Features and Patterns in Foreign Language Learning

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In the past decade, and especially in the past few years, the investigation of the place of Universal Grammar in adult foreign language learning has moved well-beyond the crude "access vs. no-access" debates of the past. While the weight of the evidence seems to show that UG <u>probably</u> does not function in foreign language learning in exactly as in child language development, and it <u>certainly</u> does not yield the same results, the precise nature of this difference is as yet unclear. Perhaps, the L1 grammar forms in some sense the starting point of foreign language learning, so that the learner, in attempting to make (conservative) modifications to align the grammar with the L2 input, comes up, through parameter resetting, with grammars, which, though broadly "possible languages" in UG are not the grammars which the operation of UG give would rise to in child language development. (This is the so-called full-transfer full-access hypothesis of Schwartz and Sprouse.)

Perhaps UG itself only enters the process indirectly, mediated through the representation of L1 grammar (Bley-Vroman; Schachter; Clahsen and Muysken); thus parameter-resetting cannot reshape core grammar. If this is so, the IL can be formed only (or primarily) by relying on other, primarily inductive processes, including those not purely specialized for language (a proposal made from within the generative camp by Bley-Vroman 1990, and of course by many others outside the camp.)

Possibly, the learning procedures operate differently: the subset principle may not operate, causing negative evidence to be essential in foreign language learning, in contrast to the case of child language development.

Possibly, certain triggering mechanisms needed to set parameters might be different in foreign language learning. (Vainikka and Young-Scholten

speculate that the presence of auxiliaries, rather than inflectional features, is what triggers raising in foreign language learning of German).

In a most interesting and quite radical proposal, Maria Beck has reported on research which suggests that certain specific aspects of UG are subject to a critical period and hence impaired in adult foreign language learning. Specifically, Beck argues that the mechanisms which set abstract lexical feature values based on input and thence deduce permitted structural configurations may be absent in adult acquisition--for example, that part of UG which relates abstract "strength" of lexical inflectional features to the possibility of verb raising might not work any more. Eubank and Gregg, in an important recent paper ("Divide et impera"), argue convincingly for the general plausibility of Beck's position on both conceptual and empirical grounds.

Bley-Vroman and Yoshinaga have shown, in a quite different realm, an impaired performance of L2 learners in relating the semantic features of verbs to these verbs' possibility of occurring in the English double-object dative. Here, too, the mechanisms which work out the syntactic consequences of lexical features are apparently not operating properly in foreign language learning.

As Fleck, Leder, and Svetics elegantly put it, "If, as Chomsky suggests, UG consists of a few very abstract constraints on derivation, and language differences consist of differences in the lexicon, and if...some of those differences are opaque to to second language learners because UG is no longer available to guide them, then we would have a strong explanation for second language learners' peculiar competence."

The purpose of this talk is to outline one component of the "second language learners' peculiar competence." In essence, I will be proposing a system of construction-by-construction learning, recruited as the deductive parameter-setting system is unavailable.

Constructions as epiphenomena or the stuff of acquisition.

There is persuasive evidence that the (core) knowledge of a native language is not simply a construction hoard. Nevertheless, there is at least

some reason to believe that foreign language learners may accumulate constructions, so that constructions, rather than being epiphenomena, are the stuff of acquisition.

First, consider the research showing "clustering failure." As an example, take the series of studies by White and her collaborators on the range of constructional differences between French and English which can be traced back to their differing verb-raising possibilities. These facts include do-support in question-formation in English but not in French, the possibility of placing an adverb between subject and main verb in English but not in French, the possibility of an adverb intervening between verb and complement in French but not in English and a range of other facts involving finiteness and the distinction between main verbs and auxiliaries. One can make a list of the differing licensed superficial orders in French and English. But, of course, this list is itself without theoretical status. No linguist would propose that competence in this area of grammar of a native speaker of English or French consisted of one or the other of these lists, no matter how elegantly organized.

The fact is, however, that French learners of English do seem to be learning the elements of the epiphenomenal list separately. A learner can master English-style questions with inversion and do-support without acquiring the relevant restrictions on adverb order. Even within the adverb orders, learners may come to know that adverbs can intervene between subject and main verb without learning that English adverbs do not freely separate verbs from objects. In their insightful commentary on White's research Schwartz and Gubla-Ryzak argue that that the learners are in part approaching the task as the learning of "patterns" (their word), rather than applying the UG-based parameter-setting mechanisms. White, too, agrees that some sort of "pattern-matching" may be taking place. (Aside: I must say that I am taking the comments of both White and of Schwartz and Gubla-Ryzak out of context and am putting a spin on their observations which takes them off in a different direction from what they would have perhaps chosen. The point I am trying to make is that, despite differing views of its significance, many researchers do agree on the existence of the "pattern phenomenon.")

Consider, as a second example, to which we shall return, the acquisition of

German word order. All linguists agree that this complex of facts must fit together and that they are UG-deduced consequences of one or a small number of abstract characteristics of the language. This range of epiphenomenal patterns include: the V2 phenomenon and its restriction to main clauses; the position of non-finite verbs in clause-final position in main clauses; the treatment of separable prefixes; and the placement of finites in clause-final position in embedded clauses. One might add to these patterns certain facts about the superficial placement of adverbs, the possibility of inverting both auxiliaries and main verbs (unlike English)--and perhaps other things as well. What one sees, as is well-established, that it is quite possible for the adult learner to know, say, that adverbs can be fronted without knowing that there is obligatory inversion in that case. The verb-final pattern seems to be learned separately, too.

The occurrence of clause-final non-finite elements in German ought to motivate a head-final VP and prevent non-finites from occurring in V2. But we know, as for example in the well-studied case of Jose, that learners can put non-finite verbs in clause-final position with a modal and still put apparent infinitives in second position after a subject. Meisel, and later Eubank, have pointed out the difficulty (the "predicament") that this situation poses for UG-based deductive acquisition theory. Moreover, Jose has apparently acquired by this stage the fact that that non-finites do not occur in the <u>inverted</u> V2 pattern. If we could accept that

   subject-inversion V2 pattern,
   the SVO pattern, and
   the split-VP (S Aux X V) pattern

are being separately learned, then there is no "predicament," then we might also expect the separate learning of the verbal restrictions in each case. Evidently, Jose has learned not, a la UG, that there is a head position at the end of the VP in which non-finites are stuck. Rather, he has learned that auxiliaries combine with verbs of particular form (as they do also in Spanish), and that they occur in the pattern with the main verb at the end.

Theories have been proposed (notably by Manfred Pienemann and his colleagues) which have had some success in establishing developmental acquisition orders for constructions, such as, especially, these German

cases. But such theories implicitly accept the idea that what is going on is in fact some sort of construction-by-construction acquisition. Pienneman's views of processing complexity, for example, really make sense only if things like "the SVX pattern", "the separated particle pattern", the verb-final pattern", etc. are the actual objects of acquisition, not mere superficial consequences of abstract settings, epiphenomena with no psychological reality in foreign language learning.

As a final less well-known example, consider White et al's study of the acquisition of wh-extraction in Malagasy-speaking learners of English. There, White outlines a story by which the learners could in principle on the basis of abstract parameters deduce the grammaticality of a full range of different superficial patterns based on readily available input. In fact, the results differ from pattern to pattern and seem (in my view at least) to be most amenable to explanation in terms of the presence (or absence) of particular patterns in the input, plus the correspondence (or lack thereof) between the epiphenomenal English patterns and the epiphenomenal Malagasy patterns. All the learners accept English patterns easily when they correspond to Malagasy patterns. Some (about half) will learn to accept wh-extraction of objects in DPs: *Which song were you hunting for a recording of?*--a pattern not present in Malagasy but present in the English input. They are unlikely to extract from subject position in DPs: but then this pattern is attested neither in L1 nor the input. Many learn that complementizer *that* can be omitted before *that*-clauses (as also is evident in the input); however, they do not register any connection between the presence of *that* and the possibility of subject extraction from embedded clauses (unlike the native controls, who never ever drop *that* in subject-extraction cases). Again, the picture is what we see again and again: learners can add patterns which are present in the input, and do so especially easily if they correspond to native-language patterns.

As I said at the outset, the central purpose of this talk is to outline a framework for describing constructional knowledge in the context of foreign language learning.

I am primarily interested in taking up an obvious challenge to input-driven conservative construction-learning: that it cannot readily "go beyond the

input".

Now, L2 learners are *regularly* seen to go beyond the input. In the key cases, the foreign language learner has a grammar which permits something which is rooted neither in L1 nor L2, but which is among the possibilities which UG would allow. I will focus on two examples. First, Hebrew-speaking learners of English have been observed to apply subject-verb inversion (with *do*-support) in English embedded wh-interrogatives (informally "indirect questions"). *I wonder what did she eat*, even though English doesn't do this and Hebrew, though it does invert in embedded structures, doesn't have auxiliaries. Hagit Borer, referring to the importance of this specific example to L2 theory, writes: "The emergence of grammatical constructions in L2 which represent neither the L1 grammar nor the target language grammar is the ultimate proof of the existence, in the construction of L2 grammars, of an active and powerful innate grammatical system." I propose to show that you don't need UG to account for *I wonder what did she eat*.

The second case is that of the Turkish learner "Cedvet" who was acquiring German as a second language. Schwartz and Sprouse note that for a full year, Cedvet used inversion, but almost exclusively with pronominal subjects. This type of asymmetry between pronouns and full NPs in inversion is attested in the grammar of French but neither in German, nor in Turkish. I propose to show that you don't need UG to account for Cedvet's thinking German is French.

In preparing for these two cases, I will also discuss the somewhat simpler example of the learner of German who learns to prepose adverbials but does not invert.

Basics of construction-based acquisition.

At a minimum, a construction is an arrangement of categories which is itself a category. The arrangement of a Det followed by a common-noun-phrase is an NP-construction. A Passive sentence construction consists of an NP subject, a passive verb-phrase, and an optional by-phrase. Each construction will have an associated semantics and pragmatics. So, one speaks of the "form, meaning and use of the passive" or of the "dative" or of the "pseudocleft", or of the "process nominal". The concept of construction in this pre-theoretic sense is used throughout linguistic

science. In American linguistics, the theoretical status and significance of constructions has been discussed at least since Bloomfield. In the Fries tradition, which had such an influence on applied linguistics, constructions cropped up in the form-meaning pairs which Fries called "patterns" and which he considered the primary components of linguistic structure which the L2 learner must master. In this talk, I will sometimes use the term "pattern" as a synonym for construction.

Constructions may be conceptualized as phrase-structure rules, and indeed current linguistic-theoretical work in Construction Grammar has its roots in phrase-structure grammar, in Generalized Phrase Structure Grammar, in Head-driven Phrase Structure grammar, etc. However, here, I will use a sort of "box" notation. For example,

S --> NP VP in boxes on the handout.

VP --> V NP also in boxes

[On handout, the V NP box linked to the VP box of the NP VP box]

Now, of course, V NP is not the only kind of VP. We also have intransitive VPs: V, or ditransitives: V NP NP, and many other types. Let us say that each one of these types of VP is an "instance" of the VP pattern. In representing the construction-hoard we will "link" each of the subtypes of VP with the "general" VP of which they are all instances.

Patterns may be subcategorized both on the basis of internal structure (like the different sorts of VPs) and on the basis of external distribution or function. A relative clause is a special sort of clause in that it combines externally with a nominal expression and functions to modify it. A relative clause also has special internal characteristics, consisting of a relative pronoun and a sentence with a missing element (an S/XP in the notation of this paper). In other work e.g. Bley-Vroman 1990 "The Logical Problem of Foreign Language Learning", I have assumed that the bases for such classifications are all either (a) used in the native language or (b) readily discernible in the input. For example, I assume that even if the learner's

native language does not have both inverted and uninverted sentences, the learner will be able to tell the difference. (One might permit access to some sort of UG-given list of possibly syntactically relevant properties. I point this possibility out only to show how, with a sufficiently elaborated theory of the structure of foreign language knowledge, one can move beyond all-or-nothing UG-access debates. Construction-by-construction acquisition does not in itself exclude some sort of UG access.)

A given occurring structure can veridically be an instance of several different patterns simultaneously. *ate the cake* is a transitive VP and, indirectly, also an example of a VP tout court. It is also a past-tense verb phrase, which of course, is an instance of a finite VP. We see that the construction system is not simply a taxonomy, but a web-like cross-linked system, with, as we shall see, some degree of tangledness, they are "directed (probably) acyclic graphs".

Constructions "inherit" features of the constructions of which they are instances. This inheritance permits generalizations across constructions to be captured. The various VPs all have certain things in common (being headed by a verb, for example). This they can inherit from the "main" VP construction of which they are all instances.

We will also permit constructions to be "embedded" in constructions. An infinitive phrase, for example consists of *to* plus a stem-form non-finite VP. Such stem VPs of course also are used in construction with modals and in "present subjunctive" *that*-clauses. We can define the stem-VP construction just once and then link it to the other constructions in which it used.

Now let us consider some examples which will lead up to the explanation of the problematic cases. Just with the apparatus we have so far is enough to "go beyond the input" in simple cases even under the restriction that the learner will add a construction to the grammar just in case it is encountered in the input data and not otherwise.

The key concept which underlies the entire explanatory apparatus of construction-acquisition is that it is a case of human cognitive categorization. If you see the significance of the following non-linguistic examples, then the linguistic examples will all make sense:

The dog which I saw running down our street yesterday was simultaneously a member of the category dog, labrador retriever, four-legged animal, etc.

We can say of the McCarthys that they have always had dogs as pets, that they have always had mammals as pets, that they have always had four-legged pets. All these may be true, but they may not all equally capture what is really motivating the McCarthys' choice of pets.

I saw that there was a no-parking sign, but I didn't notice that it said "Sundays excepted".

 I illustrate with a simple example of a well-know phenomenon in the acquisition of German:

The following two statements are both equally true of German:

(1) "you can have an Adv followed by an S", and
(2) "you can have an adverb followed by an inverted S."

In the linked-construction notation, the data thus motivate either (1) or (2) on your handouts. Already, we see a substantial advantage of construction-learning. Inter-learner variability is positively expected, even among learners exposed to identical input. (As I put it in Bley-Vroman 1990, "different learners will notice different things".)

Solution (2) is of course "true" to German grammar. Solution (1) simply notes that adverbs can precede sentences, but doesn't say whether they are inverted or not. In this case, both Gestern sah der Mann die Frau and Gestern der Mann sah die Frau are licensed. So, the learner can "go beyond the input". This example also shows how construction-learning is perfectly happy with so-called "optionality" which is common in foreign language learning.

But what of the learner who seldom or never inverts even though all the input examples are inverted. Such learners are well-known in German acquisition. According to the theory being proposed here, it cannot be that such learners simply have Suninv linked to the position after the adverb, since this is *not* true to the input. The statement "you can have an

adverb followed by an uninverted S" is false. And recall that, for sake of this argument, we are operating under the restriction that constructions are not added unless they are motivated by the input.

In order to account for this phenomenon, we need only add the concept of construction strength (or "weight") to the model. Variable strength is not itself a controversial concept. It is pervasive in cognitive science in general and in models of language specifically, from the symbolic and rule-based (e.g. in Pinker's theoretical work) to the construction-grammatical (as in Goldberg's concept of strength based on type frequency); it is also prominent, obviously, in any connectionist theory. Variable strength of construction subtype has also been demonstrated empirically, for example, in Wolfe-Quintero's studies of varying relative strengths of the grammatical double-object dative versus prepositional dative depending on semantic verb class.

So, to return to the question, how do we describe the learners who never invert with preposed adverbs? We say that they have the link structure of (1), combined with a strong weight on the non-inverted instance of S, a weight determined independently from the preposed adverb sentences.

A slightly different conception is also available--one which I actually favor. Since construction-learning is in its essence category formation, we expect to find characteristics of human category formation generally. Specifically, we expect to see prototype effects. When several constructions are instances of a construction, we expect to find one of them singled out as prototypical. In the case at hand, the learner who never inverts has a construction grammar such as (1) and considers the uninverted sentence-type to be the prototype.

Why the learner should consider the uninverted sentence the prototype (or, alternatively, the "stronger") is a separate matter, but probably has something to do with its frequency, salience, and lack of special pragmatics. It is the "unmarked" sentence type in a Praguean sense.

This precise situation was observed in the learner Cedvet, studied by Schwartz and Sprouse, and their analysis (though couched in parameter-setting terms) actually employs some of the same insights as this construction-based analysis. Cedvet, in their view, encountering sentences with preposed adverbs, concludes that the target language permits such elements to be left-adjoined, but he does not make the more radical changes

to his grammar which would handle the inversion. Then, he can just use the regular SVO order which he had earlier established, this based on the order's "frequency and salience," as Schwartz and Sprouse themselves suggest.

Besides (1) and (2), a third possibility also exists, because of the possibility of multiple "true" analyses of the input. In diagram (3) on your handout, you see that the portion after the adverbial can be linked BOTH to S and to Sinv. This would model a case--probably the most realistic scenario-- in which the two links exist. Now, if, following Goldberg 1995 and much other work in construction grammar, we conceive of the links themselves as objects, then strength can be feature of a link as well as of a construction. The link to Sinv might be stronger or weaker than the link to S, and the relative strengths might change over time. For example, if the link to Sinv got stronger, the prototypicality of uninverted S might be overcome: we could say that the learner was "gradually getting better" at inversion. However, the link to S might be retained, at some lesser strength, so that even after inversion was well in place, occasional cases of prototypical uninverted S after adverbial might be produced. This is exactly what is seen in real cases, again with Cedvet serving as a particularly clear example.

The construction-learning model thus provides a natural explanation of "optionality", "stage-seepage", "backsliding", "uncertainty", etc. which bedevil parameter-setting accounts.

We are now in a position to explain how a learner might invert in embedded questions.

The diagram on your handout is a kind of schema for the possibilities which the input permits. In the diagram, S/XP means a sentence with a missing constituent, following the notation of Baker 1995 (adapted from GPSG). An S/XP is, of course, and instance of S. Inverted and uninverted questions are also instances of S. Wh-questions are of two types: inverted and uninverted; and clauses are of two types, main and embedded; wh-questions themselves are an instance of question, of which yes/no questions are the another instance.

In the simplest case, the learner notes that wh-questions may be embedded, but makes the connection to wh-question, rather than to uninverted wh-question. This, together with the reasonable assumption that the learner considers the prototypical question to be inverted, yields

inversion in embedded clauses. The fact that Hebrew inverts questions even in embedded clauses may help reinforce this prototypicality, in the case Borer cites.

It bears repeating that the learners have <u>not</u> created a grammar which specifies that wh-clauses may be embedded and that they are inverted when embedded --for that would be inconsistent with the input; rather the learner has simply noted that wh-clauses can be embedded, and the inversion is inherited from the prototypical question construction. Of course, the learner may later establish a link between the embedded wh-construction and the uninverted construction, and this link will strengthen to the extent that increasing numbers of input examples of embedded wh-questions are analyzed in this way. Thus, we may see progress (or not).

The case of the Turkish learner (Cedvet again) treating German inversion as if it were French is probably amenable to the same type of solution. Cedvet has pronouns and NPs and can certainly distinguish them from each other. Turkish, like most languages, does distinguish pronouns from NPs, and there are doubtless a range of German input features (phonetic, pragmatic, etc.) in the input which will point to the distinction. Thus, sentences with pronoun subjects can form a separate instance of S from sentences with full-NP subjects. Since inverted sentences are themselves instances of sentences, then inverted sentences with pronoun subjects will be set up as a separate construction, an instance both of S and of Spronom. This is all reasonable, virtually inevitable, given the general framework.

The next step is to invoke the by-now familiar principle of multiple consistent analyses: for every inverted sentence in the input, one can say either "that is an instance of a sentence," or "that is an instance of an inverted sentence," or either "that is an instance of an inverted sentence with a pronoun (if it is)," or "that is an instance of an inverted sentence with a full NP (if it is)."

At the next step, things become a bit more tenuous. In order to account for the heavy predominance of pronoun subjects in Cedvet's inverted sentences, the pronoun-subject instance of inverted sentence must be stronger, relative to the other instances. Is this plausible? What could lead to this state of affairs? One reasonable conjecture is that inverted sentences with pronoun subjects are in fact more common in the input than

are those with full-NP subjects. What is relevant of course is the discourse to which Cedvet is exposed and to which he pays some attention. Typical corpora of German, for example, those readily available in electronic form, are of written language, primarily expository prose (Spiegel on line) and fiction (Goethe). Such corpora presumably do not exemplify Cedvet's primary sources of examples of German inversion. It is likely that many cases (perhaps most cases) of inversion which Cedvet encounters in ordinary interpersonal interaction are found in main-clause questions, and very many of these probably have pronoun subjects referring to Cedvet himself ("you") or the participants in Cedvet's workplace or German language class. If this is so, then the pronoun-inversion pattern can be expected to be stronger than full-NP inversion pattern, even though both are equally licensed in German grammar. I leave this issue undecided, but I hope to have shown the direction the research needs to take.

ON POVERTY OF THE STIMULUS

There is a lesson here about "going beyond the input" and "poverty of stimulus" arguments, which in SLA often refer to something (an asymmetry) which shows up in the learner's language which is present in neither the native language nor the target language.

But note: the relevant concept of "target language" here is not "target language grammar". The learner obviously has no access to this. What is relevant? The actual input as encountered by the learner. It is certainly true that German grammar shows no asymmetry in inversion between sentences with pronominal and non-pronominal subjects--both are equally licensed, but the German input as encountered by the learner may indeed contain such an asymmetry. In arguing whether a phenomenon is present in the target language, it is a serious fallacy merely to point out what is or is not licensed by the grammar ("I-language"). A foreign language learner is not exposed to a foreign language grammar; a foreign language learner is constructing a foreign language grammar based on the input--it is distinctions and asymmetries in input, not in target grammar, that primarily matter.

NOTICING

The work of several SLA researchers, Dick Schmidt most notably, has shown the centrality of consciousness, broadly understood, in language acquisition. In essence, what is not "noticed" is not learned. A promising research trend is beginning to elucidate how noticing works, how it fits into language acquisition, and how it can be manipulated.

Noticing also has a key part to play in integrating construction-acquisition into the larger framework of SLA theory. Throughout most of the previous discussion I have said "present in the input", or "encountered in the input", what I should have said was "noticed in the input."

The category to which I can assign an object depends on what I <u>notice</u> about that object. To return to the dog example, if it hadn't noticed the breed of dog, I could not have said that a labrador had run down the street, but only that a dog had run down the street, or four-legged creature, etc.. Note that it is not false to the facts to omit the unnoticed fact that the dog was a lab.

Let us see how this works in examples like those I have discussed. Consider the learner who may not invert with preposed adverbials in German. We can say that a learner may <u>notice</u> that adverbs can occur pre-sententially in German, but <u>not notice</u> that there is inversion when this happens. This necessarily gives rise to a construction network like (1), which together with the prototypicality of uninverted sentences, explains the learner's lack of inversion with preposed adverbials. A different learner may <u>notice</u> the inversion along with the preposed adverbial. Such a learner can link Sinv to the second slot in the preposed adverbial construction.

It should be clear that the basic problem for the language learner is noticing the right things at the right time, so as to determine the correct type and level of categorization for a given pattern.

In fact, one may need to go somewhat beyond mere noticing. The learner may know, for example, that both inverted and non-inverted clause patterns exist, and may even notice it, in a given example with an adverbial but may not realize that the invertedness of *besuchte der Mann seinen Freund* in *Gestern besuchte der Mann seinen Freund* is relevant to the pattern Adverbial + S_{inv}. Perhaps this is one way to make sense of Schmidt's conjecture that what he calls "understanding" as well as noticing may be involved in second language acquisition.

The theory of noticing thus dovetails with the descriptive apparatus of L2 construction linguistics, as outlined here. Essentially, noticing is the interface between the input and the developing set of constructions.

SUMMARY TO THIS POINT

Let me summarize what I have done to this point and try to anticipate certain questions and objections.

1. Acquisition of a foreign language is (at least in part) the acquisition of a system of individual constructions. However, this is not simply an unstructured list, it contains links of various sorts among constructions. It also permits a system of varying strengths, both of constructions and of the links among them.

2. This system can provide a much more satisfactory and much less forced descriptive account of learners' knowledge of a foreign language than can a system which relies on abstract features, parameter-setting, and strong deductivity.

3. The system naturally accounts for (a) lack of success (b) variation, both within a learner and among learners and (c) progress, up to near-nativeness.

4. The construction-acquisition framework can be hooked up in a natural way to the impressive work in noticing now being done in another corner of our field.

Now let me try to anticipate some obvious objections.

First, one may say: "So much depends not just on input, but on what people notice. But you haven't really said what permits or encourages people to notice things. Doesn't that make your theory essentially impossible to test, given the difficulty in defining what is noticed?"

Answer: No. I adopt a divide-and-conquer view of SLA research. Substantial progress can be made in the investigation of foreign-language construction-systems, even without complete understanding of the noticing systems which are implicated in their development. The results of this sort of interlanguage linguistic investigation are important to those working in

noticing. And, as work in the psychology of noticing progresses, it feeds the theory of construction-acquisition, so that both areas gain substance, symbiotically. The fact that it is not "input", but noticed input that is relevant makes many things harder to test: corpora analyses and raw frequency counts are only a first step. However, "hard to test" is a fact of life in studies of human cognition, not just in SLA construction theory. The hope is that testability improves as work proceeds, and there is every reason to believe that this hope is well-founded.

Second. There is the "Bangu-Bangu" objection. Derek Bickerton notes that after any talk about anthropology, sociology, or linguistics, especially a talk which makes any general claim, someone in the audience will rise to object: "But what about the Bangu-Bangu?" (or substitute your own favorite society: the "Nacirema", or whatever). Now, the Bangu-Bangu apparently provide a counterexample to the speaker's claims. The questioner has devoted many summers to studying the Bangu-Bangu, whom the speaker is only vaguely aware of.

There are by now scores of important results in UG-inspired SLA theory which have couched the discussion of their results in parameter-setting terminology. I confess that in some cases, it is not obvious how to deal with these results in terms of construction-acquisition, which has so far concentrated simply on word-order patterns. I have in mind especially the now rich series of research results on L2 reflexive binding. I will point out, however, that the fact that it is possible to see where the empirical challenges to a theory lie shows that the theory is of more than armchair interest.

My experience in working on the current project has been that when your eyes are opened to the idea of construction-by-construction acquisition, and then you re-read old UG-based studies or hear new ones, you often have a kind of "aha" experience.

Question 3. What about semantics. I assume that a construction has an associated pragmatics and semantics, at least in terms of a matching of elements to roles, and I suspect that we will see a degree of construction-by-construction acquisition here, as well. A preliminary investigation of the meaning and use of the "way-construction" (He joked his way into the

meeting) by some of my students has suggested that Japanese learners of English weren't usually seeing the implication of removing an obstacle, understanding it instead as "I entered the meeting, joking" or "jokingly, as is my wont." It appears from their informal comments that at least a few learners are basing their interpretation of this construction on something like "I did it my way". This is obviously an area which requires investigation, but I see no obstacles in principle, apart from the familiar difficulties in investigating meaning and use.

THE RELATIONSHIP OF L2-CONSTRUCTION SYSTEMS TO THE QUESTION OF UG ACCESSIBILITY

The recognition that SLA involves construction-by-construction learning is compatible with various views of UG-access.

Notably, it fits in extremely well with the Beck-Eubank-Gregg conjecture that the mechanisms for setting parameters based on abstract features do not operate, though UG otherwise is alive and well. This impairment, of course, effectively demolishes the normal mode of learning syntax. Yet, learners can of course come up with reasonable approximations of the L2 syntax: they do make (variable, gradual, piecemeal) progress and some get very good indeed. We could say that construction-acquisition is an available auxiliary mechanism, recruited in just those realms where the UG-deductive systems are impaired. This would be perfectly compatible with the Beck-Eubank-Gregg conjecture.

Second, consider the source of the elements upon which construction categorization is based (pronoun subject vs. non-pronoun subject; inverted vs. non-inverted, embedded clause vs. main clause; the system of Aktionsarten (include the process v. result distinction). These are, of course, distinctly linguistic concepts. Where does the learner get them, and why are these used, rather than imaginable others? I have proposed that the available linguistic concepts are just those which are either (a) used already in the native language or (b) "evidently present" in the input. While I believe that this is correct (and it fits in with the tenets of the original Fundamental Difference Hypothesis), it is at least logically possible that continuing access to UG is responsible for providing the set of relevant contrasts. In Pinker's

terms, it would mean that the UG-given "list of linguistically relevant features" might still be accessible and could enter into construction learning by providing the descriptive vocabulary to draw upon. However, the system of constraints and deductive consequences wouldn't be available, so that things wouldn't "hang together". Provisionally, it seems productive to adopt the strongest hypothesis: that only the L1 and the (noticed) input can be the source of features.

Third, it might be that construction-acquisition is a kind of "learning", distinct from "acquisition", in a Krashen-like sense. UG then could be said still to guide acquisition (just not learning). I do not think this is a productive way of talking about what is going on. If a "construction-by-construction" process is "learning" by definition and if the word "acquisition" is "UG-based" by definition, then the statement that much of what we see is "learning" in this sense, and not "acquisition" seems correct, but unhelpful, especially since the other aspects of the Krashen-type distinction seem to have vanished.

CONSTRUCTIONS AS PART OF ORDINARY NATIVE LANGUAGE

Finally, let us ask whether, in making use of such a construction system, foreign languages are utterly unlike native languages. From three perspectives, we can say that something like a system of constructions actually functions as a normal part of native languages.

First, though they may be epiphenomenal with respect to the theory of UG, individual constructions do seem to have a life of their own, even in native languages. There is a rich tradition of investigating the properties of constructions. In American generativism, Fillmore's seminal work on "let alone" has given rise to a whole "school" of construction grammar. (The "let alone" construction is exemplified by "I won't admit to any nativism, let alone Universal Grammar.") The evidence of the independent reality of constructions is that they have properties which are not derivable from the properties of their parts and of their composition. For example, the properties of the "what is X doing Y construction" exemplified by "Waiter, what is that fly doing in my soup?" are not derivable by knowing about wh-questions, the progressive, the verb do, etc. (If they were, the only possible

type of answer would be "the backstroke".)

Let us accept the conclusion that individual constructions do have reality in native-language use. What is their relationship to UG and parameter-setting? Note that to admit that they exist is not to say that they aren't mere epiphenomena with respect to the theory of UG. Even epiphenomena are real. Suppose we were to say that the (core) grammar of a language licenses not just structures, as is generally conceived, but that it licenses, instead or in addition, constructions. Thus, the native-language speaker, has available a set of constructions which are, ultimately, licensed by the parameterized UG which forms the core grammar.

From this perspective, we could say that the native-language user employs a set of constructions which are ultimately licensed as a result of the acquisition system of UG interacting with input. The foreign language user, on the other hand, also needs such a construction system, but setting it up would have to been done piecemeal, rather than via UG. As a result of the differing origins of the construction systems in native languages and foreign languages, we might expect certain differences in their overall organization. For example, I doubt that the simultaneous linking of one construction to two other constructions, one of which is an instance of the other--the mechanism I have had major recourse to here--shows up in native-language construction systems. Perhaps, this can be traced back to these differing origins: UG vs. "seat of the pants".

Perspective 2: it is widely accepted even within the UG camp, that language contains peripheral constructions beyond the "core" that is licensed by a parameter-set UG. It is here that Chomsky proposed that operations like "analogy" might work. (As an aside, I must point out that my invocation of "analogy", which was recently attacked in an BBS article on SLA, actually derives from Chomsky 1983). Little has been done in this area by UG theorists, since, quite naturally, the major research thrust of linguistic theory is in extending the explanatory reach of UG. One of the few UG theorists who felt that a lot of language was peripheral in this sense was Lee Baker, who argued in his "Limits of Universal Grammar" paper that many of the "raising" phenomena of English were in fact peripheral and that the theory of the English core could be simplified by treating them as such. This idea has gone nowhere. All such proposals can be expected to encounter this

reaction: "It may be true, but let's not admit defeat." The motivation behind this attitude is, of course, the need for a powerful explanatory UG with a very wide coverage in order to explain the invariant "perfection" of native language development. We SLA researchers don't need to feel nearly as bad when something turns out to be peripherally learned. For a foreign language learner, then, peripherality would be the norm. Most everything would be like "far be it from me" and "God save the Queen".

A third promising perspective is available, which also situates something like constructions even in native-languages. In a recent number of Linguistic Inquiry, Nicholas Sobin investigates English structures like "It is I"; "Mary and I left early"; "There are books on the table". "She and Mary left early". These are prestige forms. Sobin argues that they are in fact not licensed by the grammar of English, they are the results of "extragrammatical devices" which he calls by the evocative name "virus", suggesting that they are like the viruses which mess with the structure of a computer program. Perhaps we could use the less pejorative term "patch" or "kludge". Looking at the data of Sobin's investigation of these prestige rules, one cannot help be struck by their uncanny resemblance to the results tables of research reports in the major journals of SLA: substantial intersubject variability, variable behavior and "uncertainty" within individuals, even "inconsistent" behavior when viewed from the point of view of linguistic theory. Sobin also notes that these viruses are "hard to learn or acquire", "need tutorial support", and are "hard to control".

Now, let's think about SLA. Suppose the UG mechanisms for setting up grammar were missing or impaired. When you don't have a brilliant programmer who can build you an elegant program from scratch, you may be stuck with a bunch of patches and kludges. The patched and kludgy program may work fine almost all the time, but slow processing, errors, and occasional crashes are to be expected. In some areas, you may not even be aware of how kludgy it is--even Windows works a good deal of the time.

In summary, even if foreign language learning be not explained by the setting of the parameters of UG, it is not completely outside language, broadly conceived. There are at least three ways we could think about it. (1) In native-languages, a construction store is employed, but it is ultimately derived from UG, and the constructions have the status of epiphenomena

with respect to UG; in foreign languages, constructions are the objects of acquistion, and a construction hoard is acquired directly, not via UG. (2) In native languages, certain constructions exist which are peripheral, licensed by the UG-derived core grammar; in foreign languages, everything is peripheral. (3) Foreign language grammars are a patchwork of kludges, like the prestige rules of native languages.

Despite their evident differences, from all three of these perspectives something like a construction-hoard is part of language. While foreign language may not be not UG-derived, foreign language IS language.