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ABSTRACT

This paper investigates the second language acquisition of interrogative-word questions in English. It is shown that the data from some bilingual English speakers at Pan American University are comparable to the data noted by others for both second and first language acquisition of interrogative word questions. In particular, interrogative-word fronting always seems to be acquired before subject-auxiliary inversion. Learners never produce interrogative-word questions like "Is she doing what?" Utterances like "What she is doing?" are common, however. Previous description of these facts is found to be insufficient in light of additional relevant cross-dialectal, cross-linguistic, and possibly universal facts about verb and interrogative word placement. Further, these facts are shown to have implications for the description of the rules of wh-fronting and inversion. (Author/CFM)

Notes on the Acquisition of Interrogative-Word Questions*

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This paper investigates the second language acquisition of interrogative-word questions in English. It is shown that the data from some bilingual English speakers at Pan American University is comparable to that noted by others for both second (Ravem 1974; George 1972; Dulay and Burt 1974) and first language acquisition (Menyuk 1969; Klima and Bellugi-Klima 1969; McNeill 1970; Dale 1976) of interrogative word questions. In particular, interrogative-word fronting always seems to be acquired before subject-auxiliary inversion. Learners never produce interrogative-word questions like *is she doing what? Utterances like what she is doing are common, however. Previous description of these facts is found to be insufficient in light of additional relevant cross-dialectal, cross-linguistic, and possibly universal facts about verb and interrogative word placement. (Greenberg 1966; Ultan 1969) Further, these facts are shown to have implications for the description of the rules of wh-fronting and inversion as discussed in Baker (1970), Baker and Brame (1972) and Langacker (1974).

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0. Introduction. Many speakers of some dialects of English or for whom English is a second language produce utterances which differ substantially from the standard syntactic forms. Following de Saussure, "The subject matter of linguistics comprises all manifestations of human speech." (1966, 6) More specifically, non-standard forms and learner's forms can allow us another view of English structure and help us to arrive at more revealing descriptions of English.

This paper takes as its point of departure the patterns of written interrogative-word questions produced on a questionnaire by some Pan American University freshmen all but one of whom are Spanish-English bilinguals. In studying these questions, we will be concerned with two rules: wh-fronting and inversion. Wh-fronting is a rule which moves wh-words (e.g. what, who, how) and sometimes accompanying structure to clause-initial position. Inversion is a rule which in English has the effect of making a tensed auxiliary verb (e.g. does, has, is) the second element in a wh-question or the first element in

a yes/no question. Chomsky (1957, 112) characterizes inversion as an optional rule which simply inverts the subject and the following tensed auxiliary verb. In response to the claim by Katz and Postal that inversion is obligatory and triggered by an abstract, clause-initial question morpheme Q which only appears in non-embedded questions, Baker (1970, 204) advances Klima's suggestion that it is non-embeddedness rather than the presence of a question morpheme on which the application of inversion is dependent. Baker and Brame (1972, 58-9) take another position in suggesting for French that both inversion and wh-fronting are obligatory and triggered by an abstract, clause-initial question morpheme Q. Their analysis could easily be extended to English. Langacker (1974) contends that the presence of an abstract question morpheme Q is unnecessary in the syntactic description of standard English and that inversion is obligatory and in part dependent upon the presence of a pre-subject wh-word (1974, 22-3). Langacker's description suggests an intrinsic relationship between the presence of a pre-subject wh-word and the applicability of inversion not found in the other descriptions noted here. It is suggested in this paper that the data on questions referred to above and data from first and second language acqui-

sition as well as dialectal and cross-linguistic data point toward the existence of a universal interdependency between the presence of pre-subject wh-words and the application of inversion. It is further suggested that this interdependency is a product of language acquisition strategies.

The first part of this paper will describe the wh-questions produced by some Pan American students and show patterns and gaps in the data which are similar to those noted by other investigators for both second and first language acquisition of English. Also, it will show that data on questions from different varieties of English, and cross-linguistic data including data on the acquisition of languages other than English reveal similar gaps and patternings. The second part of this paper will discuss possible accounts for the patterns and gaps in the data on questions.

1.1 Bilingual data and language acquisition data. As part of a pilot study on the nature of the English spoken by students at Pan American University, students from a freshman Fundamentals of Written Composition class were given a questionnaire which in part asked them to convert statements with indefinite pronouns to appropriate wh-questions, that is, questions which

contain an interrogative or wh-word such as what, who, etc. Basic to the formation of such questions are two syntactic rules. One is wh-fronting which, as noted above, is responsible for the positioning of wh-words in clause-initial position. The other rule is inversion which in English questions inverts the subject and the first auxiliary verb or tense. It is these two rules which relate corresponding question-statement pairs such as (1a) and (b):

(1) (a) What is Jack baking?

(b) Jack is baking jello.

The wh-questions which the students produced on the questionnaire can be divided into three classes with respect to these rules: first, questions exhibiting neither wh-fronting nor inversion such as:

(2a) Max had to do what yesterday?

second, questions exhibiting only wh-fronting, such as:

(2b) What Max had to do yesterday?

and third, questions exhibiting both wh-fronting and inversion, such as:

(2c) What did Max have / had to do yesterday?

No informant produced a question in which inversion but not wh-fronting had applied such as in (2d):

(2d) *Did Max have to do what yesterday?

The next major question is whether or not the lack of inversion only questions such as (2d) is a significant gap in the data, thus requiring description. Data on the acquisition of English, English dialects, and cross-language comparison expose the same gap.

A search of works on the acquisition of English as a second language reveal an identical pattern of application of these two rules on the part of English language students. So, for example, H. V. George in a work entitled, Common Errors in Language Learning (1972, 13) claims that the inversion of subject and auxiliary is a redundant feature of English questions and that "foreign learners often take the question word to be sufficient indication that the sentence is a question, and use the positive statement word order (Where you go? etc.)". (1972, 128) George's example indicates the application of wh-fronting but not inversion.

This pattern is also evident in the data cited in The Gooficon, a work by Marina Burt and Carol Kiparsky. In this work, Burt and Kiparsky, "have collected many kinds of goofs that students from various languages seem to make regularly." (1972, 1) The data which they cite on wh-questions contain only structures indicating the

application of wh-fronting alone or in addition to inversion (1972, 24-30). No data is given here showing inversion only in structures containing a wh-word.

In a third study entitled, "Wh-questions in first and second language learners," Roar Ravem (1974) describes the development of English wh-questions in the speech of his young son and daughter who are both native speakers of Norwegian. In the data which Raven cites, we again find the same patterning in the application of wh-fronting and inversion. Neither in this work, nor in any other work on the acquisition of English as a second language is there any indication of the production by learners of a form like (2d).

On the basis of the data he has gathered, Ravem arrives at an interesting conclusion. The stages which his children went through in acquiring English wh-questions parallel those which a child learning English as a first language goes through rather than indicating interference or transference of syntactic intuitions from Norwegian, which inverts main verbs in wh-questions. To quote Ravem:

> It does not seem unreasonable to expect that my children would have made use of inversion from the beginning by applying the rules for

Norwegian. There are isolated examples from both Rune and Reidun where this is in fact the case, e.g.

> Why drink we tea and coffee? (Rune)
>
> Where livd (i.e. live) Catherine and Richard? (Reidun)

but they remain isolated cases. Lack of inversion was a feature of Reidun's Norwegian at an intermediate stage in her development as well, so we seem to have to do with a rather general phenomenon. (1974, 147)

There are a number of works on the first-language acquisition of English which confirm that wh-word-first structures were acquired before structures which show inversion. (See for example, Menyuk (1969), McNeill (1970), Brown (1968), Dale (1976), Labov and Labov (1976)). A classic paper on this subject is one by Klima and Bellugi-Klima entitled, "Syntactic regularities in the speech of children." Herein, they distinguish three stages in the acquisition of questions. Sample data from these three stages are as follows:

Stage 1: Who that?

What cowboy doing?

Where Mama boot?

Where horse go?

Fraser water?

See hole?

I ride train?

Stage 2: Where my mitten?

What the dollie have?

Why you smiling?

Mom pinch finger?

You want eat?

I have it?

Stage 3: What he can ride in?

Why he don't know how to pretend?

How he can be a doctor?

Does the kitty stand up?

Will you help me?

Can I have a piece of paper?

(1967, 460-3)

These data are typical of the first-language acquisition of English questions. They show the same patterning as discussed above for wh-fronting and inversion. The data of stage 3 is the first indication of the presence of inversion in the child's grammar. It is not until after Stage 3 that inversion applies in wh-questions. Further, inversion is never applied to structures containing an unfronted wh-word such as in sentence (2d) above. Dale (1976) and McNeill (1970) among others make explicit reference to the lack of such structures as this in first-language-learners' forms.

Further, this phenomenon does not appear to be limited to English. Ravem's (1974) informal observations about the acquisition of Norwegian indicate the same acquisition sequence. Bowerman's (1973) detailed study of the acquisition of Finnish also shows this sequence in the acquisition of questions and notes parallels in development of children acquiring English questions. The apparent universality of this acquisition sequence is supported in observations made by Dale (1976) about early (first stage) language acquisition data from English, German, Russian, Finnish, Luo, and Samoan which Dale has adapted from Slobin (1970, 178-9) and Bowerman (1973). The data clearly shows the widespread presence in stage one of interrogative-word initial question structures. Dale observes that yes/no questions and inversion are not universally present at this stage. (1976, 42)[1]

1.2 Cross-dialectal and cross-language data. The presence of wh-fronting only structures such as (2b) and the absence of inversion-only wh-questions such as (2d) is characteristic not only of first and second language acquisition data, but also of cross-dialectal and cross-language data. Black English is typical of how a number of varieties of English treat

inversion. In BE, the following is a grammatical sentence:

(3) She asked what did I want.

Here, inversion has been applied to an embedded wh-question. In general, the domain of application of inversion has extended only to certain yes/no questions and to wh-questions where the wh-word has been fronted. Further, according to Wolfram and Fasold (1974) questions of the following sort can be found as non-embedded, non-echo, genuine interrogative in BE:

(4) (a) He took it?

(b) Why he took it? (1974, 170)

The differences here between BE and standard English questions center around the application of inversion. Though there are attested BE forms like (4), there are none like (5):

(5) *Can he take what?

Thus, even though inversion here is generalized, it still appears restricted to applying to structures where the interrogative word is initial.

Black English is not the only English variety to treat inversion in this way. Baker (1970, 205-6) cites sentences of popular Irish English which show a similar extension of inversion into embedded wh-word first sentences such as (3) above. According to Jon Amastae

(personal communication), Dominican English Creole also utilizes inversion in this way. In her study of Hawaiian English, Glissmeyer (1973) outlines the range of possible question types. She lists yes/no questions both with and without inversion. Of the wh-questions which are listed, we only find those which indicate wh-fronting alone or wh-fronting and inversion (1973, 218-9). There are no sentences like (5). In reference to just such a gap, Ronald Langacker states, "*Can who see that? does not to my knowledge occur in any dialect (as a paraphrase of who can see that?) nor does this kind of structure crop up in special constructions, nor do speakers even find it comprehensible (except as an echo question)." (1974, 14) Langacker's statement seems quite accurate in view of the data discussed thus far.

It is hard to see how the consistent restriction of inversion could be retained in such varied linguistic contexts unless it had some more universal basis. Further evidence of a universal basis for the existence of forms like (2b) and the non-existence of forms like (2d) and (5) is suggested in Greenberg's (1963) work, "Some universals of grammar with particular reference to the order of meaningful elements." Herein Greenberg makes comparative statements on the structure of thirty

randomly selected languages. Consider part of Greenberg's Universal 11:

> Inversion of statement order so that verb precedes subject occurs only in languages where the question word or phrase is normally initial. (1963, 83).

That is, of the languages studied here, the languages with inversion are a proper subset of the languages in which an interrogative word or phrase normally appears sentence initially. Later work has substantiated this finding.[2] If we take language universals to be definable as restrictions on possible descriptions of a language imposed by the language learner's acquisition device, then we might recast Universal 11 as follows: no speaker acquires inversion without also acquiring question word or phrase initial structures.

1.3 Some conclusions. On the basis of data discussed above, we can conclude that (a) so far as has been established, no dialect of English applies more generalized forms of inversion to structures with wh-words unless the wh-words are in pre-subject, clause initial position; (b) so far as has been established, no language even has a rule of inversion unless it has wh-word initial question structures; (c) generally, the acquisition of wh-word initial questions is early (if

the language has such structures) and seems to always precede the acquisition of verb inversion, if the language has inversion. These facts all point consistently to the existence of an inherent dependency of inversion on the existence of wh-word initial question structure in a language resulting in the general non-existence of sentence forms like (2d) and (5).

2. Descriptions

2.1 The analysis of questions. Let us now consider the impact of the above observations on the analysis of English questions. We may divide descriptions of the syntax of English questions into two types. The first type, the Q-analysis (Baker 1970; Baker and Brame 1972; Bresnan 1970) describes wh-fronting as obligatory replacement by one wh-word or phrase of an abstract sentence-initial question marker Q as in rule (6a). This analysis describes inversion as obligatorily applying to non-embedded clauses (in standard English) which have sentence-initial Q very roughly as in rule (6b)[3].

6) a) wh-fronting - Q

SD:	Q	X	[+wh]	Y	
	1	2	3	4	
SC:	1	3	2	4	

(See Langacker (1974, 24), Baker (1970, 207), and Baker and Brame (1972, 58-9)).

b) inversion - Q

SD: Q X Aux Y

1 2 3 4

SC: 1 3 2 4

The second type of analysis, the wh-analysis, as proposed in Langacker (1974) describes wh-fronting as the normally obligatory fronting (in English) of a wh-word or phrase as in rule (7a).[4] Inversion is described here (again for standard English) as obligatory applying to non-embedded clauses containing a pre-subject wh-word as in rule (7b).

7) a) wh-fronting - wh

SD: X [+wh] Y

1 2 3

SC: 2 1 3

b) inversion - wh

SD: [+wh] NP Aux X

1 2 3 4

SC: 1 3 2 4

In these rules, [+wh] is to be interpreted as referring to an NP (or possibly another major constituent) which contains a wh-word. If we define preferable description as that linguistic description which is capable of accounting for the greater number of linguistic facts, then the wh-analysis is preferable. Both analy-

sis correctly predict the existence of derivations where both rules apply (such as (1a) and (2c)) and where inversion does not apply if wh-fronting has not applied (as in (2a)). However, in derivations where only one rule applies, the Q-analysis makes no prediction as to which rule that will be, since rules (6a) and (b) apply independently. The wh-analysis, on the other hand, makes the correct prediction here. If inversion as in rule (7b) is dependent on the presence of a sentence-initial pre-subject wh-word and if the only source of that element in wh-questions is wh-fronting, as the wh-analysis claims, then wh-fronting must be the one rule which is chosen since it is the first rule of these two whose description is met in the derivation of wh-questions. More will be said about this in the next section.

2.2 Other descriptions and considerations. A number of other writers have commented on why sentences like (2d) and (5) don't exist as non-echo interrogatives. I will discuss two which would seem general enough to apply to the range of data discussed above.

One possible reason for the non-appearance of sentences like (2d) and (5) is stated most succinctly by Wachowicz (1974). She states:

> A sentence with a wh-word, which is a free variable, is comparable to an open formula

> in logic. One cannot assign a truth value to an open formula without first assigning an interpretation to the free variable. (1974, 164-5)

There are two objections to this account. First, as a semantically based account, it seems to exclude prefectly acceptable sentences like (8):

(8) Do you have the time?

An appropriate affirmative response to (8) requires the time, which would be the answer to an open-formula, or wh-question. The appropriate negative response essentially contains no, a truth value type answer to a yes/no question. Thus, (8) exhibits properties of both interrogative types.

The second objection is that it doesn't offer an account of why no variety of English or any other language on which I have been able to find information has developed a form like that of (2d) and (5) to simply ask wh-(open formula type) questions. These two objections point towards the restriction on (2d) and (5) being at least partly structural rather than entirely semantic.

A second and less direct account of the absence of sentences like (2d) and (5) is to be found in George (1972, 13) and in Dulay and Burt (1974, 120). They both claim that sentences like (2b):

(2b) What Max had to do yesterday?

are produced because the learner eliminates redundant features. They claim that inversion is redundant in English with wh-fronting and is therefore eliminated (or not acquired) early. Implicit in the use of the term redundant here is the claim that one of the rules involved, namely wh-fronting, is primary and the other rule, inversion, secondary, but they offer no means of deciding primacy. If wh-fronting is in fact primary, this could also account for the non-existence of sentences (2d) and (5). The use of the term redundant here, however, is vacuous in the absence of a description of the actual rules in English, since it is hard to see how primacy could be assigned without considering the description of the rules involved.

Therefore, let us consider the redundancy hypothesis along with the two possible descriptions of wh-fronting and inversion given in rule set (6) and (7) above. Rule set (6) allows us no insights into how inversion might be considered secondary to wh-fronting since they are independently applicable rules. Rule set (7), as stated earlier, does indicate one respect in which inversion might be considered redundant with and secondary to wh-fronting: in wh-questions, rule set (7), shows inversion to be dependent on wh-fronting in that wh-fronting feeds inversion. With rule set (7), then, we

might interpret the claims that inversion is redundant with and secondary to wh-fronting as follows: when two rules redundantly mark at surface level an utterance as being of a particular structural or semantic type and when one rule feeds the other, the feeding rule is primary (and acquired first) and the rule being fed is secondary. This account separates redundancy and primacy, relegating redundancy to surface forms and primacy to ordering relations.[5]

Independent evidence for characterizing at least some cases of primacy in terms of a feeding relation comes from data on the sequencing in child language of the acquisition of negative structures on the one hand and the some/any alternation in negative sentences on the other. Klima and Bellgui-Klima (1969) cite data showing that children produce sentences like "I didn't see something." (1969, 458) before they produce utterances like I didn't see anything. Further, any is never used in this data as the sole indication of negation. That is, utterances like *I saw anything are not found as alternative forms of simple negative surface structure. Further, one criterion for selecting any is the presence of a negative element in the structure. That is, it is the presence of a negative

element which feeds the selection of any. In the case of this data too, then, we can characterize the sequence in the acquisition of negatives and the selection of the quantifier any by saying that it is the feeding rule or form which is primary and acquired first. Thus we have a second case where a feeding relationship can be used to characterize primacy in the sequence of acquisition of structure.

This feeding characterization of primacy in acquisition obviously requires further investigation, but we have at least a preliminary indication that the basic account given here for redundancy and primacy in the acquisition of inversion and wh-fronting under rule set (7) has some independent support. Under rule set (6), primacy is neither predictable nor characterizable in these terms, since rules (6a) and (6b) are independent and exhibit no feeding relationship.

2.3 Acquisition strategies - a hypothesis. Rule set (7) is still, however, no complete account of why learners and others are free to produce wh-fronting-only forms like (2b) and not inversion-only forms like (5). How is it, for instance, that first-language learners seem to anticipate the form of rule (7b) with its pre-subject [+wh] element in advance of developing an

adult grammar of English? That they do anticipate a pre-subject [+wh] element in inversion is indicated by the above noted asymetrical distribution of the forms showing the application of these two rules in learner's data. The same applies to the other data discussed here. The element [+wh] in inversion rule (7b) is merely a feature of the context in which inversion is applied. As such, one might expect an over-general learning of inversion and then later refinement of the context in which it applies, parallel to other well documented cases of over-generally acquired aspects of a given language system. The data show this not to be the case, however. The application of inversion in wh-questions always seems sensitive to the presence of a pre-subject wh-word.

It seems reasonable to suggest that presence of pre-subject [+wh] in inversion is directly or indirectly due to some universal restriction on the structure of natural languages. In light of the facts discussed thus far, it may be worth considering one possible hypothesis about question acquisition constraints (QAC's) which would account for a number of these facts. This hypothesis has two parts:

(9) Question Acquisition Constraints:

(i) the position of question morpheme (in-

cluding abstract ones as found in whether in non-embedded English yes/no questions (see Langacker (1974)) is learned through observation of the placement of question words;

(ii) necessary to the formulation of any verb inversion rule in questions is a pre-subject question morpheme (like [+wh] in English); verb inversion in questions necessarily involves attraction to a pre-subject question morpheme.

QAC (i) claims that the surface position of interrogative words dictates to the language learner the position of the question morpheme. This follows trivially if the question morpheme is not an abstract marker but part of the surface morphology of the interrogative word, as claimed in rule set (7) above. In the languages that I am familiar with, most interrogative words do exhibit a distinctive surface morphology with a question morpheme like wh in English.

QAC (ii) claims that the appearance of this surface, pre-subject question morpheme is a prerequisite to (or a necessary part of the structural description of) a rule of inversion.

Hypothesis (9) accounts for a number of facts. First, it accounts for the absence of forms like (2d) and (5) in language acquisition forms. Since speakers of dialects of English other than the standard one are at some time language learners, (9) would also account for the absence of these forms in these other dialects and for why, when some dialects exhibit a more general inversion rule, (such as one which applies to embedded questions), this rule is still restricted to applying to (overt and covert)[6] wh-word initial structures. (9) also predicts the correct sequence of acquisition, both for English and other languages discussed above, of wh-word initial structures and inversion. Assuming language universals to be statable as restrictions on a speakers acquisition or formulation of rules, (9) would also account for Greenberg's (1963) observation that rules of verb inversion are restricted to languages which place wh-words in sentence initial poisition. Related to this, (9), as manifested in rules (7) given above, along with the description of primacy given above, might eventually allow us to account for why learners of English apply inversion in yes/no questions earlier than they do in wh-questions and further, why in some languages verb inversion only appears in

yes/no questions, eventhough, as just noted, the presence of pre-subject wh-word structures seems prerequisite to the presence of inversion in a language. Last, (9) does not improperly exclude sentence (8).

Hypothesis (9) is extremely tentative of course and still more guesswork than conclusions. One inadequacy in the investigations of questions in general (pointed out by Langacker (1974, 30) is the lack of any rigorous cross-linguistic definition of terms like question morpheme, question particle, and question (wh-)word. This inadequacy has not been resolved here. To resolve this, and to further substantiate many observations made to data on language universals, much more detailed descriptive work is needed on as many languages as possible. Other remaining problems include the lack of an account of if in its role as a question word, and the lack of consideration of the other uses to which languages like English put inversion. How, for example, is inversion in sentences with negative adverbs such as "Never have I seen such a mess." related to inversion in questions? Is the presence of question inversion prerequisite to other uses of the rule?

Another possible objection to (9) is that it looks arbitrary or ad hoc. Maybe it is just an arbitrary

fact about the structure of human languages. On the other hand, the following observation made by Greenberg (1963) and also substantiated in the work of Ultan (1969, 58-9) might indicate that (9) or something like (9) is just a sub-case of a more general tendancy:

> If a language has dominant order VSO in declarative sentences, it always puts interrogative words or phrases first in interrogative word questions. . .(1963, 83)

This may indicate a more general link between wh-word and verb placement.

3. Conclusions. At this point, we may conclude that the wide-spread absence of structures like (2d) and (5) and the wide-spread presence of structures like (2b) is significant. Such forms are not unstructured errors. They are structured and they provide evidence for the wh-analysis of English questions. The data also strongly suggests that the wh-analysis of inversion, rule (7b), is a product of more universal constraints on the formulation of inversion, such as (9). Such universal constraints may account, at least in part, for why inversion is a rule which is acquired relatively late. It is also worth noting that ESL learners

whose first language has a rule of inversion don't generally transfer it to English, as noted by Ravem (1974). Lack of inversion is likely to be a feature of any learner's English. Also, from what we have seen so far, sentences like (2b) indicate a natural stage in the acquisition of English questions. If we interpret (2b) in the light of rules 7) and hypothesis (9), sentences like (2b) indicate a necessary stage in acquisition rather than an undesirable one, since by hypothesis, the establishment of a rule of inversion is predicated on the existence of structures like (2b). That rules of verb inversion may generally be difficult to acquire seems attested by Ultan's (1969) cross-linguistic data on questions showing the inversion of verbs to be relatively rare (1969, 48).

One more question about the data which has not been fully or directly addressed still remains. As has been noted, the work on acquisition of English and other languages indicates a very early and invariant presence of wh-word first structure for wh-questions. It seems that the rule of wh-fronting or its output is established from the earliest syntactic acquisition stages. This contrasts sharply with a rule like inversion which is never present early in acquisition

and which is only established later and in stages. If there are some inherent restrictions on inversion which involve the necessary presence of other structural types (as hypothesized above), then this would account for a later emergence of inversion. But why are structures like wh-word first structures inherently stable? The answer to this and the many other such questions that still remain are of quite obvious importance to any theory of natural language.

FOOTNOTES

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[1]In a work entitled, "The acquisition of questions in Texas Spanish," Gustavo Gonzales claims yes/no questions to be acquired before wh-questions (1974, 264) but he is referring here to intonational and not inversion yes/no questions, which are acquired later. Further, he claims too little data to decide on the presence of any variance in the word order of wh-questions, which are always wh-word initial. (1974, 258).

[2]Greenberg's statement is almost fully substantiated by Russell Ultan (1969) in a similar work with a larger language sample and more direct emphasis on universals related to questions. Ultan's study is based on question formation data from seventy nine languages. Ultan does not restrict inversion to the movement of verb type elements. Rather, he simply considers the

movement, ". . . of one or more constituent of the sentence with respect to their normal declarative order." (1969, 48) Under this broader perspective, some of Ultan's generalizations are quite interesting. Consider first the following:

> YNQ [yes-no question] - inversion implies a resultant VSO order. (1969, 55)

Inversion in YNQ's is clear indication of the existence in a given language of an inversion rule which fronts verbs, like the English inversion rule. From a summary information chart in Ultan's paper (1969, 58-9), all of the languages in Ultan's sample with YNQ-inversion are also languages with sentence-initial question words or phrases.

Consider also the following statement by Ultan:

> If a language has INQ - inversion [i.e. inversion in interrogative word questions], QW's [questions words] are almost always sentence initial. (1969, 55)

Looking at this summary information chart again, the only exception is Khasi, which Ultan lists as having INQ - inversion but QW's in sentence-final position. Khasi also warrants closer scrutiny since it is claimed to be an SVO language (Ultan 1969, 58-9) and therefore

also appears to violate Lehmann's (1973) proposed structural principle of language, which states that, "sentence qualifier markers, like those indicating interrogation and negation, are placed before verbs in consistent VO languages, after verbs in consistent OV languages." (1973, 47)

Like Ultan, Lili Rabel (1961, 216-7) in her work on Khasi, claims as normal, and some examples show, clause-final question words in wh-questions. Rabel's texts, however, also reveal the presence of a fair portion of questions with clause-initial question words. The questions with clause-final questions words seem to exhibit no movement other than that of the question word itself. Also, the word which is translated as 'whether' (lada) (Rabel 1961, 221-221A) is clause-initial in embedded yes/no questions. Given these facts, Khasi does appear to be consistent with Greenberg's Universal 11 in the following sense: no Khasi surface question form shows the inversion of a verb where the question word is not clause-initial.

It seems then that the data and observations of both Greenberg (1963) and Ultan (1969) indicate that necessary to the existence in any given language of a rule which inverts verbs in questions is the existence

of question word or phrase initial structures in that language.

[3]Bresnan (1970, 300) equates her wh-complementizer to Q. Inclusion of Bresnan here is weak, however, since she does not analyze inversion.

[4]More specifically, Langacker (1974) claims the wh-word to be attracted towards the main verb of a (possibly performative) superordinate clause.

[5]This account won't, of course describe all acquisition sequences.

[6]QAC (ii) leads us to an interesting question which I will deal with briefly but which deserves much more extensive investigation in its own right: How does inversion work in yes/no questions which exhibit no surface wh-word? Langacker (1974, 22) derives yes/no questions from underlying either-or disjunctions with a wh-morpheme. Question (i) would be assigned underlying structure (ii):

(i) Can he see an iceberg?

(ii) WH + OR [[he can see an iceberg] [not he can see an iceberg]].

In an embedded yes/no question, WH + OR would surface as whether. Whether would be deleted in non-embedded yes/no questions. Thus, rule (7b) above can be used

to derive both yes/no and wh-questions. We are still left with a problem, however: why, as the Klima and Bellugi-Klima (1969) data show, do English-speaking children acquire inversion in yes/no questions before inversion in wh-questions? Obviously, QAC (ii) cannot claim a surface wh-word to appear in every derivation. That a question morpheme like wh is involved, however, is clearly implied by the observation (of Greenberg and others) that inversion only appears in languages which normally have interrogative-word initial question structures, whether or not inversion actually applies in interrogative-word questions in a given language. For some interesting data on a problem related to this, namely the differential application of inversion to acquisition structures with different wh-words, see Labov and Labov (1976).

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