable stages in the data accounted for by the Basic Variety
Stage 1: the earliest Basic Variety data without verbs
Stage 2: the earliest Basic Variety data with L1 word order
Stage 3: slightly later Basic Variety data where all learners use SVO

2.2.2 *The status of weak features and morphosyntactic properties in the Basic Variety*

The Basic Variety is a grammar where all features are weak (as in Minimalism; Chomsky 1995), since strong features are required for movement under Minimalism. Similar to Eubank's (1996) Inert Features proposal, as pointed out by Meisel (1997), both the Basic Variety and Eubank assume the presence of

functional projections from the beginning of acquisition, but with weak/inert features (without movement). In contesting Klein and Perdue's assumption, Schwartz (1997) points out that at least some features initially reflect L1 feature strength: in their data, movement of the subject past negation requires a strong feature, and the OVS orders attested require movement of both object and verb. On this basis Schwartz argues that of the morphosyntactic properties listed above, (1a) – basically SVO word order – and (1f) – no movement – do not hold in general for the Basic Variety data.

Property (1b) – lack of inflectional morphology and other grammatical morphemes (agreement, tense, case) – also involves too strong a claim. Bierwisch (1997) points out that although such morphemes are claimed to be absent in the Basic Variety, determiners as well as relative pronouns are attested, for example, in Klein and Perdue's (1997:331) example (22):

(3) [se] la dame qui a volé le pain (learner 'GFS')
<is the woman who has stolen the bread>

Bierwisch also notes that (1c) – optional determiners – contradicts (1b) – lack of grammatical morphemes; something cannot be both optional and lacking. Similarly, the lack of complementisers and absence of subordination (and recursion) in (1e) is a problem given the complex NPs and subordination in some examples, i.e. (3) above, as well as example (6) in Klein and Perdue (1997:330) shown in (4):

(4) stealing bread girl (learner 'MPE')

Moreover, according to Bierwisch, Klein and Perdue seem to assume that the V2 property in German syntax is part of the Basic Variety, but this is a property that cannot be represented with weak features since it invariably involves movement. Overall, the formulation of Basic Variety syntax is incomplete, while intended to be complete; this is the only construal according to Bierwisch that could provide an interesting new perspective, but the proposal fails to.

2.2.3 *Further problems with the Basic Variety: Constraints*

In his evaluation, Bierwisch (1997) reviews the pragmatic and semantic constraints that form the Basic Variety's core. He contends that the sole pragmatic principle proposed – PR1, that focus expressions appear last – must be reformulated or supplemented. The three semantic constraints deal with theta-role organization at the semantics-syntax interface (Klein & Perdue 1997:315–316). SEMI1 states that the NP-referent with the highest control (e.g. an animate agent) is utterance-initial. SEM2 qualifies SEM1 by adding that the controller

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of source state outweighs controller of target state. SEM3 states that a theme precedes a relatum in target position. Bierwisch's criticism here is that these constraints exclude phenomena that Klein and Perdue would include. SEM1 excludes psych verbs such as *remind* and *convince* from the Basic Variety, some of which presumably occur. Because SEM2 excludes core verbs such as *buy*, *sell* and *rent*, Bierwisch deems this constraint mistaken or in need of substantial reformulation. SEM3 also excludes certain constructions likely present in the Basic Variety data, such as the standard possessive and locative constructions in various languages (Bierwisch 1997: 355). Bierwisch concludes by suggesting that more general combinatorial principles may be responsible for theta-role organization in L2A and in other domains of language, but these are not the principles proposed by Klein and Perdue. And as far as the notions of time and space are concerned, these are treated by Klein and Perdue as outside semantics when according to Bierwisch, these are the very notions that should fall under semantics.

2.2.4 *Summary of the arguments against the Basic Variety*

The above discussion reveals the shaky empirical and theoretical foundations of the Basic Variety. Klein and Perdue's presentation of the data upon which the proposal rests results in confusion regarding the stage of development it actually represents. Their characterization of the Basic Variety indicates that it corresponds to a somewhat later point in development than the earliest – and by definition *basic* – stage of acquisition. While some of the properties that are claimed for the Basic Variety indeed refer to the earliest stage of acquisition, i.e. properties (1b), (1e) and (1f), the remaining properties (1a, 1c, 1d) better describe a later stage. Serious problems also exist when syntactic principles are invoked; the Basic Variety as described does not represent a grammar with weak features. Moreover, there are contradictions in Klein and Perdue's theoretical proposals. On the one hand, the Basic Variety is taken to be an instantiation of a grammar within the Minimalist approach; on the other hand, a new set of semantic (thematic) and pragmatic constraints is proposed, but these have no place within a Minimalist framework. If the Minimalist approach were to be abandoned in favour of the new set of constraints, each constraint proposed would need to be reformulated to avoid excluding a number of common verbs and constructions from the Basic Variety.

We are left to conclude that the Basic Variety falls into the category of unsuccessful attempts at characterizing basic linguistic systems that invoke syntactic and non-syntactic/non-linguistic principles (Bickerton 1984; Givon 1979; Slobin 1985). Finally, a fundamental question is raised by Meisel (1997):

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if the Basic Variety is a UG-constrained I-language, why should a separate theory with new constraints be needed? Schwartz – from her Full Transfer perspective – doubts the Basic Variety can be reformulated, yet she concedes that the earliest data might represent a basic variety with weak features.

2.3 If not the Basic Variety, which seeds are sown?

Taking Meisel's and Schwartz's comments as a point of departure, we note the existence of another UG-constrained basic variety: the bare VP of the Minimal Trees approach.

2.3.1 *The three stages in the Basic Variety data*

Can the principles and categories of UG explain the earliest stages of development? Is a unified, purely syntactically-based account of basic linguistic systems possible? Our approach has long assumed it is possible (Vainikka & Young-Scholten 1991, 1994). Let us begin by reviewing the Basic Variety properties under (1) above and the stages proposed in (2), repeated here:

(5) The three identifiable stages in Klein and Perdue's data:

Stage 1:	the earliest data without verbs
Stage 2:	the earliest data with L1 word order (Vainikka and Young-Scholten's bare VP)
Stage 3:	slightly later data where all use SVO (V and Y-S's earliest functional projection)

Properties (1b), (1e) and (1f), involving lack of functional elements and movement, hold at Stages 1 and 2, and are derivable from the reduced syntactic structure the learner projects, i.e. a bare VP.[2] These two stages represent a point in development where at most an L1-based or target-language bare VP is present. Recent evidence for Stage 1 comes from Myles (2005) who, in support of Minimal Trees and Structure Building, considers verbless utterances from beginning instructed L2 French learners.[3] Properties (1a), (1c) and (1d), involving early grammatical distinctions and early movement, hold for Stage 3, representing what Klein and Perdue consider the "core Basic Variety" data. Stage 3 properties involve an early, head-initial functional projection (e.g. FP in Vainikka & Young-Scholten 1994) as opposed to the lack of functional projections at Stages 1 and 2. These stages hold for both child and adult first and second language acquisition.

In taking the position that UG plays a pivotal role in both L1 and L2 acquisition, the goal of a universal interlanguage is a realistic one. A pro-

Table 1. Morpho-syntactic criteria for the earliest stages of development

Criteria/STAGE	VP	FP
verb raising	none	optional
overt pronominal subjects	few	some
modals, auxiliaries	none	some
agreement paradigm	lacking	lacking
complementizers	none	none
question formation	only formulaic	only formulaic

posal developed in the 1980s and 1990s achieves this aim, accounting for the above properties and stages. But before we discuss Minimal Trees and Structure Building in depth, we briefly revisit the issue of the word order attested at early L2 stages of development.

Both the Basic Variety and – as we shall see – Processability – evolved from the non-UG-constrained stages originally proposed in Clahsen, Meisel and Pienemann (1983) to account for data from Italian, Portuguese and Spanish migrant workers learning German. Figure 1 shows that, unlike the UG-constrained stages proposed by Clahsen for L1 German children, the stages proposed to account for adult L2 German development related to general cognitive strategies (Clahsen 1990; see also Pienemann 2003).

The first criticisms of Clahsen et al.'s analysis of L2 German (subsequently presented in Clahsen & Muysken 1986, 1989, eventually including Turkish speakers) offered alternative UG-based analyses under which learners started out with an L1-based SVO word order, and SVO was not the result of a general cognitive strategy. Learners' VP headedness then switched from VO to OV in later development (duPlessis, Solin, Travis, & White 1987; Schwartz & Tomaselli 1990). Studies of child and adult L2 acquisition have since shown that the original adult L2 analysis was incomplete. Diverging views on the extent of L1 influence at the initial state in L2 acquisition notwithstanding, the current consensus is that syntactic development is UG-constrained for both children

L1 sequence (UG-driven)	L2 sequence (general cognition-driven)
variable word order	Canonical SVO order
SOV	Adverb pre-posing
V2 and subject-verb agreement	Verb separation
verb final in subordinate clauses	Inversion, some subject-verb agreement
	Verb final in subordinate clauses.

Figure 1. The 1980s analyses of child German vs. adult L2 German

and adults, and that at the very minimum, the learner's L1 VP headedness transfers at the start (see e.g. Hawkins 2001; Schwartz 1999; White 2003).

The earlier 1980s argumentation hinged on the presumed lack of 'true' SXV patterns and the robustness of SVO patterns in the early L2 data. Consider three language contact situations represented in empirical research since the late 1980s. The first in (6), where head-final VP language speakers learn head-final VP languages, is least interesting as it cannot distinguish between VP transfer and early projection of a target language VP – despite early (S)XV patterns providing evidence contra the canonical SVO word order strategy. Two additional situations can distinguish between transfer and headedness shift: head-initial-VP-language speakers learning head-final VP languages, and head-final VP-language speakers learning head-initial languages.

Note that similar to L1 development, thematic verbs at the earliest stages of L2 development (Minimal Trees' bare VP) are virtually always non-finite forms, although these forms are not necessarily infinitive forms.[4] Data from longitudinal studies mentioned below refer to the earliest stage, and if cross-sectional, to low-level learners. Relevant to the situations in (7) and (8), further data either from the same child, or from more advanced learners reveal a subsequent stage at which VP headedness switches to that of the target language (see Table 3 below for additional details of some studies).

(6) L1 head final VP → L2 head final VP

Jansen, Lalleman and Muysken (1981) longitudinal study
Turkish L1/Dutch L2
Vainikka and Young-Scholten (1994) cross-sectional study
Turkish L1/German L2 and Korean L1/German L2

(7) L1 head-initial VP → L2 head-final VP

Vainikka and Young-Scholten (2001) longitudinal study of English L1/German L2
Dimroth (2002) cross-sectional study
Croatian L1/German L2 and Russian L1/German L2

(8) L1 head-final VP → L2 head-initial VP

Yamada-Yamamoto (1993) longitudinal study of Japanese L1/English L2
Haznedar's (1997) longitudinal study of Turkish L1/English L2

L1 children's early German utterances with thematic verbs (9) bear a close resemblance to L2 adult head-final VP speakers' early German utterances (10). Utterances from speakers of head-initial VP languages (11) show the VO order that led to the SVO canonical word order strategy. A UG-constrained approach

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explains the examples in (12) as a switch of VP headedness to the German value (example (9) from Rohrbacher and Vainikka (1994), (12a) from Dimroth (2002) and Vainikka and Young-Scholten (1994, 1996b, 1998a).

(9) a. Auto hier wahren. (Katrin 1;5)
car here drive-INF
'Das Auto fährt hier.'
'The car drives here'

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

(10) 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.'

(11) a. Ich sprechen die meine Firma. (Salvatore/Italian L1, file 3)
I speak-INF the my firm
'Ich spreche mit meiner Firma.'
'I speak (to/at) my firm.'

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

(12) a. Rote man Bier trinken (Russian speaker 10)
red man beer drink-INF
'(Der) rote Mann trinkt Bier.'
'(The) red man is drinking beer.'

b. Ische immer arbeit. (Salvatore/Italian L1, file 6)
I always work-INF
'Ich arbeite immer.'
'I always work.'

L2 learners, like L1 learners, have been observed to produce utterances in which subjects are absent; clearly a greater proportion of ambiguous utterances will be found in the earliest data as compared with later stage data if – under a Minimal Trees approach – the learner projects a bare VP not requiring a subject. Clahsen and Muysken (1989) note Romance language speakers very often produce OV utterances in target languages such as head-final VP German and Dutch, but their idea is to derive L2 learners' XV patterns through a comple-

ment preposing rule learners apply in their early SVO system. Because this involves movement of elements out of their canonical word order, such patterns would be unexpected precisely where they most frequently occur, at the earliest stages of development.[5]

Focusing on Stage 2, the bare VP, and Stage 3, the first functional projection, we now return to our consideration of what can replace the Basic Variety in terms of the separate stages of development it actually encompasses. To address development, we start with an overview of the ideas underpinning Structure Building.

2.4 Minimal Trees, Structure Building and Organic Grammar

Structure Building was originally applied to children's L1 acquisition (Clahsen 1991; Clahsen, Eisenbeiss, & Vainikka 1994; Guilfoyle & Noonan 1992; Vainikka 1993/4), but proposed to apply equally to L2 acquisition, regardless of the learner's age (Vainikka & Young-Scholten 1994). Thus it does not entail the maturation assumed in Radford (1988, 1990), where children's projection of functional syntax is a function of age. Based on Weak Continuity (Pinker 1984), Structure Building assumes that components of Universal Grammar such as X'-Theory are available to the learner at the initial state, at the onset of acquisition. Unlike a Strong Continuity approach (Hyams 1992; Lust 1994; Wexler 1998), under which all syntactic projections are present at the initial state, under Structure Building the child begins the acquisition process without functional projections (or with reduced functional projections) and posits syntactic projections incrementally solely on the basis of the interaction of UG with the input. Both "Weak Continuity Hypothesis" and "Minimal Trees/Structure Building" have been used for this approach to L2 acquisition. Approaches under the rubric of "Structure Building" exist which, unlike our approach, assume that learners start off with some functional projections – typically the IP – and that the CP develops later (e.g. Clahsen 1991 for L1 children and Bhatt & Hancin-Bhatt 2002 for adult L2 learners.

In order to encompass the Structure Building, Minimal Trees, and Weak Continuity aspects of our L2 German work, the term *Organic Grammar* is introduced (Vainikka & Young-Scholten 2004a; to appear). Earlier versions of this approach do not explicitly state all ten assumptions now laid out under Organic Grammar; however, all but 1 and 10 are at least implicit in earlier work.

(13) ***Assumption 1:*** *Each language has a so-called Master Tree that includes all possible projections occurring in the language.*

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

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

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

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

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

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

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

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

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

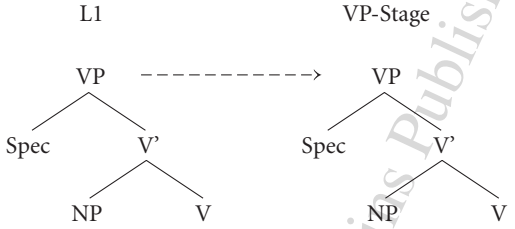
Organic Grammar takes Minimal Trees + Structure Building as the starting point, but there are differences due to somewhat different (and very specific) predictions made by the ten assumptions of OG. All language learners – whether during L1 or L2 acquisition – build up phrase structure in a similar way, starting with an early stage characterized by the presence of only lexical projections. But while children acquiring their L1 have no previous knowledge of a specific language and thus their initial state is the principles/constraints applying to all languages, L2 learners' initial state also includes their L1 lexical projections, i.e. L1-based minimal trees. Table 2 illustrates the properties of the various languages speakers of which have been investigated with respect to German (by us) under this approach.

Table 2. Syntactic characteristics of German and the learners' L1s

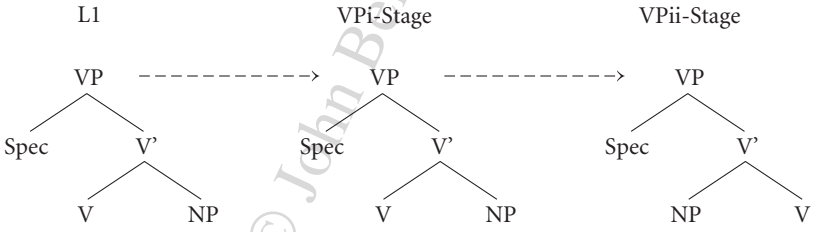
language	*word order: phrases*		*subject-verb agreement*	*null subjects*
	initial	*final*		
German	CP	IP, VP	yes	no
L1s:				
English	CP, IP, VP	yes	no	
Korean		CP, IP, VP	no	yes
Italian	CP, IP, VP		yes	yes
Spanish	CP, IP, VP		yes	yes

The syntactic representations of learners in studies referred to above are shown below. (14a) shows the bare head-final German VP of Korean and Turkish adults learning German (Vainikka & Young-Scholten 1994) and (14b) the first bare head-initial German VP of Italian and Spanish speakers (Vainikka & Young-Scholten 1996b) and English speakers (Vainikka & Young-Scholten 1998b, 2002a, 2003) and the second, switched VP.

(14) a. Korean and Turkish speakers' initial state



b. English, Italian and Spanish speakers' initial state/stage and second sub-stage



In addition to the studies referred to in (6) through (8) above, evidence for Organic Grammar in the acquisition of L2s other than German is discussed in Hawkins (2001; see also Bhatt & Hancin-Bhatt 2002; Jordens 2001; Parodi 2000; Wakabayashi 1997 on adult L2 development and/or structure building). Studies of the L2 acquisition of English by a variety of L1 speakers (Andersen 1978; Bailey, Madden, & Krashen 1974; Dulay & Burt 1974; Makino 1980; Zobl 1980) show a typical order of acquisition of inflectional morphology where a transferred, bare VP is initially projected.[6] Hawkins proposes the following gradual positing of functional syntax for L2 English: VP → AspP → TP → AgrP → CP. More recent studies of L2 English, French and German (Table 3) document the emergence of functional elements and related syntax in tandem at a point (several months to over a year, depending on exposure) past the start of data collection.

Table 3. Studies supporting initial state bare VP in L2A

Study	Subjects	Type of study	Evidence for bare VP
Yamada-Yamamoto (1993)	1 Japanese boy	longitudinal L2 English	up to month 19 head-final VP and few functional elements
Haznedar (1997)	1 Turkish boy	longitudinal L2 English	through files 9 and 10 head-final VP, then head-initial VP and few functional elements
Dimroth (2002)	31 Russians, 3 Croatians, 6 Turkish adults	cross-sectional L2 German	eight learners used non-finite verbs 90% of the time with L1 VP or German VP
Myles (2005)	14 English-speaking 12–13 year-olds	quasi-longitudinal classroom French	initial stage without VP (bare NP or PP), followed by a bare VP

Contrary to Basic Variety assumptions, the earliest stage involves L1 influence; under Organic Grammar this stage is syntactically defined as a bare VP. During the period when the L2 learner's grammar consists only of lexical projections, s/he shifts the headedness of the VP to the target language value. In both first and second language acquisition, the tree then begins to grow as the learner engages in the process of structure building in response to the input, employing principles part of the innate mechanisms guiding language acquisition (see Tracy 2002 for a similar proposal):

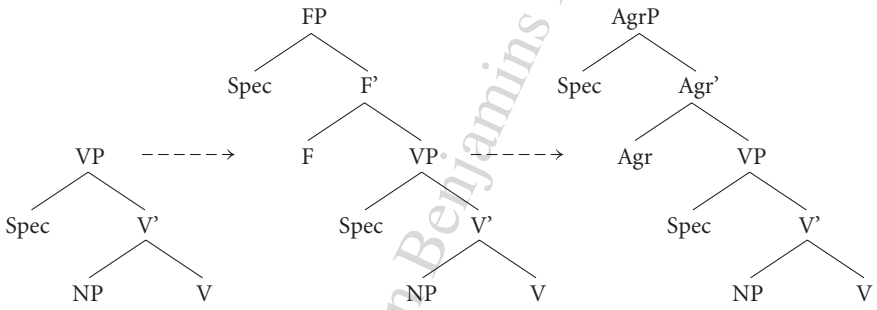
(15) Structure Building (Vainikka & Young-Scholten 1996a, 1997).
  (i) once a head is identified in the input it projects a maximal projection
  (ii) a complement position is posited within the maximal projection based on positive evidence
  (iii) a specifier position is posited within the maximal projection based on positive evidence

Application of these principles results in the stages represented by increasingly elaborate functional syntax. Similar intermediate stages exist for L1 and L2 learners of German (16); under Organic Grammar this is expected since syntactic maturation is assumed neither for children nor adults. The first functional projection for both L1 children (Clahsen 1991) and L2 adults (Vainikka & Young-Scholten 1994) is head-initial, and as such is neither the head-final German AgrP nor a transferred functional projection from the L2 learner's L1 (given that the AgrP is head-initial in some of the L1s; see Table 2).

Table 4. Gradual emergence of functional morphology and functional projections in L2A

Criteria/STAGE	VP	FP	AgrP	CP[7]
verb raising	none	optional	frequent	obligatory
overt pronominal subjects	few	some	common	obligatory
modals, auxiliaries	none	some	common	obligatory
agreement paradigm	lacking	lacking	acquired	acquired
complementizers	none	none	some	yes
question formation	only formulaic	only formulaic	some	yes

(16) Intermediate stages following head-final VP



Subsequent stages of development see the gradual emergence of functional projections characterized by the robust appearance in production of functional morphology and the syntactic operations specifically associated with each projection, as shown in Table 4.

2.5 Organic Grammar vs. the Basic Variety

Returning now to our consideration of the Basic Variety, we note that its morpho-syntactic characteristics strongly resemble those of the early stages of Organic Grammar, and as such the bare VP structure and other reduced structures can be seen to constitute the syntactic pith of this Variety. Yet Klein and Perdue explicitly reject the notion that their approach involves a bare L1-based VP, unconvincingly arguing that a Minimalist account under which MOVE is absent and all features are weak, and MERGE is the sole operation is preferable.[8] As discussed above, Klein and Perdue ignore considerable compelling evidence that the headedness of the learner's native language VP transfers. Moreover, in its current formulation, Minimalism provides little by way of an

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account of how the learner's linguistic system develops.[9] Klein and Perdue further fail to acknowledge the evidence of morpho-syntactic development that occurs after transfer of the VP. Recall our argument that the Basic Variety data represent not one but three stages. Klein and Perdue specifically reject such a development account on the basis of the acquisition process being continuous and gradual, with no sharp boundaries detectable. We, too, often employ the term 'gradual' to refer to the emergence of functional syntax, and while learners in transition from one stage to the next may exhibit characteristics of both stages, our analysis of data from the same and similar learners allows us to discern three Organic Grammar stages within the Basic Variety.

In addition to applying the Basic Variety to interlanguage, Klein and Perdue claim that the Basic Variety can account for other basic learner varieties. Our alternative is the VP of Organic Grammar as universal starting point for language acquisition. Indeed, a bare VP stage may only be more apparent in adult L2 acquisition because progression through this stage is typically more protracted than in L1 acquisition. The existence of a bare VP is also apparent where L1 acquisition is also slow, i.e. in situations where the processing of or access to input is compromised in some manner, e.g. for cognitively or linguistically impaired children (Tager-Flusberg 1994; Lindner 2002) or for deaf children (Golden-Meadow & Mylander 1993; Kegl 1994); for a review see Vainikka and Young-Scholten (2004b).

The Basic Variety could be a contender to fill the gap regarding what is universal which is left by approaches such as Schwartz and Sprouse's (1996) Full Transfer/Full Access involving considerable L1 influence throughout development. Yet because the Basic Variety (1) dismisses any real L1 influence, (2) does not take intra-Variety development into account, (3) involves a developmental discontinuity in terms of the earliest words and (4) mixes syntactic principles with non-syntactic ones, the syntax-based analysis of initial stages and subsequent development of functional syntax provided by Organic Grammar is preferable. Klein and Perdue refer to the Basic Variety "as a language which is simple and still extremely functional" (1997:303). Organic Grammar involves a similar, 'simple' system which has no more to say about the communicative functions of this system than any other purely syntactic account would. We therefore welcome Klein and Perdue's discussion of the pragmatic and semantic factors which enable learners to communicate effectively with minimal morpho-syntax.

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3. How does your garden grow?

3.1 Processability Theory

If development lies outside the scope of the Basic Variety, Pienemann's Processability Theory (1998a, b, 2003) constitutes the other piece of the second language acquisition puzzle. Processability Theory is an ambitious attempt to explain how the L2 learner's processing of primary linguistic data leads to successive stages in interlanguage development, and as such merits a closer look. Equally important here is that it deals with much the same data as do we – and as do Klein and Perdue. As we will see, the main difference between Processability Theory and Organic Grammar rests on ideas of what drives development, and to a certain extent ideas on the learner's starting point. If the starting point is a post-1980s analysis where, say, this is SOV for the Turkish speaker (Pienemann 2003), this challenges the earlier assumption that the canonical word order strategy defines the earliest stage in development. As we shall shortly see, apart from the Organic Grammar assumption that the mechanisms of development are the syntax itself, the proposed stages of subsequent development under these two approaches are not altogether dissimilar.[10]

Pienemann rightly calls for an account of the "highly regular way in which phrase-structure rules are gradually expanded in an on-going way" (1998b: 50), citing previous unsuccessful attempts (in L1 acquisition Slobin 1985, in L2 acquisition Clahsen 1984; McLaughlin 1978; Towell & Hawkins 1994). Processability Theory starts with the stages introduced in Clahsen, Meisel and Pienemann (1983; see also Clahsen & Muysken 1986, 1989), shown in Figure 1 above. Drawing on Lexical Functional Grammar (Bresnan 1982; Kaplan & Bresnan 1982) as an account of grammatical development, Processability Theory is a reorientation of the Multi-dimensional Model (Meisel, Clahsen, & Pienemann 1981) based on processing ideas from Levelt (1989). Under LFG-driven Processing, a 'Formulator' incrementally translates conceptual structures into lexical ones whereby the procedural grammar lexically activates language generation in the sequence shown here:

> Lemma access > the category procedure > the phrasal procedure > the S-procedure > the subordinate clause

In Processability Theory there is a role not only for perceptual saliency of elements in the input, but also for distance, whereby rules involving unification of features at shorter distances are easier or more readily acquired than those involving longer distances. Syntactic indexation is on-going during development,

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with the process of acquisition defined in part by this indexation. Under Processability Theory, processing is the same for first and second language learners, yet the starting point differs for all L2 learners, and for adult learners access to UG is only via their L1.[11] Along lines similar to the Basic Variety, lexical items are syntax-independent at the earliest stages: "the learner cannot rely on the identity of grammatical categories as formal cues for the location of syntactic and morphological elements" (1998b: 58); that is, syntactic procedures have not yet specialized to hold the relevant information. Pienemann cites as support for this conjecture learners' mis-categorization of nouns as verbs and adjectives as nouns.

In rejecting the direct-UG-access component of approaches to adult L2 acquisition assuming such access (including those which differ considerably on the details e.g. Epstein, Flynn, & Martohardjono 1996; Eubank 1994; Lardiere 1998; Prévost & White 2000a, b; Schwartz & Sprouse 1994; Vainikka & Young-Scholten 1994), Processability Theory situates itself in Fundamental Difference Hypothesis camp as represented by Clahsen and Muyksen (1989). But like Organic Grammar, Processability Theory rejects the idea of complete influence of the learners' L1 at the initial state, i.e. the Full Transfer component of Schwartz and Sprouse's Full Transfer/Full Access. According to Pienemann (1998a, b), the L2 learner has to reconstruct the Formulator of the L2, and although this may include L1 procedures and does not rule out some L1 influence, the way in which the learner uses the L1 Formulator in following the five-part sequence shown above excludes 'bulk' or Full Transfer.

To support Processability Theory, Pienemann draws on his own L2 German data, Håkansson's L2 German data (suggesting no transfer V2 by Swedish learners of V2; see Håkansson, Pienemann, & Sayehli 2002), and the longitudinal and cross-sectional ZISA data from Italian, Portuguese and Spanish adult learners of German, the analyses of which were first presented in Clahsen, Meisel and Pienemann (1983) and Clahsen and Muysken (1986), as mentioned above.

Processability Theory is held by Pienemann to account for the inter-learner variation noted in the Multi-Dimensional Model (Meisel, Clahsen, & Pienemann 1981) while maintaining 'steadiness' of the grammar. That is, while both interlanguage stages and variation exist, individual variation is also systematic. We will not address this aspect of Processability Theory here, but see Vainikka and Young-Scholten (2003).

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3.2 An Alternative to Processability

Processability Theory evolved from a non-UG analysis of adult L2 data: Clahsen and Muysken (1986, 1989). From the 1980s onwards, the development of linguistic theory in tandem with continued theory-driven language acquisition investigation has led both to re-analyses of existing adult L2 data and to new studies. Discussed above, this began with duPlessis et al.'s (1987) reanalysis of the L2 German data and continued on with further reanalyses and new data from cross-sectional and longitudinal studies. The most compelling evidence for direct UG access continues to be from studies which explicitly address poverty-of-the-stimulus effects (opaque to an LFG-based processing approach), where the input underdetermines the resulting syntactic knowledge (see Schwartz & Sprouse 2000).[12]

Some of the same cracks as were observed to exist for the Basic Variety are present in Processability Theory's (1998) foundations (also see, for example, Schwartz 1998). If the starting point for L2 development under Processability can include SOV (Pienemann 2003), and is therefore some sort of L1-based word order strategy, a general-cognition-based strategy can be replaced by a bare VP, as argued above. Like Klein and Perdue, Pienemann also proposes pre-syntactic development and thus must account for how the learner moves from what is essentially a non-syntactic system to a syntactic one. And like the Basic Variety, explaining syntactic development through the use of additional, non-syntactic processes is neither desirable nor is the need for such processes convincing.

Pienemann's quest is for a highly regular way in which phrase-structure rules are gradually expanded in an on-going way; this is not dissimilar to the aims of Organic Grammar. In fact, the manner in which we and Pienemann have catalogued L2 development is strikingly similar – and in sharp contrast to what Full Transfer adherents propose. For example, both a canonical word order strategy stage and the Minimal bare VP grammar disallow non-linearity or movement of elements. However, the explanations provided are quite different. Subsequent stages of development under Processability – resemblance to the (problematic) 1980s analysis of adult L2 German notwithstanding – entail further non-L1-based development, more or less describing what Organic Grammar explains. Thus we do not find it surprising – and indeed we concur with these findings (but would naturally interpret them differently) – that the hierarchical application of Processing strategies which characterize stages of development has been validated on a range of data (Pienemann 2003).

Where the Organic Grammar approach crucially differs from Processability Theory is that it is phrase structure itself which is gradually expanded rather than phrase structure rules tied to processing strategies. Under Organic Grammar, all language learners have at their disposal the same syntactic tools to build up structure (see assumptions in (13)). Syntactic structure under post 1970s Chomskyan syntax is explicitly hierarchical, and under Organic Grammar, the implicational hierarchy of acquisition need only refer to the syntax. Organic Grammar replaces Processability Theory's Formulator and the five steps shown above (Lemma access > the category procedure > the phrasal procedure > the S-procedure > the subordinate clause) with the three, iterative steps shown earlier in (15): (i) once a head is identified in the input it projects a maximal projection; (ii) a complement position is posited within the maximal projection based on positive evidence and (iii) a specifier position is posited within the maximal projection based on positive evidence. As discussed in Vainikka and Young-Scholten (1996a), these steps follow Grimshaw (1993; see also Chomsky 1988 and Speas 1993) where VP is taken to be the base of an extended projection with the functional projections IP and CP higher projections of a VP. These are not possible without a VP (though the reverse requirement of projection all the way to a CP does not follow).[13] The availability of these functional projections is what enables the movement or displacement of certain linguistic elements; no additional processing procedures need be assumed.

3.2.1 *Organic Grammar feeds the roots of development*

With the Basic Variety, Processability Theory and our own work focusing in common on L2 German, we naturally take the acquisition of this language as an illustration of how Organic Grammar accounts for the data at stake. Crucially, we do not assume adults differ fundamentally from children in their acquisition of syntax (but note again this does not entail we assume no child-adult differences). Our analysis, first introduced in Vainikka and Young-Scholten (1991), differs substantially from Clahsen, Meisel and Pienemann (1983) and from Clahsen and Muysken (1986, 1989).

When young children learning German posit their first functional projection, it is a head-initial projection, but it is underspecified given the non-acquisition of the agreement paradigm, the optionality of subjects and the optionality of verb raising (Clahsen 1991; Clahsen & Penke 1992). This projection is neither the head-final adult German AgrP, nor the head-initial adult German CP. Providing a position into which the verb raises, with the subsequent acquisition of agreement, and obligatory subjects and verb raising, this projection is fully specified as the target German head-final AgrP, thus account-

Table 5. Emergence of functional morphology and functional projections in L2 German

Criteria/STAGE	VP	FP	AgrP	CP
headedness	L1-based, then final	initial	initial; final	initial
verb raising	none	optional	frequent	obligatory
overt pronominal subjects	few	some	common	obligatory
modals, auxiliaries	none	some	common	obligatory
agreement paradigm	lacking	lacking	acquired	acquired
complementizers	none	none	some	yes
question formation	only formulaic	only formulaic	some	yes

ing for the final stage – verb final in subordinate clauses – shown under 'L1 sequence' in Fig. 1 above.

Adult L2 acquisition in German is roughly similar, as illustrated in Table 5 (Table 4 recast for German), where functional material emerges in tandem with the related syntax. Up to the AgrP stage, non-finite verb forms dominate, with the verb frequently remaining in the bare head-initial or head-final VP.

That some sort of structure building is a driving force in linguistic development is attested to by Wode's (1996) account of his German-speaking children's reacquisition of L2 English. Wode (1981) first documented the children's development of English syntax to a reasonably advanced stage, and after their English had undergone complete attrition back in Germany, he documented their redevelopment upon re-immersion several years later. (His analysis of the original data and reacquisition data involves L1-modulation, though without a comparison group from another L1 background this influence is difficult to weigh.) The children rapidly regained their English within weeks of re-exposure, fast-forwarding through much the same stages they followed the first time around. Such an occurrence seems to be far from unique: Wode cites other cases, similarly documented by linguist parents like himself. For Wode these stages and their repetition are evidence that the initial state is neither the final state of L1 acquisition nor of L2 acquisition. Reacquisition rather than unordered retrieval points to a mechanism such as Organic Grammar which mediates between the input and the learner's emerging or re-emerging grammar.

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3.2.2 *Is Structure Building modulated by the L1?*

An unresolved issue is the extent to which the learner's first language exerts an influence on the acquisition of syntactic structure throughout development. While there is a consensus on transfer of the learner's L1 VP, a central area of controversy in second language research has been the extent of L1 influence on the acquisition of functional projections (see Schwartz 1999 for a review). With the introduction of Structure Building to L2 acquisition (Vainikka & Young-Scholten 1994), the discussion has come to focus both on transfer of L1 functional projections during the entire course of development and on the mere existence of functional projections at the earliest stages of acquisition. At one end of the spectrum, Schwartz and Sprouse's (1996) Full Transfer/Full Access assumes L1 influence in the form of all lexical and functional projections from the start and throughout development, until UG-constrained development leads to restructuring (which may not necessarily result in convergence on the target language grammar). Towards the other end of the spectrum, Minimal Trees and Structure Building (Vainikka & Young-Scholten 1994) rejects any such L1 influence past a bare VP stage. Hawkins' (2001) Modulated Structure Building is a recent account that both supports an initial bare VP stage and allows for influence of the L1 during the subsequent process of structure building.[14] His review of studies on the L2 acquisition of English questions by learners from various L1 backgrounds reveals an early stage where questions are first formed without a CP and then a non-L1-based CP later emerges. His evidence for L1 modulation is, at present, less compelling (see Vainikka & Young-Scholten 2002b for details).

3.2.3 *Organic Grammar, not Processing Strategies*

In 2005, we have little hesitation in asserting that systematic, non-L1-driven, UG-driven development occurs in adult L2 acquisition. Indeed, Processability Theory and Structure Building have often arrived at comparable conclusions on the basis of the same and similar data. Both accounts also resemble each other in their interaction between lexical items and syntax, but Processability Theory essentially operates in reverse order to Organic Grammar. Under the former, the learning of lexical items precedes their indexation (syntax), while under Organic Grammar, the syntax searches for lexical items (heads), as per the steps in (15) above and the assumptions laid out in (13): the grammar itself drives development.

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4. Conclusion

The Basic Variety and Processability Theory reveal the relentless yearning for universals of development and for a comprehensive theory of second language development in our field of inquiry. The search for these must acknowledge the roots of syntactic development as nothing but syntactic. In their superficial similarity to some of the central components and assumptions of Minimal Trees and Structure Building, Klein and Perdue's Basic Variety and Pienemann's Processability Theory share with Organic Grammar the view that adult L2 development is similar regardless of the learner's L1. As we have seen, both approaches have dismissed evidence in the earliest data for initial L1 influence, and Processability Theory takes the position that Universal Grammar is not actively involved during adult L2 development. Detractors of the Basic Variety and Processability Theory reject both accounts on the basis of evidence for L1 influence on the one hand, and direct UG access on the other. The rejection of two approaches that have ambitiously addressed developmental universals might be seen to leave a vacuum. Yet since 1991, when the ideas underlying Organic Grammar were first proposed, an account has existed to fill this vacuum. This account rests on the incontrovertible evidence for VP transfer at the earliest stages of acquisition, and on the accumulating evidence for the subsequent UG-constrained building of non-L1-based functional structure. While there will continue to be contestation of many of the specific stepping stones that mark the adult second language learner's path of development, unlike for the Basic Variety and Processability Theory, there is a consensus among those who question these approaches that interlanguage grammars are driven by syntactic factors from the first step.

Notes

1. A veil of mist still clouds interpretation of these data. Compare, for example, Meisel's (1997) Basic Variety comments that SVO *cannot* represent the earliest stage of L2 German development with his more recent remark that 'a particularly striking property of L2 use is that German seems to be treated as a VO language' (2003:331).

2. Early "contra-UG adult access" studies where limited use of functional paradigms (determiners, aspect, modals, subject-verb agreement) and syntactic movement are implied (Schachter 1988:224) provide evidence for UG under Stage 2.

3. Such a stage is probably as typical of L2 acquisition as it is of L1 acquisition, but the analysis and collection of data (including in our own work; we specifically looked at verb-containing utterances) may obscure this.

4. These include *-ing* in English, and in German include reduced forms resulting from L1-L2 prosodic mismatch. While further morphological differences between children and adults have been proposed to exist, (Vainikka & Young-Scholten 1998; Prévost & White 2000a, b), studies do not point to fundamental, syntactic differences distinguishing child and adult second language learners, and we therefore do not distinguish studies by age of learner here.

5. Under (1f) – no movement – this analysis of XV patterns is ruled out. Nor can such analysis of early XV be adopted under Processability Theory given the permutation of the learner's earliest word order.

6. Reanalyses of data such as Prévost and White's (2000a, 2000b) Root Infinitive data provide further support for this stage in both child and adult L2 acquisition (Vainikka and Young-Scholten to appear).

7. It is not clear to what MERGE would refer, as Klein and Perdue assume that the earliest nouns and verbs are noun-*like* and verb-*like*. This assumption thus introduces a continuity problem if use of the same mechanisms throughout acquisition is assumed.

8. For a critique of Minimalism and extension of Organic Grammar to syntax, see Vainikka and Young-Scholten (to appear).

9. With SOV the starting point for Korean and Turkish learners of German, the argument for Clahsen and Muysken's (1986) subsequent non-UG-based strategies no longer follows.

10. Processability Theory assumes an earlier closure of the critical period than is normally assumed. The age given – six – most likely refers to phonology, where one might pursue age-dependent trigger use, implicating prosodic phonology (see Vainikka & Young-Scholten 1998b).

11. Current discussion of child-adult differences revolves in part around inflectional morphology, e.g. Prévost and White (2000a, b) claim L2 children's finite vs. non-finite forms resemble L1 children's, constituting evidence for Truncation (and a close morphology-syntax connection); adults' distribution differs, revealing Missing Surface Inflection. Under Organic Grammar, L2 children and adults do not differ; see Vainikka and Young-Scholten (to appear) for a reanalysis of Prévost and White.

12. We develop these ideas further in Vainikka and Young-Scholten (to appear).

13. Contrary to what has been assumed under Structure Building, Organic Grammar does not crucially entail assuming no L1 transfer during the stages where functional projections are posited (see Vainikka and Young-Scholten to appear).

14. Verb-final in Figure 1 equates to a head-initial CP under a UG-based account of L2 German. Data treated in our 1990s papers suggested few L2 adults reached this stage (perhaps due to these migrant workers receiving minimal input). Data from exchange students discussed in Vainikka and Young-Scholten (2002a) show emergence of a head-initial CP after projection of AgrP.

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References

Andersen, R. (1978). An implicational model for second language research. *Language Learning, 28,* 221–282.

Bailey, N., C. Madden, & S. Krashen (1974). Is there a 'natural sequence' in adult second language learning? *Language Learning, 24,* 235–243.

Bhatt, R., & B. Hancin-Bhatt (2002). Structural Minimality, CP and the initial state in second language acquisition. *Second Language Research, 18,* 348–392.

Bickerton, D. (1984). The language bioprogram hypothesis. *Behavioral and BrainSciences, 7,* 173–221.

Bierwisch, M. (1997). Universal Grammar and the Basic Variety. In Peter Jordens (Ed.), *Special Issue: Introducing the Basic Variety. Second Language Research, 13*, 348–366.

Bresnan, J. (1982). *The Mental Representation of Grammatical Relations*. Cambridge: MIT Press.

Chomsky, N. (1988). Some notes on economy of derivation and representation. Ms.

Chomsky, N. (1995). *The Minimalist Program*. London: MIT Press.

Clahsen, H. (1990). The comparative study of first and second language development. *Studies in Second Language Acquisition, 12*, 135–153.

Clahsen, H. (1991). Constraints on parameter setting. A grammatical analysis of some acquisition stages in German child language. *Language Acquisition, 1,* 361–391.

Clahsen, H., S. Eisenbeiss, & A. Vainikka (1994). The Seeds of Structure: A syntactic analysis of the acquisition of Case marking. In T. Hoekstra & B. D. Schwartz (Eds.), *Language Acquisition Studies in Generative Grammar.* Amsterdam: John Benjamins.

Clahsen, H., J. Meisel, & M. Pienemann (1983). *Deutsch als Zweitsprache: Der Spracherwerb ausländischer Arbeiter.* Tübingen: Narr.

Clahsen, H., & P. Muysken (1986). The availability of Universal Grammar to adult and child learners – A study of the acquisition of German word order. *Second Language Research, 2,* 93–119.

Clahsen, H., & P. Muysken (1989). The UG paradox in L2 acquisition. *Second Language Research, 2,* 93–119.

Clahsen, H., & M. Penke (1992). The acquisition of agreement morphology and its syntactic consequences: New evidence on German child language from the Simone-Corpus. In J. Meisel (Ed.), *The Acquisition of Verb Placement: Functional Categories and V2 Phenomena in Language Acquisition* (pp. 181–223). Dordrecht: Kluwer.

Comrie, B. (1997). On the origin of the Basic Variety. In P. Jordens (Ed.), *Special Issue: Introducing the Basic Variety. Second Language Research, 13*, 376–373.

Corder, S. P. (1978). Language distance and the magnitude of the language learning task. *Studies in Second Language Acquisition, 2,* 27–36.

Dimroth, C. (2002). Topics, assertions, and additive words: How L2 learners get from information structure to target-language syntax. *Linguistics, 40,* 891–923.

Dulay, H., & M. Burt (1974). Natural sequences in child second language acquisition. *Language Learning, 24,* 37–53.

Dulay, H., M. Burt, & S. Krashen (1982). *Language Two*. Oxford: Oxford University Press.

duPlessis, J., D. Solin, L. Travis, & L. White (1987). UG or not UG, that is the question: A reply to Clahsen and Muysken. *Second Language Research, 3,* 56–75.

Epstein, S., S. Flynn, & G. Martohardjono (1996). Second language acquisition: Theoretical and experimental issues in contemporary research. *Behavioral and Brain Sciences, 19,* 677–714.

Eubank, L. (1994). Optionality and the initial state in L2 development. In T. Hoekstra & B. D. Schwartz (Eds.), *Language Acquisition Studies in Generative Grammar* (pp. 317–368). Amsterdam: John Benjamins.

Eubank, L. (1996). Negation in early German-English interlanguage: More valueless features in the L2 initial stage. *Second Language Research, 12,* 73–106.

Givón, T. (1979). From discourse to syntax: grammar as a processing strategy. In T. Givón (Ed.), *Syntax and Semantics, 12, Discourse and Syntax* (pp. 81–111). London: Academic Press.

Goldin-Meadow, S., & C. Mylander (1993). "Beyond the input given: The child's role in the acquisition of language." Reprinted in P. Bloom (Ed.), *Language Acquisition: Core Readings* (pp. 507–542). London: Wheatsheaf. (Reprinted from Language 66/2 1990).

Grimshaw, J. (1993). Minimal projection and clause structure. In B. Lust, M. Suñer, & J. Whitman (Eds.), *Heads, Projections and Learnability* (pp. 75–83). Hillsdale, NJ: Erlbaum.

Guilfoyle, E., & M. Noonan (1992). Functional categories in language acquisition. *Canadian Journal of Linguistics, 37*, 241–272.

Håkansson, G., M. Pienemann, & S. Sayehli (2002). Transfer and typological proximity in the context of second language processing. *Second Language Research, 18,* 250–273.

Hawkins, R. (2001). *Second Language Syntax: A Generative Introduction.* Oxford: Blackwell.

Haznedar, B. (1997). L2 acquisition by a Turkish-speaking child: evidence for L1 influence. In E. Hughes, M. Hughes, & A. Greenhill (Eds.), *Proceedings of the 21st Annual Boston University Conference on Language Acquisition* (pp. 245–256).

Hyams, N. (1992). The genesis of clausal structure. In J. Meisel (Ed.), *The Acquisition of Verb Placement* (pp. 371–400). Dordrecht: Kluwer.

Jagtman, M., & T. Bongaerts (1994). Verb placement in L2 Dutch. Paper presented at the American Association for Applied Linguistics annual conference, Baltimore, MD. 8 March.

Jansen, B., J. Lalleman, & P. Muysken (1981). The alternation hypothesis: Acquisition of Dutch word order by Turkish and Moroccan foreign workers. *Language Learning, 31,* 315–336.

Jordens, P. (2001). Constraints on the shape of second language learner varieties. *IRAL, 39,* 51–74.

Kaplan, R., & J. Bresnan (1982). Lexical-functional grammar: A formal system for grammatical representation. In Joan Bresnan (Ed.), *The Mental Representation of Grammatical Relations* (pp. 173–281). London: MIT Press.

Kegl, J. (1994). The Nicaraguan Sign Language Project: An Overview. *Signpost, 7,* 24–46.

Klein, W., & C. Perdue (1992). *Utterance Structure: Developing Grammars Again.* Amsterdam: Benjamins.

Klein, W., & C. Perdue (1997). The Basic Variety (or: Couldn't natural languages be much simpler?) *Second Language Research, 13,* 301–347.

Lardiere, D. (1998). Case and tense in the 'fossilized' steady state. *Second Language Research, 14,* 1–26.

Levelt, W. (1989). *Speaking: From Intention to Articulation*. London: MIT Press.
Linder, K. (2002). Finiteness and children with specific language impairment: An exploratory study. *Linguistics, 40,* 797–847.
Lust, B. (1994). Functional projection of CP and phrase structure parameterization: An argument for the strong continuity hypothesis. In B. Lust, M. Suner, & J. Whitman (Eds.), *Syntactic theory and first language acquisition: cross linguistic perspectives. Vol 1: Heads, projections and learnability* (pp. 85–118). Hillsdale, NJ: Erlbaum.
Makino, T. (1980). Acquisition order of English morphemes by Japanese secondary school students. *Journal of Hokkaido University of Education, 30,* 101–148.
McLaughlin, B. (1978). The Monitor Model: Some methodological considerations. *Language Learning, 28,* 309–332.
Meisel, J. (1997). The L2 Basic Variety as an I-language. In P. Jordens (Ed.), Special Issue: Introducing the Basic Variety. *Second Language Research, 13,* 374–385.
Meisel, J., H. Clahsen, & M. Pienemann (1981). On determining developmental stages in natural second language acquisition. *Studies in Second Language Acquisition, 3,* 109–135.
Myles, F. (2005). The emergence of morphosyntax in French L2. In Dewaele, J-M. (Ed.), *Focus on French as a Foreign Language: Multidisciplinary Approaches.* Clevedon: Multilingual Matters.
Parodi, T. (2000). Finiteness and verb placement in second language acquisition. *Second Language Research, 16,* 355–381.
Pienemann, M. (1998a). Developmental dynamics in L1 and L1 acquisition: Processability Theory and generative entrenchment. *Bilingualism: Languageand Cognition, 1,* 1–20.
Pienemann, M. (1998b). *Language Processing and Second Language Development: Processability Theory*. Amsterdam: Benjamins.
Pienemann, M. (2003). Language processing capacity. In C. Doughty & M. Long (Eds.), *The Handbook of Second Language Acquisition* (pp. 679–715). Oxford: Blackwell.
Pinker, S. (1984). *Language Learnability and Language Development*. Cambridge, MA: Harvard University Press.
Prévost, P., & L. White (2000a). Missing surface inflection or impairment in second language acquisition. Evidence from tense and agreement. *Second Language Research, 16,* 103–134.
Prévost, P., & L. White (2000b). Finiteness and variability in SLA: More evidence for Missing Surface Inflection. In A. Greenhill, H. Littlefield, & C. Tano (Eds.), *Proceedings of the 23rdh annual Boston University Conference on Language Development* (pp. 575–586).
Radford, A. (1988). Small children's small clauses. *Transactions of the Philological Society, 86,* 1–43.
Radford, A. (1990). *Syntactic Theory and the Acquisition of English Syntax.* Oxford: Blackwell.
Rohrbacher, B., & A. Vainikka (1994). On German verb syntax under age 2. *UPenn IRCS Technical Report* No. 94–24.
Schachter, J. (1988). Second language acquisition and its relation to Universal Grammar. *Applied Linguistics, 9* ,220–235.
Schwartz, B. D. (1997). On the basis of the Basic Variety. In P. Jordens (Ed.), Special Issue: Introducing the Basic Variety. *Second Language Research, 13,* 386–403.

JB[v.20020404] Prn:13/09/2005; 12:45 F: LALD3903.tex / p.28 (1610-1693)

Schwartz, B. D. (1998). On the 'wrong headedness' of generative entrenchment. *Bilingualism: Language and Cognition, 1,* 34–35.

Schwartz, B. D. (1999). 'Transfer' and the L2 acquisition of syntax: Where are we now? 'Transfer': Maligned, realigned, reconsidered, redefined. *Newcastle and Durham Working Papers, 5,* 211–234.

Schwartz, B. D., & R. Sprouse (1994). Word order and nominative case in non-native language acquisition: A study of L1 Turkish/German interlanguage. In T. Hoekstra & B. D. Schwartz (Eds.), *Language Acquisition Studies in Generative Grammar* (pp. 317–368). Amsterdam: Benjamins.

Schwartz, B. D., & R. Sprouse (1996). L2 cognitive states and the Full Transfer/Full Access model. *Second Language Research, 12,* 40–72.

Schwartz, B. D., & R. Sprouse (2000). When syntactic theories evolve: Consequences for L2 acquisition research. In John Archibald (Ed.), *Second Language Acquisition and Linguistic Theory* (pp. 156–186). Oxford: Blackwell.

Schwartz, B. D., & A. Tomaselli (1990). Some implications from an analysis of German word order. In W. Abraham, W. Kosmeijer, & E. Reuland (Eds.), *Issues in Germanic Syntax* (pp. 251–274). Berlin: De Gruyter.

Slobin, D. (1985). Cross-linguistic evidence for the language making capacity. In D. Slobin (Ed.), *The Cross-Linguistic Study of Language Acquisition*, Vol. 2 (pp. 1157–1256). London: Erlbaum.

Speas, M. (1993). Null arguments in a theory of economy of projections. In E. Benedicto & J. Runner (Eds.), *University of Massachusetts Occasional Papers 17* (functional projections). Amherst, MA: GLSA.

Tager-Flusberg, H. (1994). The relationship between language and social cognition: Lessons from autism. In Y. Levy (Ed.), *Other Children, Other Languages* (pp. 359–381). Hove: Erlbaum.

Towell, R., & R. Hawkins (1994). *Approaches to Second Language Acquisition.* Clevedon: Multilingual Matters.

Tracy, R. (2002). Growing (clausal) roots: All children start out (and may remain) multilingual. *Linguistics, 40,* 653–685.

Vainikka, A. (1993/4). Case in the Development of English Syntax, *Language Acquisition, 3,* 257–325.

Vainikka, A. (2003). Adverb movement in English and Finnish, presentation at the SKY Conference. Helsinki, Finland.

Vainikka, A., & M. Young-Scholten (1991). Verb raising in second language acquisition. Paper presented at the GLOW Workshop on the Acquisition of Syntax. Leiden, 27 March.

Vainikka, A., & M. Young-Scholten (1994). Direct access to X'-Theory: Evidence from Korean and Turkish adults learning German. In T. Hoekstra & B. D. Schwartz (Eds.), *Language Acquisition Studies in Generative Grammar* (pp. 265–316). Amsterdam: Benjamins.

Vainikka, A., & M. Young-Scholten (1996a). Gradual development of L2 phrase structure. *Second Language Research, 12,* 7–39.

Vainikka, A., & M. Young-Scholten (1996b). The early stages in adult L2 syntax: Additional evidence from Romance speakers. *Second Language Research, 12,* 140–176.

Vainikka, A., & M. Young-Scholten (1997). The interaction of initial transfer with principles of UG. Paper presented at the American Association of Applied Linguistics. Orlando, Florida 9 March.

Vainikka, A., & M. Young-Scholten (1998a). The initial state in the L2 acquisition of phrase structure. In S. Flynn, G. Martohardjono, & W. O'Neil (Eds.), *The Generative Study of Second Language Acquisition* (pp. 17–34). Hillsdale, NJ: Erlbaum.

Vainikka, A., & M. Young-Scholten (1998b). Tree growth and morphosyntactic triggers in adult SLA. In Maria Luisia Beck (Ed.), *The L2 Acquisition of Morphology*. Amsterdam: Benjamins.

Vainikka, A., & M. Young-Scholten (2001). The quirks of question acquisition in L2 German. *Acquisition Perspectives on Interfaces Workshop*. Utrecht, 8 September 2001.

Vainikka, A., & M. Young-Scholten (2002a). Restructuring the CP in L2 German. In B. Skarabela, S. Fish, & A. H.-J. Do (Eds.), *Proceedings of the XXVI Boston University Conference on Language Developmen*t (pp. 712–722). Cascadilla Press.

Vainikka, A., & M. Young-Scholten (2002b). Review of Roger Hawkins (2001): *Second Language Syntax: A Generative Introduction*. *Lingua*, 93–102.

Vainikka, A., & M. Young-Scholten (2003). Mad about the LAD. Paper presented at AAAL, Arlington, Virginia, 23 March.

Vainikka, A., & M. Young-Scholten (2004a). Organic Grammar and SLA. Talk presented at the University of Pittsburgh, 17 March.

Vainikka, A., & M. Young-Scholten (2004b). The Universal Bare VP: The *real* Basic Variety. Poster presented, GALANA conference, Honolulu 19 December.

Vainikka, A., & M. Young-Scholten (To appear). Minimalism vs. Organic Grammar. In Karimi, S., V. Samiian, & W. Wilkins (Eds.), *Clever and Right. Linguistic Studies in Honor of Joseph Emonds*. Dordrect: Kluwer.

Wakabayashi, S. (1997). *The Acquisition of Functional Categories by Learners of English*. Unpublished PhD dissertation. University of Cambridge.

Wexler, K. (1998). Very early parameter setting and the unique checking constraint: A new explanation of the optional infinitive stage. *Lingua, 106,* 23–79.

White, L. (1989). *Universal Grammar and Second Language Acquisition*. Amsterdam: John Benjamins.

White, L. (2003). *Second Language Acquisition*. Cambridge: Cambridge University Press.

Wode, H. (1981). *Learning a Second Language. Vol 1. An Integrated View of Language Acquisition*. Tübingen: Narr.

Wode, H. (1996). The reacquisition of languages: Some issues. English Department and Center for Bilingualism and Language Contact, University of Kiel. Ms.

Yamada-Yamamoto, A. (1993). The acquisition of English syntax by a Japanese-speaking child: With special emphasis on the VO-sequence acquisition. In J. Clibbens & B. Pendleton (Eds.), *Proceedings of the Child Language Seminar* (pp. 109–120). University of Plymouth.

Zobl, H. (1980). The formal and developmental selectivity of L1 influence on L2 acquisition. *Language Learning, 30,* 43–57.