Markedness and the Development of COMP

Item Type	article;article
Authors	Phinney, Marianne
Download date	2026-01-21 07:17:35
Link to Item	https://hdl.handle.net/20.500.14394/50192

MARKEDNESS AND THE DEVELOPMENT OF COMP

Marianne Phinney

0. Introduction

This paper is divided into two main sections. In the first, I will briefly discuss the theoretical problems of using linguistic theory to make predictions about the language acquisition process, with emphasis on considerations of markedness. In the second, I will discuss these issues in terms of the acquisition of a specific construction, embedded sentential complements with the complementizers that and for.

1. Markedness and acquisition

The concept of markedness has been used in various areas of linguistic theory, although not always with exactly the same meaning or intent. Markedness has been taken to refer to a continuum of less to more likely occurrence, for example, in discussing possible phonological rules. It has also been taken to refer to those things which must be specified by a particular grammar (the condition of being 'marked') as opposed to those things which need not be specified, which are included in a universal grammar (the condition of being 'unmarked'). An extension of this use of markedness deals with the setting of parameters. A setting of a parameter may be considered 'marked' if it must be instantiated by positive evidence. The default setting is considered to be the 'unmarked' setting of the parameter. In the following discussion, I am considering the latter form of markedness, contrasting those things which must be specified against those which need not be.

1.1 Assumptions of Core Grammar. The transformational framework has always included in its crucial assumptions the necessity of a component of the theory which is universal to all languages. The conception of what that component includes has changed over the years. Early notions of language universals were empirically oriented, including conditional universals and statistical universals (Greenberg 1966). In recent years,

the concept of Universal Grammar or Core Grammar has been more theoretically oriented.

Core Grammar is roughly equivalent to the built-in linguistic programming which Chomsky has been assuming since Aspects (Chomsky 1965). Rather than simply being a vaguely defined "capacity" for language, the discussions of Core Grammar are now highly specific. There are two kinds of things which are assigned to Core Grammar, things which seem common to all languages and things which are available to all languages. The former include certain constraints like Subjacency (Chomsky 1973) and the binding conditions and rules for case marking of the OB theory (Chomsky 1980b). They neither have to be learned nor does the primary data have to provide evidence for them. The latter kind, those things which are available to all languages, also fall into two categories: things which may or may not apply in the language in question, and things which a language may select from. Among the things which a language may select from are possible binding nodes (NP, S, or $\bar{S}$). The selection of binding nodes will affect how certain constraints like Subjacency or the Nominative Island Constraint operate. Things which have a [±] parameter to be set might include something like the status of Agreement (AG) for binding a trace in the OB framework.

All these properties of Core Grammar have two things in common. Within the particular framework involved, they have been demonstrated to be applicable to a wide range of phenomena in several languages. Secondly, they have all been assigned to Core Grammar from arguments based on the kind of primary data available to the child (the "poverty of the stimulus" argument (Chomsky 1980c)).

This argument stems from the assumption that the input data available to the child is lacking in certain crucial aspects. That is, it does not provide the evidence necessary to deduce certain things, like Subjacency. Unlike the linguist, who can call upon native speaker intuitions for grammaticality judgements, a child has access to only grammatical examples, or positive evidence. If the primary data cannot provide sufficient evidence for a given theoretical entity (constraint, rule, etc.), then it is assumed to be a part of Core Grammar.[2]

Ideally, Core Grammar should be simple, containing a small set of restrictive principles which are necessary and sufficient for all languages, and whose parameters can be set by available evidence to produce the variety of human languages (Chomsky 1980c). The hypothesis of such principles can lead to direct and specific hypotheses about language acquisition, about the crucial evidence necessary for the acquisition of a particular construction, and possibly provide a schema for an order-of-acquisition sequence, based on principles of markedness and a theory of acquisition.

1.2 Markedness and Core Grammar. The parameters of Core Grammar which must be set by the available evidence are generally assumed to be governed be the criterion of markedness. One aspect of a given parameter is

assumed to be unmarked; that is the default setting, the "given" setting. The other setting is marked; for it to apply in a particular language, the primary data must provide evidence for it.

The "poverty of the stimulus" argument can also be used to determine the unmarked setting of a parameter. Lasnik (this colume) uses such an argument in determining the setting of a lexical parameter for certain matrix verbs in English. Although this is a language-specific problem (subcategorization in English), a similar argument can be used to set [±] parameters of the properties of Core Grammar.

A strong version of this theory would predict that children learning a language L would assume the default setting of a parameter P unless evidence proves otherwise. This prediction can easily be falsified by examining the types of errors children make. The problem arises when the data seems to imply that children are initially assuming a parameter setting which the theory predicts is marked.

As a hypothetical example, consider Subjacency. In order for Subjacency to apply correctly, the child must know two things: that the structure of embedded clauses in English is an S embedded under $\overline{S}$, and the binding nodes of English. If the child is not aware of either fact, it will appear as though his grammar allows him to violate Subjacency. However, this is not necessarily the correct conclusion. The child's grammar may not have incorporated $\overline{S}$ yet, or he may not have completely determined the binding nodes of English. Both these possibilities must be explored before it can be concluded that Subjacency does not operate in that child's grammar.

In dealing with the problems of applying the predictions derived from a theory based on markedness to language acquisition, the researcher must be aware of these other aspects of grammatical development which can be involved in the "acquisition" of a particular aspect of Core Grammar. These considerations may include the overall cognitive development and the links between cognitive and linguistic development. One must also consider what crucial linguistic experience and grammatical hypotheses on the part of the child are necessary.

2. The problem of learnability

Within the current generative framework, markedness and Core Grammar are crucially tied to the problem of learnability. The relationship between principles of Core Grammar and the acquisition process cannot be as simple as the strong parameter-setting model might indicate, for the reasons just discussed. Other mechanisms must be brought into play, and it is the task of both linguistic theory and acquisition theory to determine the nature of these mechanisms.

The projection problem, as discussed by Peters (1972), refers primarily to the theoretical problem of specifying the possible grammars which can be acquired given exposure to a set of primary data. Peters'

discussion indicated certain directions for research which have been pursued in the last few years, notably in the areas of limiting the power of transformations and the investigation of possible elements of Universal Grammar. However, the model he presented of the projection problem is very similar to the instantaneous model (Chomsky 1965), in that only the initial stage (a set of possible grammars and the input data) and the final stage (the adult grammar) are considered.

It has been noted that the instantaneous model precludes the consideration of the intermediate stages produced by the revision of hypotheses by the child (Peters 1972). The strong parameter-setting model discussed above has a similar problem in that it specifies the initial stage (universal grammar and crucial input data) and the final stage (the adult grammar). It is more specific than the proposals made by Peters, but it still does not include or account for the intermediary stages.

It is important to consider whether intermediate stages of the child's grammar have any implications for the theory of language acquisition or for linguistic theory. The instantaneous model claims that the intermediate stages are not relevant. The current hypotheses involving more precise conditions of universal grammar need not make the same claim.

The reasoning can go in both directions. Linguistic theory can be used to make predictions about possible intermediate stages. In turn, data from child language can be used to provide evidence for such hypotheses and for questions of markedness. For example, consider the case of subjects of infinitival complements. The traditional analysis (Chomsky 1965) derived (1) from (2) by means of Equi NP Deletion.

1. John hoped to build a starship.

2. John preferred for Harlan to build a starship.

A theory which assumes that null NP's must be filled in deep structure would predict that (2) would be easier to produce or comprehend since it does not involve a deletion. It has been noted (Fodor, Bever and Garrett 1973) that acquisition data does not support this prediction. In fact, sentences without embedded subjects (1) are the first to appear in child speech. The more recent analyses (Chomsky and Lasnik 1977, Chomsky 1980b) predict that (1) is the "easier" sentence, as it is unmarked.

In this case, the competing linguistic theories can lead to reasonable hypotheses about the intermediate stages in the acquisition of a particular construction. These hypotheses can then be supported or falsified based on the available acquisition data.

Lasnik (this volume) presents a discussion of the same problem

in setting a lexical parameter. Two analyses are proposed to account for the distribution of infinitival complements in English. One proposes the use of an obligatory $\overline{S}$ deletion rule as the unmarked case; the other proposes that no $\overline{S}$ deletion is the unmarked case. In this instance, argument alone cannot determine which proposal is correct because both cases lead to the correct grammar based on positive evidence alone.

Here the developmental data can be of help, although it does not provide the sole evidence. The use of try, which does not allow an embedded subject (no $\overline{S}$ deletion in Lasnik's analysis), is the first to appear in child speech. It is also the most common case in other languages. This provides support for the establishment of no $\overline{S}$ deletion as the unmarked case.

The usefulness of data from intermediate stages of language development allows for a more detailed consideration of the projection problem, and requires a more complex theory of acquisition. Such a theory must account for the existence of development stages, and their place in the acquisition process, in order to argue against the instantaneous model or other similar models which account for only the endpoints of the developmental process. One approach of this type us that discussed by Roeper (1980a), who proposes a theory of triggers which consist in part of the crucial evidence necessary to instantiate the various components of Core Grammar.

3. The acquisition of embedded clauses

In this section I will focus on a particular problem, the development of sentences with an embedded complement, in the light of the issues discussed in the previous sections. In the following section I will briefly discuss some experiments which were designed to investigate the problem, and some of the results which are relevant to the issue of markedness and acquisition.

3.1 Developing phrase structure. On the basis of available data on language acquisition (Brown, Cazden, and Bellugi 1969, Brown 1973, Slobin and Welsh 1971, Smith 1970, for example), by the age of three, most children have established the content and use of the major grammatical categories (N, V, P, Adj) and have probably established rules for major constituents (NP, VP, PP, AP), although they may not be complete. It also seems clear that there is a certain amount of embedding, although the degree to which this is used in spontaneous speech is not determinable.

In early acquisition work which was based on a transformational model, it was generally assumed that children must develop phrase structure rules as they get older, based on the available input. Some early researchers tried to capture this developmental process by writing phrase structure rules to account for the child's utterances at various stages, and comparing the stages to see what had changed

(Klima and Bellugi 1966, Brown 1973). This simple assumption actually presents a serious problem for acquisition theory: how are the limited early phrase structures expanded to the adult structures?

A logical assumption to make is that major category nodes like NP, VP, S, and $\bar{S}$ are part of universal grammar and thus available to all languages. Of course, they need to be instantiated by the input data (see Roeper (1980b) for more detail). The instantiation of an embedded sentence boundary is somewhat more complex. Within the framework discussed in the previous section and Roeper (1980a), I will discuss possible triggers for the inclusion of S in the phrase structure rules as an embedded constituent.

I am limiting the discussion to primarily two kinds of sentences: right-branching sentences with tensed that complements and with for-to infinitive complements. This excludes conjoined sentences, temporal or if clauses, and other cases where the clause could conceivable be analysed as being adjoined to the matrix S rather than the matrix VP. There are several possible cues or triggers for these kinds of embedded sentences. None of them are sufficient by themselves. Unlike the use of an article to cue a noun phrase, for example, most of the cues for an embedded sentence boundary also appear in other constructions.

A primary cue could be the presence of two main verbs.[3] This excludes the case of the Aux + Verb combination, but includes infinitives, gerundive complements, and tensed complements.

Two verb sentences are produced relatively early, usually as infinitives without subjects ("I going (to) make a cake") or gerunds ("I want sitting very close"),[4] which are considerably rarer. At this stage, whether the infinitive clause should be represented as an S is a moot point, and probably impossible to determine with any reliability.

When infinitives with subjects and tensed NP-VP clauses appear, one can more confidently assign them the status of S. In fact, the use of an embedded NP subject can be considered to be the second trigger for an embedded sentence boundary. Embedded NP's are also not a sufficient trigger for embedded S boundaries by themselves, especially for infinitives; the difference between the so-called "Equi" verbs (want) and "Raising" verbs (force) is evidence that the problem is not quite so clear-cut.

The presence of tense in the embedded clause is another crucial cue, especially in the presence of S. While it has been argued that infinitive complements may be a part of a complex VP, no one has argued that for tensed complements. They are unequivocably assumed to be S complements. Tense also serves as a trigger nor nominative case marking (Chomsky 1980b). In addition, the presence of [±Tense] can also be used as a cue for embeddedness. Clauses which contain

[-Tense] verbs must be embedded; they cannot be a matrix clause or attached to the matrix S. Clauses which are [+Tense] are not restricted; they can be a daughter of S or of VP. In this case, the unmarked case for embedded clauses is [-Tense], and one would expect [-Tense] complements to be learned before [+Tense] complements.

The fourth trigger, for $\bar{S}$ primarily, is the presence of the complementizer. In $\bar{X}$ syntax (Jackendoff 1977), COMP is the Specifier of $\bar{S}$, parallel with the Determiner of NP. As the article can serve as a trigger for NP, so can COMP serve as a trigger for $\bar{S}$. In English, however, there is an additional problem for the acquisition process. Complementizers, particularly *that* and relative pronouns, can often be deleted or omitted, especially in informal speech. Thus the effectiveness of COMP as a trigger for $\bar{S}$ is reduced.

Given the presence of all the triggers necessary to instantiate embedded clauses, the nature of the representation of those clauses must be examined. If it is assumed that certain nodes like S and $\bar{S}$ are available in Core Grammar for complements, one might be considered the unmarked case. There are two logical hypotheses to make. One assumes that all languages use $\bar{S}$, and only the position of the COMP must be determined by the child, in accordance with $\bar{X}$ theory (Jackendoff 1977). In this theory, $\bar{S}$ is the unmarked case for complements. The other hypothesis assumes that $\bar{S}$ is a possible universal, and may or may not be used by the language in question. Under this hypothesis, S is the unmarked case for complements, and $\bar{S}$ must be instantiated by the primary data. Under the first hypothesis, the child will assume $\bar{S}$, and look for the lexical items which are in COMP, and try to determine the position of COMP. Under the second hypothesis, the child will assume only S, and will have to receive positive evidence for the use of $\bar{S}$ in the target language. Language acquisition data can provide support for one of the hypotheses. If the child shows evidence of using COMP at the same time that he begins to use embedded sentences, then the data will support the first hypothesis to some extent, although it will not in principle rule out the second. If the child begins to use embedded sentences and shows no evidence of COMP, even where it cannot be deleted in the adult language, and only later begins to use COMP, then the data can be construed as support for the second hypothesis, arguing against the first.

An argument for the second hypothesis can be made on the basis of the quality of the input data available. If the child assumes $\bar{S}$, and the target language has only S, he will never be presented with evidence to that effect. He might assume the extensive use of a null complementizer, but clear falsification of his initial assumption will never be forthcoming. On the other hand, if the child assumes S, the use of sentences with complementizers will provide evidence for $\bar{S}$ only in the correct cases (if one assumes that verbs can subcategorize for S and $\bar{S}$).

To summarize, I have proposed four possible deductive triggers for the instantiation of S and $\bar{S}$: the presence of two verbs, an embedded noun phrase subject, the presence of Tense, and COMP. None of them, except perhaps COMP, is truly sufficient to trigger the instantiation of $S/\bar{S}$ by itself. It is clear that these triggers must interact to produce an adult representation. Some of them are probably sufficient to provide evidence for a partial representation of S rather than $\bar{S}$; only the presence of COMP is strong enough to provide conclusive evidence for $\bar{S}$. In addition, I have also argued that the initial representation of an embedded sentential complement will use S as the unmarked case rather than $\bar{S}$, which must be instantiated by the data.

3.2 The acquisition of COMP. Although COMP is available in universal grammar, it must be instantiated by the input data as the Specifier of $\bar{S}$. The complementizers for a particular language must be learned, and presumably are not acquired at the same time. The theory of markedness allows certain predictions to be made about the order of acquisition of the [-WH] complementizers in English. In the kinds of sentences discussed here, the relevant complementizers are that and for.

As a complementizer, for is marked; it is homophonous with the preposition and the purposive for, and it does not always have a counterpart in other languages. On the other hand, that can be considered unmarked. Given this assumption, one would expect that to emerge first as a complementizer, and for to emerge later. Wexler's Uniqueness Principle[5] (Roeper 1980b) might predict that for a short time, for might supercede that as a complementizer; however, the interaction of Tense (that with tensed verbs, for with infinitives) should prevent this stage from lasting for any considerable time.

The homophony of the relative clause that and the complementizer that may bring the Uniqueness Principle into play also. For example, consider the following sequence. The child has learned that can introduce relative clauses, although in his grammar, the clause may still be adjoined to the matrix S (Solan and Roeper 1978). After learning the complementizer that, he may reject the relative pronoun that in favor of who/which. This could lead to treating relative clauses with that as ordinary complements, or using WH forms (who/which) for relative clauses.[6]

An interfering factor with both the complementizers and the relative pronouns is the frequency of their deletion in English. Unlike other languages (French, for example) in which the complementizer is obligatory, the use of complementizers will probably not be consistent in the input data. This may retard their final acquisition somewhat.

3.3 Summary. In this last section I have proposed a series of triggers which, when coupled with Core Grammar and Wexler's Uniqueness Principle for relating levels of representation, allow certain predictions to be made

about the development of embedded sentences and complementizers. I assumed the initial phrase structures of the child are flat, without sentential recursion, based on studies of the language of young children. Several triggers were proposed which together provide the child with evidence for the establishment of an internal S boundary, with the complement attached to the matrix S. The use of an overt complementizer was suggested as a trigger for the inclusion of $\bar{S}$ in the grammar. It was argued that the unmarked form of complements should be S, with $\bar{S}$ as the unmarked case which needed instantiation. Finally, a developmental sequence for the acquisition of the [-WH] complementizers that and for was proposed, based on markedness theory.

4. Evidence from acquisition data

In this section I will discuss the results of two experiments from a recent study (Phinney in preparation) which bear on the issues discussed in section 3. In section 3.2 I argued that of the [-WH] complementizers, that was unmarked and for was marked. If this is the case, given the association of markedness and ease of learnability, that should be learned before for. The use of Wexler's Uniqueness Principle might predict that some children would substitute for complements for that complements, but this stage should be relatively brief.

As part of a larger study, two pretests were designed to gather data on children's elicited production of complex sentences. The subjects were fifty preschool children, aged 3,0 to 6,5, in Agawam, Massachusetts. The first pretest consisted of two-clause sentences with tensed complements. Three types of sentences are of crucial interest. These are shown in (3) and (4).[7]

3. a. The bear said that the horse tickled the turtle.
   b. The cow decided the sheep pushed the bear.

4. It amused the horse that the cow touched the lion.

The children were asked to imitate the test sentences and then to act them out using a set of farm animals.

The second pretest used two-clause sentences with infinitival complements. The structure of these sentences was parallel to that of the sentences in the first pretest. These are shown in (5) and (6).

5. a. The bear loved for the pig to tickle him.
   b. The horse wanted the turtle to kiss him.

6. It mused the pig for the cow to kick the dog.

In sentences (3a) and (5a), there is an overt complementizer, as there is in sentences (4) and (6). Sentences (3b) and (5b) do not contain a complementizer.

The main purpose of the pretests was to collect data on the use of complementizers in imitation. Since both that and for are frequently deleted in English, it was assumed that children would delete them as well. Consistent deletion (more than seventy-five percent) was considered to be a strong indication of ignoring the complementizer on a basis other than chance. Given the possibility of deleting or retaining either or both of the complementizers, there were four groups that were expected: 1) delete both that and for, 2) retain that and delete for, 3) delete that and retain for, and 4) retain both that and for. If that is unmarked and for is marked, (2) should precede (3) and (4).[8]

These groupings can be used to support hypotheses about the development of complex sentences in the child's grammar. If a child uniformly deletes or omits both complementizers, even in environments where the complementizer is required in the adult grammar, it suggests that he does not have a complementizer as yet, and perhaps does not have $\bar{S}$. Groups (2) and (3) suggest possible stages in the development of the complementizer. A child who retains both complementizers and who also inserts them correctly when they are not present in the model can be assumed to have learned both [-WH] complementizers, and probably $\bar{S}$ as well. On the other hand, if $\bar{S}$ is incorporated into the grammar as soon as sentential complements develop, then one would expect the complementizer to be retained and incorporated from the earliest possible period. In terms of these tests, one would expect at least that and possible for to be repeated as soon as the child is capable of repeating two tensed clauses, and possibly inserted correctly even when it is not present in the model. If $\bar{S}$ is not instantiated initially, as I argued in section 3.1, one would expect a period in which that and for are deleted most of the time. A second stage in which both $\bar{S}$ and $\bar{S}$ may occur as sentential complements would predict repetition of that when it is present in the model, but no insertion, followed by the repetition of for. The final stage, when $\bar{S}$ is used for all complements, would be indicated by frequent insertion of that and for when they are not present in the model.

A cluster analysis of the subjects' responses produced four main groups, which could be described in terms of their primary responses. Group I consisted of three year olds (mean age 3,7). The primary response of this group was to give a simple sentence or infinitive, generally produced by deleting the middle of the model sentences (the complementizer, embedded subject, and either the matrix or the embedded verb) or by deleting the matrix clause. Group II consisted primarily of four year olds, with some five year olds (mean age 4,9). The primary response of this group was to repeat the model sentences without the complementizer. Group III also contained both four and five year olds (mean age 5,0). They generally retained the that complementizers but deleted the for complementizers. Group IV consisted primarily of five and six year olds, with some four year olds (mean age, 5,2). This group retained both complementizers, and tended to insert that appropriately in sentences like (3b).

The cluster analysis provides a means of evaluating the predictions discussed in section 3. Groups II - IV use complementizers to varying degrees. These groups can be classed on the basis of whether each complementizer was retained or omitted. The results of this classification is shown in Table 1. The distribution is significant at the .05 level (Yates' corrected $x^2 = 8.98$, $p < .05$). The two largest categories are those who delete both complementizers and those who retain both complementizers. These correspond to Groups II and IV respectively. The third largest group consists of those who retain that and omit for. This corresponds to Group III, who are older than Group II and younger than Group IV. Overall, these subjects were very consistent about using that when it was present in the model, and they were also very consistent about deleting for. The fourth group, those who delete that and retain for is small, and they were not very consistent. They generally used some that's, but tended to substitute for for that in extraposed sentences (4). Recall that Wexler's Uniqueness Principle predicted this stage of substitution.

COMBINED RESULTS OF PRETESTS

for complementizer	That complementizer: omitted	That complementizer: retained	
omitted	14	8	22
retained	3	18	21
	17	26	43

TABLE I

This data also provides evidence on the nature of the initial complement structure, discussed in section 3.1. The results from Group II, the youngest of those who used complex sentences, support the hypothesis of an initial complement structure consisting of S alone. Both complementizers are deleted between sixty and seventy percent of the time. Ideally, to support such a hypothesis, all the complementizers should have been deleted, which was not the case. That is retained about thirty percent of the time, although none of the subject did it consistently in this group, and for is retained about fifteen percent of the time. In both cases, the percentage of retention is below chance (50%). It may be that some of the subjects in this group are in the initial stages of learning $\overline{S}$. It is probable that the acquisition of $\overline{S}$ is at first restricted to individual lexical items,

and only later generalized to a class of verbs, but the data from these tests is not extensive enough to fully examine this hypothesis.

Based on the data from these pretests, a developmental sequence can be established. The initial stages consist of simply tensed sentences or two verb sentences in which only one of the verbs is tensed. The next stage involves tensed complements without the [-WH] complementizers. The next stage is the acquisition of that as the unmarked [-WH] complementizer, first linked to individual lexical items, then generalized to all tensed complements. The final stage consists of using both that and for correctly. These subjects can be assumed to have an $\bar{S}$ node of some generality. The data also provide support for the sequence of the acquisition of the complementizers predicted by a theory of markedness. That is used first, followed by the consistent use of both that and for at a later stage.

5. Conclusion

In this paper I have argued for the use of markedness theory as well as some principles of acquisition theory (the Uniqueness Principle and a theory of triggers) to provide an account for a sequential view of acquisition which can account for and predict the intermediate stages of the language learning process. In addition, evidence from language acquisition can be used to provide evidence for the falsification or support of competing hypotheses about both the linguistic theory and the model of acquisition being considered. As an example of this type of reasoning, I presented data from the acquisition of embedded complements which supported certain predictions made by arguments based on markedness.

Footnotes

[1]The research presented here is a part of my doctoral dissertation research. I would like to thank Tom Roeper, Lyn Frazier, Edwin Williams and Chuck Clifton for their help and suggestions. Any errors, are, of course, my own. I would also like to thank Valley Community Day Care and the YMCA Day Care Center in Agawam.

[2]There is, of course, one particular kind of negative evidence to which the child may have access. If contextual information provides an interpretation other than that assigned by the child's grammar, this may be taken to be evidence against the grammar, and could cause reanalysis. (See Baker (1979)).

[3]The definition of a main verb is somewhat vague, but I assume it to include any verb that can appear in a simplex sentence, and to exclude components of AUX.

[4]These examples are from the Adam/Eve/Sarah transcripts discussed in Brown (1973).

[5]Wexler's Uniqueness Principle can be stated as follows: The child assumes that there is a unique mapping between levels of representation. If he gets evidence for a second representation, the original mapping is replaced. Only when two representations are evidenced in the data can dual mappings be established.

[6]Limber (1973) claims that relative clauses with that occur first. This suggests a stronger parallel between the COMP of relative clauses and the COMP of sentential complements than some WH Movement analyses of relative clauses might predict. If that is the case, that could be the unmarked complementizer for all tensed complements.

[7]In the original study, left-branching sentences were given, but they were not used in the final analyses.

[8]It should be noted that the use of the term delete does not imply a deletion rule. It is used here as a less formal way to describe a particular response, repeating the model sentence without the complementizer.

REFERENCES

Baker, C.L. (1979) "Syntactic theory and the projection problem." Linguistic Inquiry 10.533-581.

Brown, R. (1973) A First Language. Cambridge: Harvard University Press.

Brown, R., C. Cazden, and U. Bellugi. (1969) "The child's grammar from I to III." In J.P. Hill, ed., Minnesota Symposium on Child Psychology, v. II. Minneapolis: University of Minnesota Press. Reprinted in Ferguson and Slobin (1973).

Chomsky, N. (1965) Aspects of the Theory of Syntax. Cambridge: MIT Press.

Chomsky, N. (1973) "Conditions on transformations." In S.R. Anderson and P. Kiparsky (eds.), A Festschrift for Morris Halle. New York: Holt, Rinehart, and Winston.

Chomsky, N. (1980a) Lectures on Binding and Government. Dordrecht, Holland: Foris Publications.

Chomsky, N. (1980b) "On Binding". Linguistic Inquiry 11.1-46.

Chomsky, N. (1980c) Rules and Representations. New York: Columbia University Press.

Chomsky, N. and H. Lasnik. (1977) "Filters and Control." Linguistic Inquiry 8.425-504.

Ferguson, C.A. and D.I. Slobin. (1973) Studies of Child Language Development. New York: Holt, Rinehart, and Winston.

Fodor, J.A., T.G. Bever, and M.F. Garrett. (1973) The Psychology of Language. New York: McGraw Hill.

Greenberg, J.H. (1966) Language Universals. The Hague: Mouton.

Jackendoff, R.S. (1977) $\overline{X}$ Syntax: A Study of Phrase Structure. Linguistic Inquiry Monograph 2.

Klima, E.S. and U. Bellugi. (1966) "Syntactic irregularities in the speech of children." In J. Lyons and R.J. Wales, eds., Psycholinguistics Papers. Edinburgh: Edinburgh University Press. Reprinted in Ferguson and Slobin (1973).

Lasnik, H. (1980) (this volume) "On a lexical parameter in the government-binding theory." Presented at the Sloan Conference on Markedness and Learnability, University of Massachusetts, Amherst.

Peters, S. (1972) "The projection problem: How is a grammar to be selected?" In S. Peters, ed., Goals of Linguistic Theory, Englewood Cliffs, N.J.: Prentice-Hall.

Phinney, M. (in preparation) The Acquisition of Embedded Sentential Complements, PhD dissertation, University of Massachusetts, Amherst.

Roeper, T. (1980a) "In pursuit of a deductive model of language acquisition."

Roeper, T. (1980b) "On the importance of syntax and the logical use of evidence in language acquisition."

Slobin, D.I. and C.A. Welsh. (1971) "Elicited imitation as a research tool in developmental psycholinguistics." In C.S. Lanatelli, ed., Language training in early childhood education. University of Illinois Press, Reprinted in Ferguson and Slobin (1973).

Solan, L. and T. Roeper. (1978) "Children's use of syntactic structure in interpreting relative clauses." In H. Goodluck and L. Solan, eds., Papers in the Structure and Development of Child Language. University of Massachusetts Occasional Papers, v. 4.

Smith, C.S. (1970) "An experimental approach to children's linguistic competence." In J.R. Hayes, ed., Cognition and the Development of Language. New York: Wiley.