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This study examines the pronunciation characteristics of Negro and white children from different socio-economic classes in Gainesville, Florida. As expected, there are significant differences between the white and Negro children. However, all of the Negroes and the higher whites produce both "General American" and "Southern" dialect pronunciations. Only the lower class white children do not deviate from a "Southern" dialect. This study also examines the pronunciation characteristics of the higher and lower socio-economic classes within both the Negro and white groups. There are no significant differences between the High and Low Negro groups. However, the pronunciation of five vowels differentiate the High and Low white groups. This result supports the hypothesis of greater dialect cleavage between socio-economic classes within the white community than in the Negro community. The Negro children shared two pronunciations with the Low white children. The High white pronunciations are "General American," while the Low white and Negro groups give "Southern" pronunciations. These results indicate the need for more intensive dialect investigations. It may be that there are vast dialect cleavages (or similarities) between both Negroes and whites and the socio-economic classes within these ethnic groups in different geographic areas. (Authors/DO)

Socio-Economic and Ethnic Correlates of Dialect Differences

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Consistent differences in pronunciation, grammar and vocabulary may distinguish the speakers of one social group from the speakers of another social group within a given community. Such differences may be collectively designated as "social dialects." McDavid (1964) states that grammatical differences and variations in pronunciation of words have been found to reflect the social and cultural patterns of the community in which they are spoken. For example, McDavid (1948) traced the inland spread of the "prestige-dialect" of the plantation upper class of Charleston, South Carolina, and found that a distinguishing feature of this dialect was the absence of [r] following a vowel, as in bird. The inclusion of post-vocalic [r] was found in specific areas, such as milltowns, that were culturally isolated from the upper classes of Charleston and other inland areas. McDavid concluded that in South Carolina a specific linguistic variable, the use of the post-vocalic [r], was correlated with a social variable, socio-economic status, and that the inclusion or exclusion of post-vocalic [r] was "symptomatic" of the speaker's cultural attitudes.

Labov (1964) analyzed variations in the speech of adults representing different socio-economic classes on the Lower East Side of New York City. Speech samples were obtained in four different "social contexts" which he defined as follows: 1) casual, which is used to relate an experience and no attention is directed toward language; 2) careful, which is used in the interview with an investigator; 3) reading; and, 4) reading isolated-word-lists. Labov reported that there were three pronunciations of th (as in

think and through): a fricative [θ]; and affricate [tθ]; and a stop [t]. This variation in the pronunciation of th was correlated with the social class of the speaker. Speakers who represented the "upper middle class," the first ranking status group in Labov's study, used the fricative [θ] in all four speech contexts. The "lower middle class," the second ranking status group in Labov's study, used the stop [t] and the affricate [tθ] in the casual context, but more frequently used the fricative [θ] in the careful, reading, and reading isolated-word-lists contexts. The "working class," the third ranking status group in Labov's study, used the affricate [tθ] and the stop [t] in the casual and careful contexts, but more frequently used the fricative [θ] in the reading and reading-isolated-word-lists contexts. Labov concluded that on the Lower East Side of New York City, a speaker's use of [θ], [tθ], or [t] for th in various speech contexts was correlated with that speaker's socio-economic status.

In addition to socio-economic class, social dialects may be established on the basis of ethnic differences. For example, Stewart (1965) states that the addition of the glide [ʊ] to the phone [ɔ], which occurs in "Southern" speech in general, is also found in the speech of Negro Washingtonians. When a Negro Washingtonian uses [ɔʊ] in words like walk and cough, he is identified as "talking like a Bama," a local term for a lower-class Southern Negro. Stewart (1964) has pointed out that such pronunciations which are accepted as natural or appropriate in their native region, turn out to be quite deviant in the Northern urban context. That is, Southern Negroes and Southern whites may share many pronunciations which from the stand-point of "Northern" speech, would be considered "non-standard." When the Southern Negro moves North, the "non-standard" nature of these pronunciations is emphasized and serves to establish a dialect cleavage correlated with an ethnic difference. Both Stewart (1964) and Brooks (1964) have suggested that

Negro pronunciation differs sufficiently from "standard" pronunciation to warrant second language teaching methods in the schools, similar to those used to teach French as a second language. An obstacle to the acquisition of a "standard" pronunciation in the schools, however, appears in the identification of the child with his own group in a segregated neighborhood, since there is some evidence that the speech and language of children is learned more from their own peer group than from their parents (Stewart, 1964). Although the child may attend an integrated school, he may maintain the "non-standard" patterns of his dialect because of his associations in his "non-standard-speaking" community. In this manner, certain "non-standard" linguistic phenomena may be perpetuated and their identity intensified as racial in origin.

Before remedial measures may be instituted in the schools, however, the pronunciation characteristics of a community must be adequately described. The work of McDavid and Labov, described above, indicate that socio-economic class, in addition to ethnic group, is a factor in establishing social dialects within a community. Any educational decision as to the "target" pronunciation to be taught to a specific group of children should take into consideration both socio-economic class and ethnic group.

In addition, the analysis of the pronunciation characteristics of the socio-economic groups within the white and Negro communities, may eventually serve as an index to the social mobility of whites and Negroes, as well as to the degree of social integration between the two communities. As a member of a low socio-economic class moves into a higher status group, his social and cultural identifications may change toward the group with the greater prestige, and those identifications should be reflected in his speech (Labov, 1964).

The purpose of this study is to describe the pronunciation characteristics

of children from the lower socio-economic class and the higher socio-economic class within the white and Negro communities of Gainesville, Florida.[1] This study is an investigation of both ethnic group and socio-economic class as factors in establishing social dialects within a community. It was hypothesized that the pronunciation characteristics of the higher and lower class Negro children would be similar, since Negro children of both lower and higher social classes reside in the same areas and attend the same schools. On the other hand, it was hypothesized that a sharper differentiation of dialect would exist between the higher and lower socio-economic class white children, since they reside for the most part in different areas and attend different schools.

METHOD

Selection of subjects. The accumulative records of the sixth grade populations of six public elementary schools were surveyed to obtain information regarding each child's age, birthdate, birthplace, reading ability and occupation of the family breadwinner. To eliminate the possible influence of other dialect areas on pronunciation, only those children residing in Gainesville from birth to the time of the study were selected. Since, according to Labov (1964), dialect characteristics are most firmly fixed and automatic in the pre-adolescent period, the informants in this study were sixth grade children between the ages of 10 years 8 months and 12 years 8 months. In addition, only those children who were in the correct grade for their age qualified for the study with the exception of one child who began school one year late and was, therefore, one year older than the other children.

No child was selected whose reading ability was graded below C on his fifth grade report. This precaution was taken to minimize any difficulty in intelligibility of the data recorded on tape and to prevent possible embarrassment on

the part of the child. Each child was also required to pass articulation and audiometric screening tests administered during the testing situation (described below).

Socio-economic status. The socio-economic status of each child was determined by Edwards' Social-Economic Grouping of Occupations, as described by Miller (1964). On this scale, occupations are classified into six major groups with each group purported to have a somewhat distinct economic standard of living and to exhibit intellectual and social similarities. The two major dimensions for the ratings, income and education, have been shown to have high correspondence for the occupational groups. Edwards' scale is the most widely used system of socio-economic groupings of gainfully employed workers in the United States and is the basis on which the United States Census has grouped workers since 1940 in the decennial census. Since a broad classification of socio-economic class was deemed adequate for the present study, Edwards' scale was chosen for its efficiency and wide acceptance as a valid measure of socio-economic class.

From the preliminary survey of the sixth grade children, 10 Negro and 10 white children with the highest socio-economic ratings by occupation and 10 Negro and 10 white children with the lowest socio-economic ratings by occupation were randomly selected as subjects for this study. There was an equal number of boys and girls in each of the groups. The mean socio-economic class rating of each group was as follows: High Negro 1.5; Low Negro 6.0; High White 1.3; Low White 5.0.

Testing procedure. The second author visited each of the six schools within the period of a month and interviewed each child individually. A place in each school was located that would provide as quiet an atmosphere as possible in which to record the test material. In the testing situation, each child read selected

sentences from the MacDonald Deep Test of Articulation (1964) to screen for speech errors other than those attributable to dialect variations and to test for reading ability. To assure hearing acuity within normal limits, each child was required to pass a pure-tone screening test at 25 db. (ref. ISO, 1964) at the following frequencies: 500 cps., 1000 cps., 2000 cps., and 8000 cps. A Beltone portable audiometer, Model 10-A, was used. The word list (described below) was read and recorded on a Wollensak tape recorder, Model 1500. For each subject the entire testing procedure took approximately 30 minutes with short, periodic rest periods following each page of the word-list.

Word-list. A list of 383 words was compiled from various dialect references including Bronstein (1960), Francis (1958), Kurath and McDavid (1961), McDavid (1964), Smith (1963), Trager and Smith (1956), Turner (1949), and Wise (1957). The words were selected to elicit maximum dialect differences in terms of the substitution of sounds within words. A pre-test was conducted to eliminate any words that presented a reading problem to average sixth grade children.

Phonetic transcription. A phonetic transcription was made of the "target" sounds in each word. The phonetic transcription system employed to describe the data of this study was the one proposed by Stockwell (1959), with several minor modifications. Stockwell describes a phonetic inventory of phonological units as that process whereby the data (the sounds) are filtered through a screen or grid and sorted according to similarity. All phoneticians, other than perhaps acoustic phoneticians, listen and record through a phonetic grid which "permits them to ignore differences that exist at a level of greater refinement than their particular grid discriminates" (p. 263). To obtain a usable model for English, Stockwell proposes the following method:

> To get a phonetic inventory of American English vowels, a

> phonetic grid is needed which is sufficiently refined to discriminate among all of the phonetic differences that might be described as "interesting differences" by the criterion that someone has bothered to comment about them in print or at public meetings, but no more refined than is required to meet this minimal specification. The consonants and suprasegments deserve the same kind of grid, but most of the controversy has focused on the vowels (p. 263).

The phonetic vowel grid used in this study, including simple and complex nuclei, is given in Table 1.

The first author prepared a "training-tape" which contained examples of the vowel nuclei indicated by this phonetic "grid." The "target" sounds in each of the 383 words read by each of the 40 Ss were transcribed by the second author. The "target" sounds were those parts of the words that previous literature had indicated reflected dialect variation. From this preliminary transcription two groups of words were eliminated: 1) words that were not familiar to the Ss, the criterion being that 4 of the 40 Ss mis-read the word; 2) words that did not show any significant variations across the 40 Ss, the criterion being that 36 of the 40 Ss pronounced the word in exactly the same manner.

RESULTS

Reliability of transcription. Each of the 192 words used for the final results was transcribed a second time for three of the 40 Ss. That is, a total of 576 words, containing 600 vowel nuclei, were transcribed twice. The selection of the three Ss and the particular word to be re-transcribed was

determined by a table of random numbers. The percentage of agreement between the first and second transcriptions of the 576 words was calculated to determine the reliability of the transcriptions.

For the 600 vowels transcribed, (that is, both simple vowel nuclei and the initial vocoid in complex nuclei), there were 529 agreements between the two transcriptions, indicating a reliability of 88 percent.

For the 340 glides transcribed, in either the first or second transcription, there were 284 agreements, indicating a reliability of 84 percent. (There were 260 nuclei for which there was agreement of "no-glide" between the first and second transcription, but this was not considered in estimating the percentage of agreement in transcribing glides.)

The results indicated low reliabilities for transcribing the glide [w] following [u] and [o], and low reliabilities for transcribing [i] and [I] in final position. Since the differences in articulation implied by the pairs of transcriptions could not be reliably distinguished, the transcriptions [ow] and [o]; [uw] and [u]; and [i] and [ɪ] in final position were combined to: [o], [u], and [i], respectively. (It should be noted that the transcription [iy] in final position was maintained.) With this modification, the percentage of agreement was 90 percent for simple vowels and 86 percent for glides.

Statistical analysis. Those words that showed predominantly the same vowel contrast between Negro and white Ss were grouped together. In this manner, 14 groups of words were established on the basis of their exhibiting the same vowel nucleus contrast for the majority of the Negro and white speakers. For example, all the words in Group 1 indicate the contrast [aw] vs. [æw] between the Negro and white Ss. The words day, laugh and aunt elicited pronunciation

differences but did not fit into any grouping and were therefore not included in the final results. The comparision of the frequency of vowel nuclei between groups was set up as a binomial experiment, that is, the frequency of [X] versus the frequency of not [X], and z-test was used to test the significance of the difference between frequencies (Walker and Lev, 1953).

The null hypothesis tested in each comparison is that there is no difference between frequency of pronunciation of one vowel nucleus in one group of speakers and the frequency of that same vowel nucleus in the other group of speakers. Since several tests were made on the same data, the .01 confidence level was utilized for each test, and differences reported in the results are significant at the .01 level.

Predominant vowel contrasts. The results for the 14 groups of words indicating the vowel pronunciation contrasts are presented in Tables 2,3, and 4. There were 10 significant contrasts between the Negro and white groups. Between the High White (HW) and the Low White (LW) groups there were five statistically significant contrasts whereas there were no significant vowel contrasts between the High Negro (HN) and Low Negro (LN) groups.

The Negro and white children differed significantly in ten pronunciations:

	Negro		White	
*	[aw]	vs.	[æw],	as in down;
*	[o:]	vs.	[ʌw],	as in go;
*	[u]	vs.	[ɨw],	as in moon;
	[:]	vs.	[no:],	as in pen, sun, bird, and bad;
*	[a]	vs.	[ɑ],	as in dock;
	[AE]	vs.	[a],	as in buy;

[ɔw] vs. [ɔ], as in dog;

[no r] vs. [r], as in bear;

final [i] vs. final [iy], as in Mary;

final [ə] vs. final [ɚ], as in sister.

For four of these contrasting pronunciations (those marked*), the pronunciation of the Negro children is "General American," and the pronunciation of the white children is "Southern."[2] In the remaining six contrasts the pronunciation of the Negro children is "Southern," and the pronunciation of the white children is "General American."

The High and Low Negro groups did not differ significantly in any pronunciations.

The High and Low white groups differed significantly in five pronunciations:

HW LW

[u] vs. [ɨw], as in moon;

[ɛ] vs. [ɪ], as in pen;

[no :] vs. [:], as in pen;

[a] vs. [Æ], as in buy;

[ɔ] vs. [ɔ w], as in dog.

For all five contrasting pronunciations, the pronunciation of the High White children is "General American," and the pronunciation of the Low White children is "Southern."

The Negro children and Low White children did not differ significantly in two of the pronunciations that differentiated the High and Low White children:

[ɪ], as in pen;

[:], following [ɪ] or [ɛ], as in pen.

DISCUSSION

The purpose of this study was to describe the pronunciation characteristics of Negro and white children from different socio-economic classes in Gainesville, Florida. The results of the study indicate significant contrasts between the white and Negro children for ten vowel nuclei. Examination of the specific contrasts indicates that the pronunciation characteristics of both higher and lower socio-economic level Negro speakers and the higher whites contain both "General American" and "Southern" dialect characteristics. The results indicate that the lower white group did not deviate from the "Southern" dialect. The ten significant phonetic contrasts are evidence of the "linguistic separation" of Negro and white children in Gainesville. The specific contrasts examined, however, do not indicate that one group uses a "Southern" dialect significantly more than the other group.

The pronunciation characteristics of the higher and lower socio-economic classes within both the Negro and white groups was also examined. For the specific phonetic contrasts studied the results of this study showed no significant differences between the High and Low Negro groups. However, five phonetic contrasts were found to be significantly different for the High and Low White groups. This result supports the hypothesis of greater dialect cleavage between socio-economic classes within the white community than in the Negro community in Gainesville.

The Negro children shared two pronunciations with the Low White children: [ɪ] and [ː] in words like pen. The High White pronunciations of the words were "General American," while the Low White and Negro groups gave the "Southern" pronunciations. In this respect, the Negro children and the Low White children are distinguishable from the High white children.

The "linguistic" influence of the University personnel in Gainesville from the North and Midwest, is a possible explanation for the "General American" character of the High White pronunciations. However, the Negroes in Gainesville from both higher and lower socio-economic classes exhibit many pronunciations that are also "General American" in character. This fact indicates the need for more intensive dialect investigations before "remedial" measures are taken in the schools to change the dialects of children, Negro or white.

Note: This research will be reported at the annual meeting of the Linguistic Society of America, December, 1968. It will also be published in "Studies in Linguistics, in Honor of George L. Trager," edited by M. Estellie Smith, to be published by Greenwood Press.

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Footnotes

1. Gainesville, Alachua County, Florida, is a university community located in the northcentral part of the state. In 1965, the estimated population was 52,000. In the 1960 Census, 27.1 percent of the population was classified as non-white. The city experienced a post-war, 1940-1950, increase in population by 95.3 percent and a 10.6 percent increase from 1950-1960. The central location of the city as well as the state supported education and other institutions, have attracted industry and permanent residents from other areas of Florida and the United States. As a consequence, many of the city's residents are either not native to Gainesville or are of parents who are not native to Gainesville. The faculty of the University of Florida make up a substantial part of the city's middle class (Webber, 1950) whereas the Negro population predominantly composes the city's lower classes.

The effect of influx of white residents from Northern states to Gainesville has had varying influence on the dialect patterns of the city. Smith (1963) considered Alachua County to be "moderately" influenced by "Southern" speech. The prestige standard dialect of Gainesville is, then, somewhat more northern in "flavor" than would be found in other places in Florida and may be representative of the middle-class white members of that community.

2. *Pronunciations confirmed in the literature as "Southern" include: [ɨw] and [əw] (McDavid (1964); [ɑ] (Wise, 1957); lengthening of the vowel [:] (Wise, 1957); [Æ] (Stockwell, 1959); addition of the glide [w] to the vowel [o] (Stewart, 1965); substitution of final [ə] for [ɚ], dropping of postvocalic [r], and the dropping of the final glide [y] (McDavid, 1964).

Table 1

Phonetic "Grid" (after Stockwell, 1959)

Simple Nuclei

Front	Central	Back
i		u
I	ɨ	ʊ
e		o
ɛ	ə,ɚ	ʌ,ɞ
æ		ɔ
Æ	a	ɑ

Complex Nuclei

Each of the above may be combined with:

h (glide toward mid and/or high central position)

y (glide toward higher front position)

w (glide toward higher back rounded position)

: (sustained vowel quality)

r (glide toward a mid-central retroflex position)

Table 2

Frequency of Occurrence[a]

		Negro		White	
		High	Low	High	Low
1. "down" (13)[b]	[aw]	122	123	16	7
	[æ w]	6	3	113	117
2. "go" (9)	[o]	90	87	22	11
	[ʌw]	0	0	68	76
3. "moon" (18)	[u]	156	148	39	16
	[ʉw]	2	11	139	159
4. "pen" (8)	[ɪ]	41	47	22	46
	[ɛ]	35	31	58	33
5. "pen" (8)	[ɪ:] or [ɛ:]	40	44	0	8
	[ɪ] or [ɛ]	36	34	80	71
6. "sun" (6)	[ʌ:]	8	10	0	0
	[ʌ]	51	44	60	59
7. "bird" (9)	[ɚ:]	28	27	0	0
	[ɚ]	46	48	88	86
8. "bad" (18)	[æ:]	72	97	2	4
	[æ]	97	76	177	174
9. "dock" (14)	[a]	111	98	65	70
	[ɑ]	15	25	58	53
10. "buy" (10)	[a()][c]	21	16	65	58
	[AE()]	67	77	0	11

11. "dog" (27)	[o]	66	76	154	107
	[ow]	151	146	141	84
12. "bear" (32)	[r]	180	170	292	294
	[no r]	132	135	28	18
13. "Mary" (15)	[i]	121	116	6	3
	[iy]	25	29	143	147
14. "sister" (13)	[ɚ]	51	55	129	129
	[ə]	74	68	1	1

a. Several of the cells do not add up to the expected frequency (i.e. number of words x 10) because of poor recording, the inability of the informant to read, misreading, etc.

b. The number in parenthesis is the total number of words in the group.

c. Only the difference between the initial vocoids in these complex nuclei were considered.

Table 3

Percentage of Occurrence[a]

		Negro		White	
		High	Low	High	Low
1. "down"	[aw]	95	97	12	6
	[æ w]	5	2	88	92
2. "go"	[o]	100	100	24	13
	[ʌw]	0	0	76	87
3. "moon"	[u]	91	90	22	9
	[ɨw]	1	7	78	90
4. "pen"	[ɪ]	51	60	28	56
	[ɛ]	44	40	73	41
5. "pen"	[ɪ:] or [ɛ:]	50	56	0	10
	[ɪ] or [ɛ]	45	44	100	89
6. "sun"	[ʌ:]	14	18	0	0
	[ʌ]	86	77	100	100
7. "bird"	[ɚ:]	33	32	0	0
	[ɚ]	54	57	98	97
8. "bad"	[æ:]	41	55	1	2
	[æ]	56	43	98	97
9. "dock"	[ɑ]	83	76	46	51
	[ɑ]	11	19	41	38
10. "buy"	[ɑ(ɪ)][b]	22	17	66	59
	[æ ()]	71	81	0	11

11. "dog"	[ɔ]	26	30	57	40
	[ɔw]	59	57	5	32
12. "bear"	[r]	58	56	91	94
	[no r]	42	44	9	6
13. "Mary"	[i]	83	80	4	2
	[iy]	17	20	96	98
14. "sister"	[ɚ]	40	45	99	99
	[ə]	58	55	1	1

a. Numbers rounded to nearest hundredth. All percentages do not add to 100% because some pronunciations were neither of the two indicated for that word group.

b. Only the difference between the initial vocoids in these complex nuclei as were considered.

Table 4

Summary of Pronunciation Differences[a]

	Word Group	HN	LN	HW	LW
*	1. "down"	aw	aw	æw	æw
*	2. "go"	o	o	ʌw	ʌw
*	3. "moon"	u	ʉu	ɨw/u	ɨw
	4. "pɛn"	ɪ	ɪ	ɛ	ɪ
	5. "pen"	:/no:	:/no:	no:	no:/:
	6. "sun"	ʌ/ʌ:	ʌ/ʌ:	ʌ	ʌ
	7. "bird"	ɚ/ɚ:	ɚ/ɚ:	ɚ	ɚ
	8. "bad"	æ/æ:	æ/æ:	æ	æ
*	9. "dock"	a	a	a/ɑ	a/ɑ
	10. "buy"	Æ	Æ	a	a/Æ
	11. "dog"	ɔw	ɔw	ɔ	ɔ/ɔw
	12. "bear"	r/nɑr	r/nɑr	r	r
	13. "Mary"	ɨ	i	iy	iy
	14. "sister"	ə/ɚ	ə/ɚ	ɚ	ɚ

a. All differences in pronunciation are significant at the .01 level.

* Pronunciation of Negro children is "General American."