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ABSTRACT

This study was designed to investigate the assumption that young, lower-class black children have language deficits based on the use of a restricted (as opposed to an elaborated) syntactic code. The speech of 69 black, lower-class and 30 white, middle-class 4 1/2-year olds was compared. Speech samples were elicited through semistructured picture interviews, which were tape recorded. Two types of syntactic units, verb-complement units and noun phrases, were selected for analysis. Each unit was coded with respect to features describing internal structure, grammatical function, and context in the interview. Coding reliability was reported to be at least 90% accurate in all cases. Results indicated that the total number of units produced by an average subject was quite similar for both groups. Elaborative elements added to a verb-complement (expansion units) were analyzed, and there was virtually no difference (in relative frequency) between the two groups. Expanded units were further studied for nine variables, only three of which were significantly different between groups, with one difference favoring the lower-class children. Deletions of basic constituents of sentences were analyzed, and the data showed little or no relationship to the elaboration deficit hypothesis. It was concluded that this hypothesis is not empirically supported. (DP)

Syntactic Elaboration in the Speech of Lower-Class Black and Middle-Class White Preschool Children[1]

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Syntactic Elaboration in the Speech of Lower-Class Black and Middle-Class White Preschool Children

Many programs of compensatory education for young, lower-class black children have proceeded from the assumption that the poor progress of these children in school is caused, at least in part, by a language deficit. The alleged deficit has often been characterized in terms of Bernstein's distinction between "elaborated" and "restricted" codes. According to Bernstein (1964), the principal contrast between these two styles of speaking lies in the area of syntax. The restricted code is said to be relatively predictable with regard to syntax; sentences are short, grammatically simple, and often incomplete. On the other hand, the elaborated code entails relatively unpredictable syntax, due to the flexible use of modifiers, subordinate clauses, and the like. The elaborated code, with its greater syntactic complexity, tends to make the speaker's meaning more explicit and, therefore, is deemed to be especially appropriate in an educational setting. Thus the assumption under investigation here is that young, lower-class black children do not use the syntactic resources of their native language to elaborate as much as they could or should.

An important question at this point is just how elaborated a child's speech needs to be in order to give him a chance to succeed in school. In other words, how does one determine whether or not there actually is a deficit with respect to elaboration? I have argued elsewhere (Ammon, 1971a) that language deficits are best defined with reference to prequisites for specific instructional objectives and procedures. The more common practice, of course, is to compare the children who are suspected of being deficient to some other group with a relatively high rate of success in school--usually middle-class white children. Any difference in favor of the successful group is then taken as evidence of a deficit in the unsuccessful group. Even by this highly questionable criterion of deficiency, however, past research provides no clearcut evidence of a general deficit in syntactic elaboration among young, lower-class black children.

Very briefly, previous studies in this area suffer from two major limitations. First, despite the widespread assumption that a language deficit exists at the time of entry into school, the present research literature offers very little in the way of systematic data on the speech of lower-class black children at the preschool and kindergarten levels. Generalizations from data on older children, or on social class differences among whites, may be quite hazardous, so there is far more direct information. The second problem is that previous attempts to measure syntactic elaboration have been quite crude. Variables such as the mean number of words per sentence, or the frequency of dependent clauses, may have some face validity as measures of elaboration, but--by themselves--they fail to distinguish between true differences in elaboration and other differences in verbal behavior which have nothing to do with elaboration per se. I am referring here to differences in the content, context, and dialect of the utterences to which these measures are applied (see Ammon, 1971b).

In view of these limitations in past research, the present study was undertaken to make a direct comparison between lower-class black and middle-class white four-year-olds. The aim was to analyze samples of their speech in sufficient detail to identify true differences in syntactic elaboration, if such differences exist. This analysis was approached with the understanding that any differences which might emerge would only indicate possible deficiencies to be investigated further.

Method

Subjects

The subjects were 69 lower-class black children and 30 middle-class white children. In both samples the mean age was about 4 1/2 years when the study began. All subjects were enrolled in preschool programs. The black children attended prekindergarten classes at three predominantly black elementary schools. The white children went to a private nursery school in a predominantly white middle-class suburb.

Instrumentation

Speech samples were elicited by means of a semi-structured Picture Interview. The first part of the interview consisted of conversation on such standard topics as the child's family, his school activities, and favorite television programs. In the second part, the child was shown a series of six unrelated pictures, one at a time, and was encouraged to discuss each one. Both parts of the interview contained certain standard questions, but the interviewers were instructed to supplement these basic probes with additional questions and comments so as to elicit as much speech as possible.

Procedure

Each child was interviewed outside the classroom by one of three white female graduate students. The same interviewers had already administered a vocabulary test and a sentence imitation test in two previous sessions, so each child was familiar with his interviewer by the time of the interview. Every interview was tape recorded in its entirety.

Treatment of Data

Transcripts of the interviews were analyzed by means of a system similar to the one that Shuy, Wolfram, and Riley (1967) outlined in their report of the Detroit Dialect Study. Two types of syntactic units were selected for analysis: verb-complement units and noun phrases. Each unit was coded with respect to a number of features describing its internal structure, its grammatical function, and its context in the interview. Coding reliability varied somewhat from feature to feature, but a level of 90% accuracy or better was obtained in all cases--usually over 95%. I will discuss the coding features in greater detail while reporting the results below. The complete coding manual which we developed for this project is available upon request.

Results

Certain verb-complement units, and the noun phrases which they contained, were omitted from further analysis. These included exact repetitions of the preceding unit, stereotyped utterances such as "I don't know," and units for which the basic grammatical pattern was unrecognizable. Altogether, the omitted units accounted for almost an identical proportion of the total verb-complement units produced within the two groups of subjects--between 8 and 9% in both cases.

Table 1 provides a good overview of the remaining, scorable verb-complement units. First, it can be seen that the two groups were quite similar with regard to the total number of units which an average subject produced. The slight difference in favor of the black subjects is not statistically significant. As for syntactic elaboration, the addition of any elaborative element to a verb-complement unit was coded as an expansion. Thus the two expansion codes taken together--codes 2 and 4--represent a very global measure of elaboration. There was virtually no difference between the two groups with respect to the relative frequency of expanded and unexpanded verb-complement units; in both groups, 56-57% of the units

were expanded in some way. (The groups did differ in the frequency of deletions, but this finding will be explored later.) Despite the lack of an overall difference in frequency of expanded units, there still could be both quantitative and qualitative difference in the expansions produced by the two groups, so further analysis is very much in order.

A long process of sifting through the data led to the identification of nine variables that seemed to account for most of the syntactic elaboration which occurred. The group means on these nine variables are displayed in Table 2; they are expressed as percentages of the total units produced--either verb-complement units or noun phrases, depending on the particular measure involved.

The first three variables in Table 2 were derived from the coding of verb-complement units as to their grammatical functions. Unlike such function categories as Main Clause, or Complement Constituent, the three categories selected for this analysis include verb-complement units performing an elaborative function, as illustrated by the following examples.

Verbal Phrase:

This is a house to climb on.

He came down swinging a stick.

Adverbial Clause:

I can play after I finish dinner.

Relative Clause:

This is the letter I forgot to mail.

It can be seen in Table 2 that neither group of subjects used any of these constructions very often. Group differences on the three variables were tested by Dunn's procedure for multiple comparisons (see Kirk, 1968). As shown in Table 2, the differences favoring white subjects in the use of adverbial clauses, though small, are statistically significant.

The fourth variable in Table 2 is the percentage of noun phrases serving as the object in a prepositional phrase which, in turn, modifies a verb;

for example, The elephant is walking in the water. Not surprisingly, most of the noun phrases produced by both groups performed non-elaborative functions such as grammatical subject or direct object. However, the black subjects did produce the elaborative type of noun phrase significantly more often than the white subjects.

The last five variables reflect the occurrence of elaborative elements within noun phrases. These variables are based on a "slot grammar" description of noun phrases which we adopted from Gleason (1965) with minor modifications. The five slots used for this analysis are illustrated in the following hypothetical example, with slot numbers indicated in parentheses.

her	two	new	Collie	puppies	with white paws
(N-5)	(N-4)	(N-2)	(N-1)		(N+2)

It should be noted that all five of these slots are rarely (if ever) filled within the same noun phrase. Also, the N-5 variable included only determiners other than articles, which are not themselves elaborative elements. Most importantly, however, none of the five group differences at the bottom of Table 2 are significant when tested by the Dunn procedure.

Discussion

Before drawing conclusions from the results in Table 2, it is important to see how similar or different the two groups were with regard to other aspects of their speech which might have affected the measures of elaboration. For example, the results on elaboration within noun phrases must be interpreted in light of some data on the various types of head nouns which the noun phrases contained. If one group of subjects had produced a larger number of proper nouns, for instance, they would have had fewer opportunities to fill the five noun phrase slots, because proper nouns generally cannot be modified in this fashion. Table 3 shows the mean raw frequency of each head noun type for the two groups of subjects, as well as the total number of noun phrases. The figures for black and white subjects are remarkably

similar. This sort of finding suggests that the results on elaboration within noun phrases can be taken at face value: the two groups did not differ in their propensity to modify head nouns.

Several other coding features were examined in the same way as the type of head noun. Among these features were: the part of the interview in which a unit occurred (part 1 vs. picture 1, picture 2, etc.); the relationship between a verb-complement unit and its immediate environment (a direct answer to a question vs. a continuation of a response initiated in a preceding unit, etc.); and the basic grammatical pattern of a verb-complement unit (subject + intransitive verb vs. subject + verb + direct object, etc.). In general, the results of these analyses were similar to the results shown in Table 3. The two groups had parallel distributions of units across the various categories for a given coding feature. However, there were a few exceptions to this general rule, and some of them have relevance for further interpretation of the basic elaboration results.

In connection with adverbial clauses, we kept track of all the different conjunctions which were used to introduce such clauses. We found that the higher overall frequency of adverbial clauses for the white subjects could be attributed entirely to one introducer, namely <u>because</u>. Thus it is not at all clear that the overall group difference represents a general tendency for middle-class white children to produce more adverbial clauses. Perhaps our white subjects simply chose to talk about causal relations more often than our black subjects. We hope to gain a better understanding of these results by going back to the raw data.

A similar analysis was done on the pronouns used to introduce relative clauses. In this case, there was no indication that a specific introducer accounted for the overall difference in favor of the white group. However, a more intensive study of relative clauses, by M. S. Ammon, revealed that nearly half of them occurred after the indefinite pronoun <u>all</u>, as in "That's all <u>I see</u>." Thus relative clauses not only appear to be rather infrequent at age four, but their "productivity" may be quite limited too.

In looking at the frequencies of various verb-complement patterns (i.e., their basic constituent structures), we noticed that the black children produced an average of 8 or 9 more units with intransitive verbs than the white children. This finding is relevant to the higher percentage of prepositional phrases modifying verbs in the speech of our black subjects. Intransitive verbs such as go and walk were quite common in the speech samples. It seems likely that, more often that not, these verbs would be accompanied by a prepositional phrase indicating destination or location. Thus it is possible that the overall group difference in the use of prepositional phrases to modify verbs resides specifically in the differential frequency of verb-complement units with intransitive verbs. Again, we hope that further analysis will help clarify the results reported here.

To sum up the discussion so far, the present results do not give much support to the notion that young, lower-class black children suffer from a general deficiency in the production of syntactically elaborated speech. Only three variables out of nine showed significant differences between groups in the use of elaborative elements, and one of these differences favored the black subjects. Moreover, there are indications that all three of these differences may reflect only a limited set of utterances, instead of a general tendency to elaborate in particular ways.

Before coming to a conclusion, I wish to consider one further possibility. Could it be that, in early childhood, group differences in syntactic elaboration are manifested, not in the addition of elaborative elements to the minimum forms of sentences, but rather in the deletion of basic constituents from these minimum forms? This question takes us back to the data on deletions in Table 1. The black group did produce more verb-complement units with deletions than the white group overall, and the difference is significant in the case of units with both expansion and deletion. To see if these deletions reflect use of a "restricted code" (in Bernstein's sense), we examined our coding of the specific types of deletion which occurred.

The group difference in total deletions appears to have resulted largely from three types of deletion. First, there was a predictable difference in the deletion of copular verbs. This type of deletion is a characteristic of Black English dialect and has no inherent connection with syntactic elaboration. Another variable separating the two groups was the frequency of grammatically obligatory deletions. This difference can be traced to a concommitant difference in the frequency of catenative verbs, which often involve obligatory deletions. Again, no connection with syntactic elaboration is apparent. Finally, the black subjects more often deleted understood words from the immediate answer to a question. Elipsis is a stylistic device which everyone uses in answering questions. Perhaps, if carried to an extreme, the use of eliptical answers could impede explicit communication, in the manner of a restricted code. But it remains to be seen whether or not lower-class black children actually have a problem along these lines. In sum, our data on deletions have little or no relationship to the elaboration deficit hypothesis.

Conclusion

The results of the present study do not support the assumption that young, lower-class black children are deficient in their production of syntactically elaborated speech. In terms of purely syntactic criteria, the similarities were far more striking than the differences between our lower-class black and middle-class white subjects. It is still possible that group differences exist in either direction in the appropriateness of syntactic elaboration vis a vis the communication requirements of a particular situation. That is, there may be differences with respect to when elaboration occurs and which words are used. But this possibility suggests that, as researchers and as educators, we should turn our attention away from syntax per se and toward the development of vocabulary and communication skills.

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Table 1

Mean Frequency of VC Expansion-Deletion Codes

Code	Black Ss	White Ss
Minimum Form (1)[a]	27.4	29.9
Minimum Form + Expansion (2)	52.4	55.4
Minimum Form + Deletion (3)	35.0	29.5
Expansion + Deletion (4)	28.3	22.0
Total	143.1	136.8

[a]Coding symbols are shown in parentheses; see coding manual.

Table 2

Mean Percentages on Selected Elaboration Variables

Variable	Black Ss	White Ss
Elaborative VC Units:		
% Verbal Phrase	1.5	1.6
% Adverbial Clause	3.2	5.1**
% Relative Clause	.9	1.6*
Elaborative Noun Phrases:		
% Prepositional Phrases Modifying Verbs	9.6*	8.0
Elaboration within Noun Phrases:		
% Other Determiners (N-5)	11.7	9.6
% Numerals (N-4)	1.9	2.5
% Attributive Adjectives (N-2)	3.9	3.7
% Noun Modifiers (N-1)	1.4	1.7
% Descriptive Phrase (N+2)	1.4	1.3

* $p < .05$

** $p < .01$

Table 3

Mean Frequency of Head Noun Types

Type of Head Noun	Black Ss	White Ss
Common Count (A)	91.5	92.7
Common Mass (B)	7.6	6.8
Proper (C)	10.4	10.5
Pronouns:		
Personal (D)	72.8	72.4
Possessive (E)	.1	.1
Reflexive (F)	.5	.2
Definite Relative (G)	.6	1.2
Demonstrative (H)	13.6	11.5
Indefinite (I)	9.7	8.8
Interrogative or Indefinite Relative (J)	3.6	5.4
Reciprocal (K)	.0	.1
Impersonal or Situation *it*, and Existence *there* (L)	.8	.7
Noun Substitute (M)	4.0	1.9
"Pants"-Type Plural (N)	1.0	.8
State Noun (P)	.6	.4
Other Nouns (Q)	2.1	1.9
Deleted (blank)	2.5	2.8
Total	221.4	218.2