

L2 Performance: Interlanguage Representations, Computations, and Intuitions

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1. So near and yet so far

A number of empirical studies strongly argue that adults can develop domain-specific grammars of nonnative languages (L2s), exhibiting morphosyntactic and/or interpretive contrasts that are not reliably learnable from available input, are not directly evidenced in their native languages (L1s), and are not the object of classroom instruction. For example, see Martohardjono (1993) for documentation of knowledge of strong vs. weak island constraints in Chinese-English and Indonesian-English; Dekydtspotter, Sprouse & Anderson (1997) for process vs. result interpretations of double genitives in English-French; Slabakova (1997) for telic vs. atelic interpretations of verbs in Slavic-English; Schreiber & Sprouse (1998) for acceptability of remnant scrambling vs. remnant topicalization in English-German; Kanno (1998) for bound variable vs. deictic interpretations of pronouns in English-Japanese; Pérez-Leroux & Glass (1999) for bound variable vs. deictic interpretations of pronouns in English-Spanish; Dekydtspotter, Sprouse & Thyre (1999/2000) for single-event vs. multiple-event interpretations of quantifiers in adverbial position in English-French; Dekydtspotter & Sprouse (2001) for speech-time vs. morphological tense-dependent interpretations of adjectival restrictions of quantifiers in English-French; Dekydtspotter, Sprouse & Swanson (2001) for wide-scope vs. narrow-scope interpretation of restrictions of cardinality interrogative quantifiers in English-French; Anderson (2002) for presupposition vs. nonpresupposition of uniqueness of the noun referent in attributive adjectival constructions in English-French; among others. These studies document L2 knowledge of subtle and highly domain-specific knowledge that was somehow acquired by adults despite severe poverty of the stimulus (POS), strongly supporting the hypothesis that interlanguage systems are fully constrained by Universal Grammar (UG), that is, the Strong UG hypothesis (SUGH).

However, anyone even casually familiar with L2 acquisition “outside the (linguist’s) laboratory” will certainly be puzzled by the SUGH, because it in no way suggests the mediocre to bleak levels of accuracy in global comprehension and (especially) production typical of both classroom and contact adult L2 learners. Thus, a significant current in generative approaches to L2 acquisition over the past decade seeks to reconcile the (apparently) UG-governed aspects of L2 acquisition with its (apparently) “post-critical-period” quality. This approach, while rejecting the Fundamental Difference Hypothesis (FDH) of Bley-Vroman (1990) (and its more extreme versions proposed by Clahsen & Muysken 1986 and Meisel 1997), assumes that while adult L2 acquisition is generally governed by UG, adults are nevertheless subject to specific grammatical impairments. Our understanding of the basic motivation behind these Grammatical Impairment Hypotheses (GIHs) is that they are designed to cover the gap between L2ers’ surprisingly good knowledge of subtle grammatical phenomena associated with severe POS and their nevertheless nonnative-like performance in a variety of domains. For example, Eubank et al. (1997), following Beck (1998), claim that (aspects of) the clausal inflectional system are impaired, so that L2 learners optionally allow the (finite) verb in I or in V. Hawkins & Chan (1997) propose a more generalized impairment, which renders unlearnable in adult L2 acquisition any purely functional feature values not attested in the learner’s L1 grammar. Herschensohn (2000) offers a related hypothesis, according to which feature values become undefined in interlanguage development, but can ultimately be adjusted on a construction-by-construction basis. In sum, Hawkins (2001)

suggests that FDH-invalidating arguments based on the POS of the type that Schwartz & Sprouse (2000) advocate do little to advance L2 acquisition research or understanding of UG, while the search for specific grammatical impairments promises to offer insights into why adults (apparently) are forced to consider grammatical analyses that do not arise in L1 acquisition.

In this paper, we show that a number of L1-L2 differences that motivate GIHs do not in fact require the assumption of grammatical impairment mechanisms. In the light of FDH-invalidating experimental evidence, we argue that evidence that appears to invalidate SUGH may actually provide a particularly clear window into the nature of L2 computations, as opposed to simple L2 knowledge representations. Specifically, we submit that aspects of L2 variability follow from the interaction of UG and the relatively less robust persistence of syntactic representations in interlanguage performance, as originally suggested by Dekydtspotter (2001). Finally, we examine GIHs from a theoretical perspective, arguing that in Minimalist theory, the status of failure/impairment hypotheses is dubious, although aspects of the intuitions about variability that they embody can be preserved.

2. Constraints on movement under experimental conditions

In her now classic experiment, Martohardjono (1993) investigated knowledge of the contrast between “weak” island violations, such as those in (1), and “strong” island violations, such as those in (2).

- (1) a. ?? Which book did John hear a rumor that you had read?
 b. ?? Which book did John wonder who had read?
- (2) a. * Which book did John meet a child who read?
 b. * Which soup did the man leave the table after the water spilled?

Although none of these sentences are grammatical in English, they nevertheless show differentiated levels of unacceptability, reflected in violations of distinct syntactic principles. Both (1) and (2) violate Chomsky’s (1973) Subjacency Condition, whereas the examples in (2), but not those in (1), also violate Huang’s (1982) Condition on Extraction Domains (CED). Alternatively, the extractions in (2), but not those in (1), violate Chomsky’s (1998) phase-by-phase reconceptualization of cyclicity. In any case, the distinctions considered here appear to be an idiosyncratic reflex of the derivational nature of the computational system and the structure of the lexicon. Of course, this is not reliably learnable from English input, since their unacceptability leads to general absence of all these patterns from production. However, in the interrogatives of some languages, the precise contrasts surfacing in English interrogatives do not discernibly surface. For example, the contrast is imperceptible in Chinese, which lacks movement in both sets of cases, and is in part reversed in Indonesian, which generally lacks movement and furthermore does not tolerate multiple *wh*-elements in the same clause, rendering the Indonesian equivalent of (1b) worse than the Indonesian equivalents of (2).

Neither English input alone nor judgments of translations into the L1 could be responsible for successful acquisition of the “weak” vs. “strong” island contrast in Chinese-English or Indonesian-English. Nevertheless, Martohardjono’s results, summarized in Table 1, show that Chinese-English and Indonesian-English learners know the contrast.

Table 1: Rejection rates of ‘strong’ and ‘weak’ constraints on movement in English by speakers of different L1s

Language group	Strong violation (%)	Weak violations (%)
English	99	78
Indonesian	88	46
Chinese	75	44

(based on Hawkins (2001:350), based on Martohardjono 1993)

The Chinese-English group rejected strong violations at a rate of 75% and rejected weak violations at a rate of 44%; the Indonesian-English group rejected strong violations at a rate of 88%, and weak violations at a rate of 46%. The native English comparison group rejected strong islands violations at a rate of 99% and of weak violations at a rate of 78%. The difference of means between these island types reached significance for all three groups ($p = .0001$).

Martohardjono's (1993) (we believe, entirely correct) conclusion is that these results point to the SUGH. Her argumentation is based on the finding that the differences in rejection rates of the two distinct classes of violations is statistically significant for each language group. It is important to note that the L2ers' performance is not indistinguishable from that of native speakers of English. Martohardjono (1993:155) notes that "extragrammatical performance factors may intervene...with the result of depressing L2 learners accuracy rates with respect to native speaker rates." In the remainder of this paper, we explore just what some of those factors may be.

3. The role of binding: A strategy

To account for these residual differences between English natives and the Chinese-English respondents in studies on subjacency, Hawkins (2001), following Hawkins & Chan (1997), suggests that Chinese-English intuitions result from two analyses: a movement analysis (3) and a *pro*-binding analysis (4), contra native acquisition of English and French-English acquisition for instance.

- (3) Movement (scrambling): $[DP_i [\dots [t_i]]]$
 (4) Binding: $[Op_i [\dots [pro_i]]]$

Specifically, Hawkins & Chan (1997) and Hawkins (2001) propose that Chinese-English versus native English differences stem from the difference in the status of the *wh*-feature (triggering *wh*-movement) in Chinese (and consequently Chinese-English) vs. in English. That is to say, because overt *wh*-movement is not instantiated in Chinese, Hawkins & Chan (1997) propose that the *wh*-feature "fails" in Chinese-English acquisition of interrogatives: i.e., the *wh*-feature cannot be part of the feature array available for analysis of English TL input. This is of course in sharp contrast to native acquisition of English, in which UG's entire inventory of functional features is available to the learner. This is also in sharp contrast to French-English acquisition, in which the *wh*-feature is part of the L1 functional inventory and is therefore available for the learner's analysis of English input. Thus, on Hawkins & Chan's (1997) version of GIH, while scrambling (replacing *wh*-movement)¹ allows for the strong vs. weak island contrast in Chinese-English, the possibility of a binding analysis leads to depressed results in Chinese-English vis-à-vis the English native speakers (see Martohardjono & Gair 1993 and White 1992 for *pro*-binding analyses of extractions in Indonesian-English and Japanese-English, respectively).

However, we find this type of account incompatible with the asymmetries observable in Martohardjono's data. Given a grammar licensing both movement and a *pro*-binding construal, it is surprising that the binding option does not (virtually) eliminate the island effects. If binding is implicated, it seems to be a "rescue" strategy, called upon when the movement analysis is ungrammatical. An overview of interlanguage subjacency results, reported in Martohardjono (1993), Schachter (1989), White (1992) and Hawkins & Chan (1997) points to a clear pattern: The acceptability judgments on English subjacency violations reveal that adult learners of English whose L1s lack overt *wh*-movement diverge (in absolute terms) from the response pattern of native English controls, who in turn diverge from the "idealized" expectations of linguists. And this is also the case

¹ One potential source of disconfirmation for Hawkins' speculation would be a demonstration that Chinese-German learners distinguish *wh*-movement vs. scrambling by differentiated acceptance of remnant topicalization vs. remnant scrambling along the lines demonstrated for English-German by Schreiber & Sprouse (1998).

(but to a lesser degree) for Martohardjono's Italian learners and Hawkins & Chan's advanced French learners. Extending Cinque's (1990) and Rizzi's (1990) conjecture that *pro*-binding construal is a generally available strategy when movement is blocked, it appears that Chinese-English, French-English, and native English all involve a *pro*-binding strategy (to some degree) and that this may be what accounts for departures from ideal expectations.

A GIH contention is that there is a distinct etiology for the binding analysis in Chinese-English. In contrast, the general availability of a *pro*-binding strategy suggests to us that the etiology of the binding analysis flows from the interaction of UG principles with the organization of the universal sentence processor. A new understanding of the L1-L2 differences under discussion arises from the relative strength (amplitude) of a universally available strategy in native and nonnative processing. To the extent that the greater "softness" of L2 behavior exists across initial L1 states (although to varying degrees), the strategy that gives rise to this softness seems more apt to follow (at least in part) from general mechanisms of sentence comprehension and production.

First of all it appears that the *pro* binding 'strategy' is not limited to Chinese-English acquisition, but is also documented in English-French acquisition (where the L1 clearly makes the *wh*-feature available for analysis in L2 acquisition). Dekydtspotter, Sprouse & Anderson (1998) argue on an independent basis that an A-bar binding strategy must be generally implicated in L2 acquisition. In a dyadic result nominal, French allows both the theme and the agent to be expressed postnominally; the agent may be either a *par*-phrase or a *de*-phrase, as shown in (5) (Ruwet 1972, Milner 1977, 1982). This contrasts with dyadic process nominals, in which only the preposition *par* may mark the agent, as shown in (6) (Valois 1991):

- (5) La démonstration de ce théorème par^(?)de ce professeur est très intéressante.
 the proof of this theorem by/of this professor is very interesting
- (6) La démonstration de ce théorème par/*de ce professeur est très fréquente.
 the proof of this theorem by/of this professor is very frequent

An asymmetry between *de*-phrases and *par*-phrases is also exhibited in extraction from dyadic result nominals. In particular, *de*-agents may be extracted from the NP, while *par*-agents cannot, as illustrated in (7) and (8):

- (7) De qui_i est-ce que tu as lu [NP la démonstration de ce théorème t_i]?
 of whom is it that you have read the proof of this theorem?
- (8) *Par qui_i est-ce que tu as lu [NP la démonstration de ce théorème t_i]?
 by whom is it that you have read the proof of this theorem?

This asymmetry is reminiscent of the distinction between argument PPs and adjunct PPs with respect to extractability from NPs: while argument PPs can be extracted from NPs (9), adjunct PPs cannot undergo such extraction, as illustrated in (10):

- (9) De quel problème_i est-ce que tu as donné [NP la solution t_i]?
 of which problem is it that you have given the solution?
- (10) *De quelle heure_i est-ce que tu as raté [NP le train t_i]?
 of which hour is it that you have missed the train?

This suggests that *de*-agents are treated as syntactic arguments (just as *de*-themes), while *par*-agents are treated as syntactic adjuncts. The presence of a *de*-agent blocks the extraction of a *de*-theme, while a *par*-agent does not block extraction, given some version of Rizzi's (1990) Relativized Minimality. Indeed, this asymmetry holds for interrogatives (11), clefts (12), and *en*-cliticization (13) (Milner 1977, 1982, Sportiche 1981).

- (11) a. ?? De quel homme est-ce que tu as vu une peinture *de* ce peintre?
of which man is it that you have seen a painting of this painter?
b. De quel homme est-ce que tu as vu une peinture *par* ce peintre?
of which man is it that you have seen a painting by this painter?
- (12) a. ?? C'est d' Aristote que tu as vu une peinture *de* Rembrandt.
it is of Aristotle that you have seen a painting of Rembrandt
b. C'est d' Aristote que tu as vu une peinture *par* Rembrandt.
it is of Aristotle that you have seen a painting by Rembrandt
- (13) a. ?? J'en ai vu une peinture *de* Rembrandt.
I of-it saw a painting of Rembrandt
b. J'en ai vu une peinture *par* Rembrandt.
I of-it saw a painting by Rembrandt

In their study of English-French learners, Dekydtspotter, Sprouse & Anderson (1998) compared learners who showed a native-like 35% or higher difference in their acceptance rates of process vs. result nominals with double *de*-genitives (Group A) with learners who showed little or no difference in acceptance rates of process vs. result interpretations of such nominals (Group C). Dekydtspotter, Sprouse & Anderson (1998) noted that the learners in Group A displayed evidence of a distinction between *de*-agents and *par*-agents not only on an *en*-cliticization acceptability judgment task, but also on an interrogative acceptability judgment task. However, they observed no distinction on a cleft acceptability judgment task, as summarized in Table 2. For Group C the presence of a *de*-agent inhibits acceptance of extraction of a *de*-theme measurably more than the presence of a *par*-agent only in the case of *en*-cliticization, as shown in Table 3. In the spirit of Cinque (1990) and Rizzi (1990), Dekydtspotter, Sprouse & Anderson argued on the basis of the A/A-bar split that binding construals are available in A-bar dependencies. Since *pro* is syntactically licensed in these environments neither in English nor in French, they suggested that this is a general mechanism with roots in the computational system.

Table 2: Group A n = 24

	Clefts	Interrogatives	<i>en</i> clitic
<i>de</i> agents	71.81%	73.33%	60.56%
<i>par</i> agents	71.46%	80.32%	71.39%
statistics	t(23) = .11, p = .917	t(23) = 2.10, p = .047	t(23) = 3.75, p = .001

(adapted from Dekydtspotter, Sprouse & Anderson 1998)

Table 3: Group C n = 50

	Clefts	Interrogatives	<i>en</i> clitic
<i>de</i> agents	69.40%	78.96%	61.60%
<i>par</i> agents	72.80%	81.00%	69.30%
statistics	t(49) = 1.22, p = .229	t(49) = .62, p = .540	t(49) = 2.70, p = .010

(adapted from Dekydtspotter, Sprouse & Anderson 1998)

Following Dekydtspotter, Sprouse & Anderson (1998), we pursue the idea that a (non-movement) binding construal is generally available for A-bar dependencies in the task of on-line comprehension. Extending this proposal, we suggest that, in both natives and nonnatives, the parser produces

interpretations by generating syntactic representations employing (4), when movement constraints block the analysis of input as (3).

Thus, the amplitude of the noise arising from the binding configuration may be greater in L2 acquisition, but the same parsing procedures underlie divergent intuitions in adult L1 and advanced interlanguage. We can think of the adoption of a *pro*-binding strategy for parses where movement analyses are syntactically blocked in terms of a need to achieve a convergent LF-representation for the purpose of interpretation. Although sufficiently English(-like) grammars do not license *syntactic* representations appealing to the Operator binding of *pro* in situ, the relevant *interpretations* still register. Hence, some kind of operator-variable structure must nevertheless obtain at LF. Unlicensed syntactic representations at LF “usually” lead native speakers to intuit experimental sentences as unacceptable. However, the interpretation of the string persists long after syntactic representations fade. This may “occasionally” (mis-)lead natives to intuit such sentences as acceptable, since they are a priori acceptable in some UG-compatible analysis.

If native speakers are “occasionally” “misled” in this way, what can we expect of nonnatives? It is well known that even highly proficient L2ers typically read quite slowly, and as Juffs & Harrington’s (1995) study of highly proficient Chinese-English L2ers has shown, they exhibit prolonged latencies on timed reading tasks involving filler-gap dependencies, in comparison with native speakers. Coupled with the assumption that available working memory is constant, slower computations by nonnatives lead to the depressed persistence of the syntactic representations induced by the experimental stimulus. The fact that natives and (proficient) nonnatives behave differently on the classic subadjacency tasks (when their knowledge of movement seems otherwise similar) finds its explanation in the persistence of syntactic representations interacting with universal parser actions: for nonnatives (with English-like grammars), syntactic representations fade more quickly (than for native English speakers), leading to higher acceptance rates of ungrammatical sentences. On this view, the level of “noise” in L2 performance reflects (in part) the operation of the sentence processor, eliminating the need for GIHs.

4. The universal processor as a source of variability

In this section we extend our account of (aspects of) L1-L2 differences in performance to Eubank et al.’s (1997) word order variability facts, questioning Eubank et al.’s (1997) motivation for variability in the grammar itself.

Eubank et al. (1997) claim that Chinese-English learners allow optional raising of finite (nonauxiliary) verbs from V to I, despite the fact that neither Chinese nor English does. According to Eubank et al. (1997), the learners allow optional raising, because adult L2ers have a grammatical impairment of the mechanisms that determine whether finite verbs should or should not raise. Eubank et al. based the empirical finding on an experiment involving English sentences like (14), where a manner adverb is placed between the finite main verb and a present active participle modifying the direct object.

(14) Tom draws slowly jumping monkeys.

If the adverb *slowly* is interpreted as modifying *jumping*, then the finite verb *draws* is taken to be in situ within the VP. If the adverb *slowly* is interpreted as modifying *draws*, then the finite verb *draws* is taken to move from within the VP to I. In native English, only the first interpretation is possible. To test the intuitions of Chinese-English learners, Eubank et al. administered a truth value judgment task with items such as (15).

(15) Tom loves to draw pictures of monkeys in the zoo. Tom likes his pictures to be perfect, so he always draws them very slowly and carefully. All the monkeys always jump up and down very fast.

Tom draws slowly jumping monkeys.

In addition to a native speaker group ($n = 28$), Eubank et al. (1997) considered two types of learners. Those that display agreement morphology in English ($n = 15$) and learners that do not ($n = 25$), who were taken to have higher proficiency and lower proficiency, respectively. The results reported in Table 4 show that a not insignificant number of responses indicate that the learners judged sentences like (15) as true, that is, as if they had syntactic representations with raising of finite main verbs to I: 30.4% of cases for low-proficiency learners and 18.3% for high-proficiency learners.

Table 4: True-value judgments on items like (15)

	Native English	high-proficiency Chinese-English	low-proficiency Chinese-English
False	91.0%	81.7%	69.5%
True	9.0%	18.3%	30.4%

Eubank et al. (1997) argue that the variability in responses exhibited by the low-proficiency learners and maintained by the high-proficiency learners signals an impairment of aspects of the computational system triggering [$\pm V$ -to-I-raising]. Hence despite the fact that both English and Chinese are [$-V$ -to-I-raising] grammars, Chinese-English acquirers exhibit variability with respect to V-to-I-raising: in cases where there is no raising, they judge sentences like (14) in contexts like (15) as false; when there is V-to-I-raising, they judge such sentences in such contexts as true.

Several questions must be answered by this GIH proposal: a.) why is it that there is a strong bias of Chinese-English learners to answer False (so that the V-raising representation does not constitute the preferred interpretation), if the grammar itself is optional? b.) why is it that some Chinese-English learners categorically answer False ($n = 8$), if their grammar allows optionality?²

We propose that the structure of the universal parser (which allows for the acquisition of [$+V$ -to-I-raising] grammars by learners whose L1 grammars are [$-V$ -to-I-raising]) also provides an explanation of variability outside the bounds of the grammar per se, and accounts for the individual differences observed. Let us consider briefly the processing prerequisite for acquisition. Any grammatical change is a function of the manner in which the input can be parsed: As Fodor (1998) notes, what remains unparsed cannot contribute to the development of a new grammatical state. Thus, for a speaker of a [$-V$ -to-I-raising] grammar to acquire a [$+V$ -to-I-raising] grammar, she must still be able to entertain [$+V$ -to-I-raising] analyses in parsing. This means that in principle any learner has the potential of assigning syntactic analysis sanctioned by UG. Thus, the parsers of Chinese-English learners are able to assign [$+V$ -to-I-raising] analyses to English input strings like (14), even though the grammar of neither Chinese nor English will syntactically license such analyses.

English natives and Chinese-English learners first attempt to assign a [$-V$ -to-I-raising] representation (which their respective grammars license) to an English sentence like (14); however, when these representations fail to be contextually integrated into contexts such as (15), the parser (striving for integration of a representation into the current context) revises the parse (independently of the parameterized grammar) to the ungrammatical [$+V$ -to-I-raising] representation. This representation allows for contextual integration; however, the grammar marks it as ungrammatical. On the interpretation derived from the representation licensed by the English native grammar and Chinese-English grammar, the mismatch with the context is intuited as “false”. We note that as expected this is the overwhelming response pattern: 81.7% for high-proficiency learners and 69.5% for low-proficiency learners in Eubank et al.’s (1997) experiment. We also note that English natives in this experiment could also be contextually induced to produce the syntactically deviant [$+V$ -to-I-raising] representation at a rate of 9.0%.

The kind of rationale considered in section 3 applies here as well. If contextual integration is the goal of sentence processing, a [$+V$ -to-I-raising] representation is generated. Unlicensed [$+V$ -to-I-

² We thank Bonnie D. Schwartz (p.c.) for this observation.

raising] representations “usually” lead native speakers to reject the corresponding interpretations. Again, the [+V-to-I-raising] representation is nevertheless independently accessed by the parser and is contextually integrated, and this information persists long after syntactic representations fade. This may “occasionally” (mis-)lead natives into intuiting such sentences such as (14) as true in contexts like (15), since they are acceptable on some UG-compatible analysis. In even highly proficient L2 learners, the relative non-persistence of the syntactic representations associated with slower processing of input in the limits of resources and the goal of contextual integration, leads to higher acceptance rates of contextually integrated ungrammatical sentences. That is to say, the ungrammaticality message subsides as the representation fades quickly, whereas the message of contextual integration subsists (i.e., the contextually intended message has been carried.) The difference here between natives and highly proficient L2 learners is one of degree (amplitude of noise generated by the sentence processor), not one of kind (epistemological space for grammatical representations). Impairment of the grammatical system is not required to account for Eubank et al.’s (1997) variability data.

5. Implicit and explicit knowledge and variability

Finally, we explore the sources of variability in the strictures of the universal processing algorithm. As Larson & Segal (1995) point out, one must distinguish knowledge that is explicit in the processor from knowledge that is implicit in the processor. Explicit knowledge minimally includes the (acquired) parameterizations of the lexicon and the (innate) specification of the human language computational system (C_{HL}). In contrast, implicit knowledge is the content of the language faculty that is not expressed as such in a given language module. Implicit knowledge comprises the virtual space of UG-compatible analyses and grammars (i.e., the set of objects that are licensed by C_{HL} -operations) and interface relations among them. As Larson & Segal (1995) note, the distinction between implicit and explicit knowledge is inherent in any processor. It cannot be avoided.

We may describe language acquisition as the reinforcement of knowledge that is implicit in the language faculty prior to exposure, making it explicit (i.e., into a grammar). That is to say, values implicit in C_{HL} (by virtue of being values that C_{HL} recognizes) are made explicit in the abstract functional lexicon by the acquisition process. As Chomsky (1995) suggests, it is possible to think of C_{HL} as including a set of values (from which a selection takes place) and a set of operations and principles, so that the computations of these together determine a grammar. GIHs may thus be seen as the natural result of this one-time selection. Nevertheless, this set of values still is presupposed by C_{HL} as the values that C_{HL} recognizes.

We view GIHs as inherently incompatible with this Minimalist conception of C_{HL} . This is because GIHs depend on the assumption that at some point in the human life-cycle, the set of feature values already made explicit in the acquisition process somehow becomes the sole source for further (nonnative) language development. However, we must vigorously object that as long as the operations and principles are independent of any particular grammar, then the set of UG-recognizable values is implicit in those operations and principles. Only if the principles and values are without residue organized into a parsing grammar (as Bley-Vroman’s 1990 FDH envisages) can the set of values that are not made explicit by the L1 grammar be “discarded.” On this view, the middle ground between SUGH and FDH inhabited by GIHs evaporates.

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