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ABSTRACT

This report examines the question of whether grammatical rules are globally learned and applied. It also attempts to determine the underlying word order in English as well as the developmental sequence of the acquisition of Aux. A sentence-repetition test using positive statements, positive questions, and negative questions was administered to 30 children, aged 2 years, 1 month, to 5 years, 1 month, in order to examine these three questions. Results showed grammatical variation and seemed to indicate that rules are not globally learned and applied. The question of whether statements or questions are the underlying forms of English is unresolved. Rather than a single developmental sequence, varied strategies seem to account for child development of the acquisition of Aux. A revised transformational theory, asserting that sentences which have undergone a greater number of transformations are more difficult, is shown to be incorrect. (AM)

THE ACQUISITION OF AUX*

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INTRODUCTION

Studies I've been doing lately indicate considerable morphological and grammatical variation in adults. For example, if you ask a sample of 60 adults what the plural of [wʌg] is, not all 60 will say [wʌgz], and if you ask for the plural of [fris], they do even worse. The variation the adults display in this task suggests that the //PL// rule as stated is inadequate to account for adult linguistic behavior: the //PL// morphological rule, surely known to these subjects in that it is productively available to them, is not invariably applied. Thus either there are other, low level rules, or rules are not globally applied. Careful analysis has failed to uncover any regularities in the deviant responses.

If rules are not globally applied, perhaps they are also not globally learned. Is it in fact the case, as transformational grammarians would claim, that a child who has learned the negative question transformation can apply it to any configuration of Aux known in the positive statement? Or would children display variation, suggesting either low level rules or rules that are not globally learned and freely generalized?

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At the Winton Road Nursery of the Unitarian First Church, the teachers, Ms. Marcia Allen, Debbie Simson and Chloe Barrett all provided ready access to the children, and expressed their interest and concern in language acquisition research in innumerable ways.

Transformational grammar makes available a formula for Aux in English which readily lends itself to analysis of this kind:

1. Aux ⟶ C(M) (have+en) [be +ing) [(be+en)]

In this paper I will focus on three topics. First, are rules globally learned and applied? Second, what is the underlying word order in English? Third, what is the developmental sequence of the acquisition of Aux? Are children restricted by the number of pieces they can manipulate in one string, or by specific segments, (e.g. be+en, the passive segment)?

METHOD

Materials. In order to explore these questions, a straightforward repetition task was used. Labov (1972) had used a repetition task with impressive results in studying BE and SE negative formations. He found that if a string was highly ungrammatical for a speaker, he frequently failed to repeat it correctly. While the speaker might accurately reproduce strings he would seldom or never utter himself, he rarely did so when major grammatical differences were involved. Thus, I am not claiming that a child who can repeat a #14 Aux would use such a form in free speech. Rather, I am making a less sweeping assumption: where a child systematically fails to repeat a sentence, his actual utterance will be revealing in two ways: it will demonstrate which elements or combination of elements of the adult Aux are highly ungrammatical to him; and it will provide information about the structure of his own Aux.

Table I. The 16 Aux Strings

Aux ⟶ C(M) (have +en) (be +ing) (be +en)

1	C				
2	C	M			
3	C		have+en		
4	C			be+ing	
5	C				be+en
6	C	M	have+en		
7	C	M		be+ing	
8	C	M			be+en
9	C		have+en	be+ing	
10	C		have+en		be+en
11	C			be+ing	be+en
12	C	M	have+en	be+ing	
13	C	M		be+ing	be+en
14	C	M	have+en		be+en
15	C		have+en	be+ing	be+en
16	C	M	have+en	be+ing	be+en

The 16 possibilities of Aux each were embedded in a sentence seven words in length. The original 16 sentences contained a maximum of two words before the Aux: an article and a noun. Since I wanted to test whether sentence length was a factor in difficulty, I added four sentences, repeating the last four Aux's, which contained the maximum number of Aux elements. These sentences were expanded by stuffing words in before Aux: for example, a modifier on NP, "My friend at school," or an initial locative, "In the kitchen."

Table II. Sample Sentences

1. Mommy makes (Bobby) breakfast in the morning.
2. _____ can see me on the floor.
3. _____ has found a big orange cat.
4. The men are building a new supermarket.
5. _____ was taken for a car ride.
6. _____ could have told a funny story.
7. Your Daddy can be looking at T. V.
8. Hands should be washed with hot water.
9. _____ has been reading a story book.
10. _____ has been helped with his/her mittens.
11. Food is being cooked in the kitchen.
12. Mommy should have been giving _____ toys.
13. The dog should be being fed meat.
14. Pictures could have been drawn by _____.
15. Cake has been being eaten all morning.
16. _____ should have been being seen often.

13b. In the kitchen cookies could be being baked.
14b. The lady next door could have been hurt.
15b. My friend at school had been being given new toys.
16b. The new supermarket should have been being built slowly.

The acquisition of rules was tested by taking each of the 20 sentences and presenting them in three forms: (1) positive statement; (2) positive question; and (3) negative question. Since I share the general discomfort in precisely specifying the derivational complexity of a sentence, I avoided the problem by using only transformations of my 20 sentences. This allowed me to test, unambiguously, whether NQ are in fact more difficult than Q or S.

Procedure. Thirty subjects, ranging in age from 2 years, 1 months to 5 years, 1 month were asked to repeat the test sentences. There were three two-year-olds who are not included in the tabulations, and one young three-year-old who is included only the Confusion Matrices. Except for

the young ones, these children were drawn from two private nursery schools in the Rochester area, and represent families of generally comparable upper-middle-class income. The schools were not selected randomly. Both were special in that the teachers welcomed a researcher and provided ready access to the children. Each child was tested three times, at intervals which varied from one day to two weeks between each test.

Table III. Subjects

Ages in years and months

	2;1-3;1	3;8-3;11	4;1-4;4	4;6-4;8	4;10-5;1	Totals
Male	1	1	5	3	3	13
Female	3	4	4	2	4	17
Totals	4	5	9	5	7	30

Originally I had planned to use 12 children. The doubts raised by Ingram & Tyack (1973) and McCawley (1970) as to whether English is actually a VSO language rather than SVO, meant that it was critical for me to vary the transformational order of presentation. I therefore increased the number of children tested. The number of subjects is still inadequate to see whether order of presentation is significant.

The children were tested individually, wherever the school offered a quiet corner. The investigator sat on the floor, child level, and asked the child to spell his name, tell his age and birthday if he could. After a brief, free conversation, often about pets since several animals appeared in the sentences, the task was explained this way:

> "We're going to play a sentence game. In this game, you say exactly what I say. What would you say if I said 'Boo'?"

The children very readily went "Boo!"

> "What would you say if I said 'Bobby is wearing a bright yellow shirt?"

If the child understood the task I started directly with the sentences. Otherwise we continued to practice, using sentences about familiar objects in the immediate surroundings. Generally, when statements were the first sentence type presented, the children caught on at once. When questions or negative questions were introduced first, the children tended to answer rather than to repeat. This tendency negatively correlated with age, and I was unable to get any of the younger three-year-olds to begin with questions.

In the second and third interviews, I simply asked whether the children remembered the game. Invariably they did.

Scoring. The data obtained can be scored in a variety of ways. In order to ask whether rules were globally applied, it was first necessary to define a "correct repetition." For all scoring, I accepted as accurate contractions such as "he's," even though these may be ambiguous: 'he's" may derive from he has or he is. Also tabulated as correct were morphological variations of the verb, such as [tukɪn] for taken, or [drɔd] for drawn.

In the first scoring, which gives the child every benefit of the doubt, I accepted as correct any repetition in which the Aux was accurately reproduced. Failures to apply the transformations were ignored. The omission, addition or alteration of words in the sentence also were irrelevant as long as such words did not belong to the verbal material.

If the child's response contained a grammatical Aux which differed from the one given to him, his response was scored as the one he gave. This method of scoring accepts some sentences as accurate which are at best questionably grammatical as in Table IV:

Table IV
Nongrammatical Sentences with Correct Aux

2. Aux 3. C have+en
   a. (5) Christy was found a big orange cat. [109]
   b. (5) Tanya has taken for a car ride. [100]
   c. (10) Ethan has been drawn a picture of rock Daddy. [111]
   d. (10) Hasn't David been found a big orange cat? [207]

3. Aux 5. C be+en
   a. (4) Tommy was taking for a car ride. [106]
   b. (4) Was Danielle taking for a car ride? [212]

4. Aux 6. C M have+en
   a. (14) Couldn't Linda have been taken a car ride? [110]

5. Aux 10. C be+ing be+en
   a. (3) Hasn't Danielle tooken home very early? [212]
   b. (3) Hasn't Nancy taken home very early? [100, 202]
   c. (5) Linda was helped by her mittens. [110]
   d. (9) Danielle has been taking home very early. [212]

6. Aux 13. C M be+ing be+en
   a. (9) Has the dog been feeding meet? [101]

7. Aux 14. C M have+en be+en
   a. (8) Couldn't pictures be drawn from Rinna? [201]

8. Aux 15. C have+en be+ing be+en
   a. (9) Cake has been eating all mo rning. [108,104, 203]
   b. (9) Cake has been eating all morning from David. [207]
   c. (9) Has cake been eating all morning? [211,105, 212]
   d. (9) Hasn't cake been eating all morning? [207, 202, 104]
   e. (9) Hasn't Alex been reading by a story? [105]

9. Aux 16. C M have+en be+ing be+en
   a. (7) Cookies will be eating slowly. [208]
   b. (7) Cookies should be eating slowly. [200]
   c. (7) Tommy should be seeing often. [106]
   d. (7) Should Allison be seeing often? [205]
   e. (7) Should cookies be eating slowly? [200, 109, 208]
   f. (7) Shouldn't cookies be eating slowly? [106, 212]
   g. (7) Shouldn't Rinna be seeing often? [201, 113]
   h. (10) Hasn't Theo been eaten all morning? [101]
   i. (12) Sasha should have been seeing often. [203, 104]
   j. (12) Jody shouldn't have been seeing often. [206]
   k. (12) Should cookies have been eating slowly? [204]
   l. (12) Shouldn't cookies have been eating very slowly? [112, 203]
   m. (12) Shouldn't Tanya have been seeing often? [104]

For the statement form of Aux 16,

9. Aux 16. Cookies should have been being eaten slowly

speaker number [200] responded with an Aux of type 7.

9b. Cookies should be eating slowly.

If the response did not correspond to any of the 16 Aux strings, it was classified as ungrammatical.

For all further scoring, I ma de more stringent demamds. In determining the child's ability to apply transformations, repetitions were scored as correct only if the appropriate S, Q, or NQ transformation had been applied. Strange sentences, such as those listed above, were also excluded.

There is one aspect of the children's behavior which I made no attempt to score that s< ems very important. The design of a repetition task distinguished, in a way I can't systematize very neatly, among several kinds of children. The first kind were repeaters. Their enunciation was clear, their pronunciatio. was close to adult, and they parroted me. They displayed little or no comprenension of the sentences and when they erred their Aux's were either ungrammatical or they produced the semantically obscure sentences shown in Table IV. In contrast to this group, several children had very childish phonology: they substituted alveolar for velar stops, for example, and were unable to produce initial consonant clusters. Yet these children displayed more complex Aux. When they erred in reproducing the sentences, they did so by simplifying the Aux in a grammatical way. These children frequently protested when they did not understand the sentences. Still another group were distinctly sensitive to syllable count. These children filled in [ən], [ɨn], [əz], and [ə] where they couldn't recall the entire Aux. Thus children apparently have different strategies for approaching the coding problem in the repetition task.

RESULTS

The three two-year-olds do not appear on the tabulation sheets because they did not provide enough data for the analyses presented here. The youngest, a two-year, one-month male, had only one verb form, which corresponded to the unmarked dictionary shape. He never used inversion to ask questions, and refused to utter a single negative question. In this he matched the second two-year-old, who was two years, six months. Zoë simply said "no" to every negative question presented to her. She did manage Aux types 2, 5 and 6 in statements. Like the remaining two- and the young three-year-old, she answered questions but would not repeat them. The final two-year-old tested was two years,

ten months. He accurately rendered Aux types 1, 2, 4, and 5 in both statements and questions, although the only way we got him to cooperate was by singing the Aux's to a guitar accompaniment. He was considerably more impressive with negative questions, in that Aux's 5, 9 and 12 were accurate. However, the only Aux he produced consistently, that is, in all three transformations, was number 5.

All four of the very young children (two years, one month to three yeras, one month) shared one striking characteristic. Their response to the complicated Aux sentences was "I can't say that!" Not "I don't want to" but "I can't." Older children did not say this, and frequently rendered the sentences with great assurance even when they were doing so inaccurately.

The grammatical Aux's the three-, four-, and young five-year-old children produced appear in Tables V, VI, and VII.' These are displayed as Confusion Matrices. Here, nonstringent scoring was used. The Aux string presented appears in the horizontal axis; the response is entered in the vertical axis. All figures here represent percentages. If the repetitions had been 100% accurate, all the responses would have fallen on the diagonal. The percent of ungrammatical repetitions is given directly to the right of the matrix. Other responses were grammatical and meaningful, but were inaccurate in that the child simplified the Aux by omitting one or more elements. For example, if the sentence given was:

10. (Aux 15) Hasn't cake been being eaten all morning?

four children (or 15%) said:

11. (Aux 10) Hasn't cake been eaten all morning?

The element be+ing has been left out, resulting in a grammatical Aux of type 10. These responses fall to the left of the diagonal, and tend to cluster. For statements, there is a marked tendency to omit one Aux element each time, resulting in a parallel diagonal march of simplified Auxes.

In general, have+en is the most difficult single segment of Aux: the majority of ungrammatical responses occurred for the Aux strings that contained have+en; and on the Confusion Matrices, if a single Aux segment is omitted, it is most frequently this one. Not surprisingly, for those Q and NQ in which have is the tense carrying element, and therefore occurs under stress in initial position, children perform with somewhat greater accuracy than on the statements (as for Aux's 9 and 10). The other frequently omitted segment is be+ing; this is especially true when this segment is followed by be+en.

Subject's Responses	Aux presented																Non Gram.	Aux
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		
1	96																4	C
2	4	96															0	C M
3	22		52	7	4					4							11	C have+en
4				96	4												0	C be+ing
5	7		4	4	59					4							22	C be+en
6	7	4	11			48											30	C M have+en
7				4			85										11	C M be+ing
8		4						77									19	C M be+en
9				15			4		55								26	C have+en be+ing
10				4	22				7	33							33	C have+en be+en
11					4		4			4	55						33	C be+ing be+en
12						7	18					33		4			37	C M have+en be+ing
13							4	22		4			4				66	C M be+ing be+en
14		4			4			22		7				37			26	C M have+en be+en
15				4					18	22					7		48	C have+en be+ing be+en
16				4			7	11		4		11		18			44	C M have+en be+ing be+en

Table V. Percentage of Correct Aux in Statements

Subject's Responses	Aux presented																Non Gram.	Aux
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		
1	100																0	C
2		100															0	C M
3	15		52														33	C have+en
4				96													4	C be+ing
5	15			4	70												11	C be+en
6		4	4			30				4							59	C M have+en
7							85										15	C M be+ing
8		4						81									15	C M be+en
9							?		66								26	C have+en be+ing
10			4					4		48	4						41	C have+en be+en
11					4		4			7	63						22	C be+ing be+en
12		7					18		15			11					48	C M have+en be+ing
13								33	4	4			11				48	C M be+ing be+en
14								26						11			63	C M have+en be+ing be+en
15									18	22					7		52	C have+en be+ing be+en
16							11	15		11		4		7			52	C M have+en be+ing be+en

Table VI. Percentage of Correct Aux in Questions

Subjects' Responses	Aux presented																Non Gram.	Aux
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		
1	96																4	C
2		100															0	C M
3	7		48						4	4							37	C have+en
4				96													4	C be+ing
5	15				85												0	C be+en
6		15	7			30								4			44	C M have+en
7							85										15	C M be+ing
8		4						85									11	C M be+en
9									66								33	C have+en be+ing
10			15					4	4	44							33	C have+en be+en
11					4					7	59						30	C be+ing be+en
12	4						22		7			22					44	C M have+en be+ing
13							7	33		4			11				44	C M be+ing be+en
14							4	26						18			52	C M have+en be+en
15									30	15							55	C have+en be+ing be+en
16							26	7		7		11					37	C M have+en be+ing be+en

Table VII. Percentage of Correct Aux in Negative Questions

In Table VIII the totals are given for the percentages of correct Aux's in S, Q, and NQ (the diagonals of the Confusion Matrices). These numbers are very close, suggesting that transformational theory is correct in its claim that rules are learned and applied globally. Also, NQ looks very similar to S and Q, refuting a revised theory which would assert that negative questions, which involve at least one extra transformation, are therefore harder and should result in reduced accuracy of repetitions.

Table VIII. Percent Correct Aux

	S	Q	NQ
Aux 1	96	100	96
2	96	100	100
3	52	52	48
4	96	96	96
5	59	70	85
6	48	30	30
7	85	85	85
8	77	81	85
9	55	66	66
10	33	48	44
11	5	63	59
12	33	11	22
13	4	11	11
14	37	11	18
15	7	7	0
16	0	0	0

However, Table VIII obscures a critical fact; do the same children produce correct responses for Aux's in S, Q, and NQ, or do these responses represent different children? This table fails to allow for inconsistency within individual children. Accurate performance of a transformation, say, NQ, for one Aux need not imply accurate performance of the same transformation on another Aux, even if that Aux has been correctly rendered as an S.

Table IX, the Consistency Table, demonstrates this fact. For any one Aux configuration, there are several possibilities: (1) the child could perform consistently on all three forms, S, Q, and NQ -- that is, he would either get all three wrong or all three right. (2) He might get only one of them right (the first three columns in the table). (3) He might get two of the three right (the next three columns). For example, for Aux 2, five speakers displayed inconsistent behavior. One of these

got only the statement correct, making deviant responses for both the corresponding question and negative question. Two children repeated both S and Q accurately, but erred on NQ; and the other two inconsistent responses involved the correct rendition of Q and NQ, but not of the corresponding S. Thus 21 subjects (25-5), or 81%, were consistent, while 5, or 19%, were inconsistent.

Table IX. Consistency Table

	Only one configuration correct			Only two configurations correct			Consistent		Inconsistent	
Aux	S	Q	NQ	SQ	SNQ	QNQ	(raw score)	(%)	(raw score)	(%)
1		1		1			24	92	2	8
2	1			2		2	21	81	5	19
3	4	1	1	3	1	4	12	46	14	54
4				3	1	1	21	81	5	19
5		1	4	1	2	5	13	50	13	50
6	6	3	1	2	3		11	42	15	58
7	2	1		1	2	1	19	73	7	27
8	1		1	2	3	4	15	58	11	42
9	1	5	3	1	2		14	54	12	46
10	2	2	2	1		4	15	58	11	42
11	1	2	1	2	3	4	13	50	13	50
12	5		2	1	2	1	15	58	11	42
13	1	3	3				19	73	7	27
14	6	1	3	2	2		12	46	14	54
15	2	2					22	85	4	15
16							26	100	0	0
Raw Totals:	32	22	21	22	21	26				

The fact that children are not applying rules globally is dramatically illustrated by Table IX. While a theory of generalized rule learning would predict close to 100% consistency (that is, would predict that the inconsistency column would be at zero), I find inconsistency exceeding 50% for some Aux's.

Are rules then globally learned and applied? The data indicate they are not. Once a transformation is known, there is no guarantee that it will be consistently applied.

The second focus of my analysis concerns deep structure word order. The data do not resolve whether statements or questions are the underlying form in English. If the child gets only one of the three forms

correct, it is more likely that one of those forms will be a question than that it will be a statement, this again by a small margin.

In scoring the data, individuals often (but not always) behave with relative consistency. Thus a single child tends to perform better on Q than on S, or on NQ and S than on Q. The inconsistency of overall use of transformational rules, combined with the relative consistency of individuals, suggest that different children adopt different strategies. It seems perfectly possible that for some children, the underlying word order of English is VSO, while for others it is SVO.

The data do provide some support for this hypothesis. If S were the underlying form, then presumably, if a sentence is presented as a question, the child might repeat it as a statement, but not the other way around: that is, he would never repeat a statement as a question. If this were true, a transformational accuracy matrix could be set up such that all the repetitions could either be correct or would fall to one side of the diagonal. In fact this does not happen, as the Transformational Accuracy Table (Table X) demonstrates. When subjects were presented with statements, 96% of the repetitions which maintained the Aux's correctly were in statement form, but 2% were changed to questions and an additional 2% to negative questions. Further support arises from the fact that subjects' responses do tend to cluster: a subject who once produces an unexpected negative will do so again, though not necessarily in the next sentence.

Table X. Transformational Accuracy

		Transformation Presented		
		S	Q	NQ
Subjects' Responses	S	96	3	0
	Q	2	93	9
	NQ	0	4	91
	NS	2	0	0

Where subjects favor S or Q, it is tempting to say these represent underlying forms, at least for these children. However, several of the children also pulled negatives out of their hats. Whether we accept negative as a possible underlying form or decide these children have a negative view of the world, the data in Table X are inconsistent with a transformational view that assumes the same deep structure for all subjects.

Finally, what is the order of appearance and the development of Aux? A breakdown by age was attempted and proved meaningless for three year, one month to five years, two months, in that the strategies adopted did not correlate with age. However, age relates directly to the cognitive strategies available to the children, in that two-year-olds and young three-year-olds perceived questions as utterances to be answered. The greater difficulty posed by negative questions probably arises from the even greater reality of this type of utterances, in that it not only poses a question, but indicates the speaker's attitude toward the answer.

I am still analyzing the data by individual, but the results seem clear. Some children do not know a particular Aux element. Whenever the Aux string given contained this segment the child made a mistake. Other children have restrictions on density: they limit the number of segments which can co-occur. This finding again suggests that we are dealing with multiple strategies. Children explore the different strategies available to them, and our tests may find one child developing one or more of these possibilities, which may be quite different from those of the next child we test.

The most obvious restriction on Aux, shared by almost all children, prohibited the co-occurrence of be+ing and be+en. This finding loses its punch when adults are observed. I ran 12 adults as a control group. There were 34 deviant responses out of a possible 240, or 14%. A number of other responses for be+ing and be+en, while accurate, were accompanied by loud noises that these sentences weren't English. I have been suggesting that children explore a number of strategies in the process of acquiring language. Even a superficial look at question formation bears this out. In closing, two of these strategies will be presented in some detail.

The first question strategy is Tense Carrier Reduplication. In adult grammar, tense attaches to the first element of Aux, whatever that first element happens to be. Where no segment of Aux is present other than tense, do is inserted for questions and negatives. A fair number of transformations in English manipulate this first tense-carrying element, including emphatics, tag questions and comparative as well as questions and negatives. Where the Aux string given contained three segments or more, a number of children created questions by reduplicating the tense-carrier element and fronting it, leaving the original Aux in uninverted form. This resulted in sentences such as these:

Aux 6. Could x could have taken? [110]
Aux 13. Could x could be baked? [100]
Aux 13. Could x can have been baked? [212]
Aux 14. Couldn't x could have been hurt? [207]
Aux 14. Could x could be hurt? [107, 205]
Aux 14. Could x could have been told? [204]
Aux 14. Could x could have been hurt? [204]
Aux 14. Couldn't x could being hurt? [109, 208]
Aux 14. Couldn't x could been hurt? [202]
Aux 14. Couldn't x can be hurt? [105]
Aux 14. Couldn't x could be hurt? [107]
Aux 14. Couldn't x could have been hurt? [209]
Aux 14. Couldn't x couldn't been hurt? [212]
Aux 15. Have x have been given? [211]
Aux 15. Have x have [ən] given? [202]
Aux 15. Had x had being given? [111]
Aux 16. Shouldn't x should have been built? [204]
Aux 16. Should x should have been build? [112]

Interestingly enough, one of the adults did this too, so I don't dare claim there was no adult model for this strategy. I suspect it is rare among adults; it was widespread among the children.

A second obvious strategy involved treating could (should) have and have been as the tense carrying unit and fronting them intact. Sample sentences are:

Aux 6. Could have x told funny stories? [212]
Aux 6. Couldn't have x taken a car ride? [212]
Aux 9. Have been x doing that all day? [212]
Aux 10. Have been x helped with mittens? [212]

Several children displayed this strategy with should of and could of, suggesting that have is not yet the underlying form. Speaker 212 is unusual in that have is clearly perceived and pronounced as a full form, and the strategy seems to be one of fronting the first two Aux elements whenever have is present.

This study has focused on a theoretical claim which has two forms. Traditional transformational theory would assert that once a rule is known, it can be globally applied to any string. This was demonstrated to be false by the figures in Table IX. A revised theory, which would correlate acquisition and processing, would predict that sentences which have undergone a greater number of transformations would be more difficult. At least for the repetition task, this claim is likewise unfounded.

Instead, the data suggest that rules are not globally acquired and that children have differing strategies as to how rules are analyzed and applied.

In addition, this study queried the underlying order of the subject and verb in English, and the order and process of the acquisition of Aux. The data offer no evidence one way or the other to resolve the SVO- VSO argument. Rather, the evidence suggests that children may have different underlying orders. The same answer appears to describe the acquisition of Aux: some children acquire Aux one element at a time; others seem to acquire varying combinations of elements.

Thus, aspects of language acquisition which have generally been viewed as governed by global rules globally learned turn out to be governed by a bundle of different and sometimes highly individualized strategies.

Berko's (1958) classical study in the acquisition of morphological rules led to the assumption that these rules would be fully known and applied at a young age. While the focus on generality has been very productive, the considerable variation she noted in her study has been lost sight of. We must now turn to variation in order to discover the different strategies by which children acquire language.

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