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Syntactic Correlates of Social Stratification.

Robert Edward Callary

Louisiana State University and Agricultural & Mechanical College

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OF
SOCIAL STRATIFICATION

A Dissertation
Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the degree of
Doctor of Philosophy
in
The Department of Linguistics

by
Robert Edward Callary
B.S., Towson State College, 1961
M.A., University of New Mexico, 1968
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ABSTRACT

Language variation is often thought of in terms of regional dialect differences. Regional dialectology has a long and well-documented history, especially in Western Europe and England. In recent years, however, a new dimension of dialect study, social dialectology, or sociolinguistics, has arisen which has led researchers to many regular and systematic correlations between social factors and previously unexplained linguistic phenomena. By extending the data to be considered to such variables as social stratification, much linguistic behavior which was previously thought to be random and unmotivated has been shown to be regular and consistent. By far the greater part of the empirical data gained thus far in sociolinguistic research has dealt with phonological and morphological linguistic variables. This study attempts to extend these findings by investigating the relationships between social class and certain syntactic variables within a generative-transformational linguistic framework.

Twelve randomly selected students enrolled in Speech 1 courses at Louisiana State University, Baton Rouge, during the Spring semester of 1971, were the informants for this study. A previously administered instrument to determine social position made it possible to select a low status group and a high status group of six members each. Five-minute speeches provided the raw data which was then analyzed by the grammatical model developed for this purpose. A relative ranking of subjects was tested for significance by the Mann-Whitney U test.
Fourteen null hypotheses were stated concerning certain aspects of syntactic performance.

Nine of the fourteen syntactic items considered differentiated the linguistic performance of the two social classes. The most consistent indicator of differences was the increased use of the phrase structure subcomponent of the grammar by the high status group. Significant differences favoring the high status group were found in the areas of optional selections from the phrase structure rules relative to both kernel and surface sentences, the use of transposition and the occurrence of the grammatical form have+part. An Index of Sentence Complexity consisting of the total number of phrase structure and transformational points relative to the number of surface sentences significantly favored the high status group.

Trends also favoring the high status group were cited in the number of kernel sentences which underlie surface structure, the total number of transformational operations per surface sentence, and the specific transformational process of addition. One trend, the incidence of modals, was cited in which the direction of the differences favors speakers of the low status group. The relative performance of the two groups in the areas of deletion and substitution relative to the number of surface sentences and the occurrence of be+ing proved to be nonsignificant.

This study indicates that there are syntactic as well as phonological and morphological indicators of social status and identifies several of these features.
many regular and systematic correlations between social factors and previously unexplained linguistic phenomena. By extending the data to be considered to such variables as social stratification, much linguistic behavior which was heretofore thought to be random and unmotivated has been shown to be regular and consistent.

By far the greater part of the empirical data gained thus far in sociolinguistic research has dealt with phonological and morphological linguistic variables. Of the two major studies in the field, William Labov's *The Social Stratification of English in New York City* dealt almost exclusively with five phonological variables, and Walt Wolfram's *A Sociolinguistic Description of Detroit Negro Speech* dealt with four phonological and four morphological variables. The study upon which Wolfram's work was based, *Linguistic Correlates of Social Stratification in Detroit Speech*, attempted to extend the analysis to clause and phrase structure, but an investigation of the relationships between social class and syntactic variables has yet to be undertaken. The present study attempts to define these correlates, at least in a limited way, by integrating the methodological advances of Labov and Wolfram with a syntactic analysis available within the framework of generative-transformational grammar.

Thus, this study attempts to extend the empirical findings of social dialectology into the realm of syntax. As will be seen below, rather extensive and significant work has been done in the areas of phonology and morphology which points to certain language performance features as reliable reflections of social stratification. It is thought that syntax will also provide certain insights into the linguistic performance of various social classes.
However, before such an investigation can be undertaken, several aspects of possible language variation should be discussed as they provide the various points of reference from which any study of linguistic performance must be approached. Therefore, the following section presents several of the more significant dimensions of potential variation. This seems necessary because any linguistic act is a result of the interaction of many simultaneous forces, each of which could be responsible for observed variation. Although the discussion is far from exhaustive, it seems adequate as long as these possibilities are kept in mind as forming a linguistic performance perspective for this study.

The Varieties of Language

To most people, language variation is thought of in terms of regional dialect differences. The fact that many New Yorkers are easily distinguishable from many Houstonians, and many Bostonians speak differently than people in Elko, Nevada, is visible evidence that a given language, in this case English, varies over the space dimension. But a second look at any one individual's speech shows much more than geographical features. If the speaker is tired or exuberant, sober or inebriated, certain aspects of his speech reveal these physiological states. Even through as poor a medium as the telephone, it is relatively easy to determine the sex, approximate age and general state of mind of the speaker, even if he is previously unknown to the listener. Therefore, it is safe to say that much more than the indicators of a speaker's geographical home is present in his speech signals.

At least eight different dialects can be identified if we
understand the term dialect in its broadest purposive sense, that is to designate different varieties of the same language. Some of these dialectal variations are functionally related to others and in many instances there is no clearcut line of demarcation between dialectal classifications. However, as will be seen, each variation is formally marked by a combination of specific and characteristic features of the phonological, morphological, syntactic or lexical components of the language. The dimensions of language variation that will be discussed below are those of: time, space, function, mode, occupation, sex, age and social class.

Time. One of the more obvious dimensions over which language differs is that of time. The English of today is in certain respects different from the English of a time as recent as 1940. And, as one goes further back in time, the differences increase until total unintelligibility results. An American of 1970 would have little difficulty communicating verbally with his father or grandfather (even though differences would exist). But he would have greater difficulty in conversing with Tennyson, more difficulty with Shakespeare, still more with Chaucer, and the English of King Alfred would be completely unintelligible. A continuous flow of documented English exists from about 700 A.D., which attests to both the continuity and the profound changes that have taken place in the language over the past thirteen centuries. At any given time on the historical continuum few, if any, individual speakers are aware of the minute but cumulative changes taking place around them. With documented evidence, changes in time are easy to see, but even the most detailed daily records are insufficient in themselves to show linguistic change in progress.
This apparent paradox was first adequately discussed by the Swiss linguist Ferdinand de Saussure who made a clear distinction between the historical and the contemporary aspects of language. For de Saussure, the linguistic sign was mutable on the historical or diachronic axis, but immutable among contemporaries on the immediate or synchronic axis.

**Space.** Space is another dimension over which language varies. Some language historians attribute to geographical separation and natural barriers the means by which regional dialects arise which may ultimately develop into individual languages. Examples of linguistic variation in space are numerous. For example, the abstraction that we call English is manifested in dozens of different ways by speakers in England, the United States, Canada, Australia, India and in the exotic remnants of the British Empire as well as in those countries that have established English as a second language. Each locality shows individual traits in pronunciation, syntax and lexicon. The differences may be relatively consistent and minor as in the case of many speakers of Hindi background who show retroflexion of certain consonants where more Western speakers use alveolar tongue positions. The differences may also be idiosyncratic and may cause total confusion, as for example, the different lexical items in British and American English such as *spanner* vs. *wrench* and *lift* vs. *elevator*.

The gradual but persistent drift of the English language in America presents a useful device for exploring some of the fundamental attitudes and orientations of both British and American scholars toward dialect divergence as well as showing some of the means by which dialect divergence may come about. If we agree with Albert
Marckwardt that the early colonists in America were speaking and writing the English then current in England, then any subsequent differences between the two entities must be attributed to changes on one or the other side of the Atlantic or simultaneous changes after the period of original settlement. Some obvious changes were necessary when post-Elizabethan English was transferred to the New World because there were new and different physical phenomena to describe as well as new and different modes of living required by the new environment. Coinages and adaptations did not go unnoticed for long. From the time of the first landing in 1607, it was a mere fourteen years before Englishmen were commenting on the rise of new expressions in the Colonies. "By 1621, Alexander Gill was noting in his 'Logonomia Anglica' that maize and canoe were making their way into English."3 A little more than a century later, Francis Moore roundly condemned the "barbarous" Americanism bluff and by so doing set off a running feud between British and American linguistic apologists that shows little sign of abating even today.

Moore's comment above accurately reflects the prevailing British attitude which equates regional variations of a language with the evaluative term "substandard." This position derives from a situation current in Great Britain which has no analog in the United


4Ibid.
States. In England, there is an established norm of correctness called Received Pronunciation (RP). Deviations from RP are usually found in the rural areas and among lower class and older speakers. Thus, for the British, the "dialects" represent quaint substandard local speech patterns which contrast with the more elegant, socially acceptable RP. Therefore, any deviation would be considered corrupt or barbarous. The American position, on the other hand, holds that since there is no one national standard of correctness, each dialect or regional variety of English must be considered as good as any other dialect and must be absolved of the pejorative connotation "substandard." To this end, the euphemism "nonstandard" has been applied with such abandon that it, too, has taken on several of the connotations it was developed to avoid.

As will be shown in more detail later, these two competing approaches to dialect study have persisted into more recent times. The two major dialect studies of the twentieth-century reflect these different underlying assumptions. As Raven McDavid says: "The English survey [Harold Orton's Survey of English Dialects] tacitly assumed a basic opposition between dialect and standard language, between the uncorrupted folk speech of a given locality and that entity which bears the name of Received Standard . . . [but, for] The Linguistic Atlas of the United States and Canada informants are sought by nonlinguistic criteria."5

Information gathered for the Linguistic Atlas allowed the project director, Hans Kurath, to establish three major dialect areas

in the eastern United States. Each of these areas shows differences in pronunciation, syntax and lexicon. Lexical items are perhaps the best-known markers of dialect regions. For example, that paper container which is called a bag in the Northern dialect area is usually referred to as a sack in the Midland and Southern areas. A Northern skunk is a polecat in the South and a skunk, polecat, or wood(s) pussy in the Midlands.

One of the more prominent isoglosses separating the Northern from the Midland and Southern areas is that marking the pronunciations of grease and greasy. As E. Bagby Atwood says: "The variation between [s] and [z] in these words furnishes an almost ideal example of geographical . . . distribution." The verb grease is normally pronounced [griz] in the Southern and Midland areas and [gris] in the North. For the adjective greasy, "the pronunciations [grisi] and [grizi] show almost precisely the same isoglosses as those for [gris] and [griz]." Isoglosses such as those established by the various pronunciations of grease and greasy point quite convincingly to the existence of regional variations in language.

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8 Ibid., p. 165.

9 For a totally different perspective on regional dialect geography, see J. L. Dillard, "The Dare-ing Old Men On Their Flying Isoglosses Or, Dialectology and Dialect Geography," in The Florida FL Reporter, 7:8-10+ (1969). Dillard questions the value and even the heuristic utility of regional dialectology, recommending that "geographic search procedures be abandoned in dialect study" as they serve only to cloud the basic issues of dialectology.
Function. Language also varies along the functional dimension. Different aspects of linguistic performance are characteristic of different non-linguistic situations. These situations can be placed on a continuum of formality, ranging from intimate to the ultimate of formal discourse. An intimate speech situation, perhaps between husband and wife, requires far fewer verbal cues to communicate than, for example, interaction between employer and employee. The latter situation, in turn, demands fewer verbal mediators than a public speaking situation where the great majority of meaning is derived from verbal cues alone.

Each of these non-linguistic situations is reflected in certain formal characteristics of the language peculiar to the non-linguistic context. Verbal interaction between persons who know each other well contains a higher percentage of such phatic communion units as um, uh huh, o.k., and me, too than other styles of speech. The most formal occasions are completely devoid of such utterances as the very nature of the situation allows for no interaction between speaker and listener.

Each of us carries responses to many such situations and we are able to adjust our linguistic output to the requirements of the non-linguistic context. A faux pas in this area usually results from an ignorance of the contextual situation or a failure to read correctly the appropriate context-defining cues. Two stories told of American athletes vividly illustrate the clashes which result when linguistic behavior appropriate for one context is transferred to another. During the 1912 Olympic Games in Stockholm, Jim Thorpe was presented to King Gustaf of Sweden. The King greeted Thorpe with: "You, sir, are the
greatest athlete in the world," to which Thorpe reportedly replied: "Thanks, King." Either Thorpe was unaware that his remark was inappropriate in addressing the king, or he chose to reply as he would to a peer, disregarding the formalities usually granted to royalty.

The second story concerns Babe Ruth, who, upon meeting Calvin Coolidge, is supposed to have greeted the President, on a rather warm summer day, with: "Hot as hell, ain't it, prez?"

Even a cursory examination of the two speech forms in question shows the basic inconsistency between utterance and situation. The colloquial expressions thanks and hot as hell are usually reserved for more intimate occasions, as is the abbreviated and more familiar form prez. Anecdotes of other similar stylistic non sequiturs could be multiplied indefinitely, but these two show the basic conflicts which arise when a linguistic expression, quite proper in itself, is used in an inappropriate non-linguistic situation. More will be said about specific styles and their formal characteristics later. At this point, it is sufficient to note the existence of different styles and the fact that they co-vary with certain social situations.

Mode. The fourth dimension of language variation to be discussed is that of mode. In English, there are two basic modes of communication: the spoken and the written. Each of these modes uses certain conventions that the other does not, although the similarities between the two are quite extensive. Since the spoken mode is the subject of the greater part of this paper, a brief discussion of some of the defining features of expository writing will be given here.

Where a normal flow of speech is often interrupted by non-agreement of subject and verb, false starts and other assorted
hesitation phenomena, expository writing is marked by a more consistent progression or development, grammatical accuracy and the use of lexical items that appear less frequently in speech.

Written English has its own grammar which combines the letters, numbers, punctuation marks, spaces and other assorted characters (@, $, etc.) into larger and larger structures. For example, one grammatical rule of the written language which is not shared by the spoken is that after the letter q there must always be u.

Although there are many similarities between speech and writing, empirical research shows that speech differs significantly from writing in several important respects. The spoken mode of discourse uses significantly more nouns and adjectives than the written, which conversely, shows a higher incidence of verbs and adverbs. Speech is less varied than writing, has a shorter average sentence length and generally uses shorter words. Also, the oral mode contains more self-reference words (I, the author), more "pseudo-quantifying" terms (many, few), more "allness" words (always, never), more terms of qualification (if, but, except) and more words indicative of "consciousness of projection" (apparently, appears, seems).


For a full explanation of these terms, see J. DeVito, "Psychogrammatical Factors," cited in note 10.
Also, written English is frequently more involuted than the spoken form, using more and more deeply embedded sentences, as well as a greater number of modifiers and relative clauses. However, "the nonrestrictive relative clause, which many writers use extensively, is very rare in most spoken English, and totally unused by many speakers."¹² This statement from H. A. Gleason is more instructive than a brief critique could ever be, as it shows many of the features of written English which serve to characterize this mode.

Occupation. A person's occupation or group affiliation is frequently characterized by peculiarities of language. Various overlapping terms have been proposed to describe the locutions peculiar to social groups, none of which is totally satisfactory. Argot has been defined as "a class jargon, or special vocabulary, not intelligible to the uninitiated listener;" cant as "the special vocabulary of a particular group, especially criminals;" jargon as a generic term "for words, expressions, technical terms, etc., intelligible to members of a specific group, social circle or profession, but not to the general public;" and jobelyn as "the underworld cant used by the Paris lower classes in Medieval times."¹³

Although the terminology is often confusing, real differences are easily found, especially in vocabulary, between different occupational or social groups. Lawyers talk of torts and writs, phoneticians of bilabial and dorso-velar plosives, dope addicts of bags and


scag, and prostitutes of tricks and cribs. A term usually associated with a particular group often occurs in another group with a different, though often related, meaning. For example, the word *delinquent* occurs in the jargon of both the bill collector and the social worker and a *trick* is turned by both prostitutes and bridge players. Many of the terms which started out in a limited or special sense have been taken into the general vocabulary with little or no change in meaning. Even so, a basic difference remains between the jargon or cant or argot of various groups and understanding by the general public.

Examples could be drawn from many diverse fields, but David Mauer's *Whiz Mob* offers excellent illustrations of both argot and general slang terms which have been taken into Standard English and are no longer restricted to the vernacular of pickpockets. Since many of the items are intelligible only in context, two rather lengthy samples follow:

Money does not have to be in a pocketbook to interest a pickpocket, but it takes a more skilled tool to steal cash, either loose or in a roll that [sic] it does to steal a wallet. In other words, many a lesser light can steal a wallet, especially a prat poke, but it takes a competent professional to reef a kick and remove a roll of bills. Paper money is known, in general, as scratch or soft. . . . Some old-timers still use rag in the same way that soft was used above. . . . If the scratch is in a roll . . . this situation is emphasized by the term bundle, and sometimes bundle of scratch is heard. . . . If it is a good bundle, the mark is said to be loaded up with scratch, or loaded down with it. . . . If the bundle consists largely of small bills, it is called a *michigan bankroll*, or a *mish*. . . . Single bills in the pocket, or several together which do not constitute a bundle are called *pieces*. . . . A piece also indicates a hundred dollars, as does a *bill* or a *c* note. The other well-known slang terms for various denominations of bills are in use by pickpockets, and have been for long years before they emerged into somewhat general usage: *ace*, a $1 bill; *fin*, a $5 bill; *sawbuck* or *saw*, a $10 bill; *double saw*, a $20 bill; *half a c*, a $50 bill, etc.

When a pickpocket takes a right pinch, he is arrested for a touch or score which he took off. This is not a shakedown, but a bona fide arrest. . . . The *whiz copper* may claw him down on the
street, or in a city bus, or anywhere he catches him dead to rights, in which case the pickpocket will try to find out if the officer will cop. . . . The tool will probably try to ding the poke, or throw it or drop it, or go to the floor with it, but if the sucker is very quick and the officer is right at hand, he may be sneezed down, or arrested practically in the act.14

Both jargon and argot have a way of getting out of hand.

During the last three decades, especially, the lexicons of social science and the democratic bureaucracy have been enriched far beyond our meager powers to comprehend. The nonce words and new creations of sociologists, psychologists, educators and bureaucrats have far outstripped the capacity to see through the verbiage to the ideas which they were coined to relate. We are all familiar with such waggish examples as "advance to the rear" for "retreat," and "exceptional student" for "slow learner." But when several such locutions are piled upon one another, the point of ludicrousness is soon reached. Mencken cites the admonition "These basins are for casual ablutions only," a sign which hung in the British Museum, and, from the military, "Proper application of prescribed preventative maintenance measures must be a prime consideration in order to minimize replacements."15

The educational fraternity has contributed its share of slightly nebulous expressions, including "stimulus-response bond, creativity, overview, core curriculum, to motivate, to vitalize, goal-oriented, behavioral objectives, and in-depth research."

The list of contributing organizations could easily be extended to such groups as lawyers, doctors, dock-workers and marble


shooters, each with a body of vocabulary distinguishing it from other such groups. Even linguists could be included as having a lingo all their own, although, naturally, their coinages are not nearly so esoteric as those of the other disciplines. In such a case, we could say, in summary fashion, that, morphologically or syntactically speaking, the synchronic manifestations of these deep structure phenomena are possible back-formations from diachronically viable proto-forms which morphophonemically alternate with tree-pruning and the cross-over principle (unless, obviously, the particle transformation has been applied, in which case patterned congruence is enclitic).

Sex. Language variations are also correlated with sex, although not so pervasively as with some other variables. For example, women appear to be more conscious of a prestige norm of linguistic "correctness" than are men. In his New York City study, William Labov found a stronger tendency toward prestige pronunciation (which he labels "hypercorrection") among women than among men. Labov's findings were corroborated by Walt Wolfram's work in Detroit. Wolfram found a greater sensitivity toward standard English norms, both in phonological and grammatical variables, among women than among men. In both studies (Labov's and Wolfram's), women of comparable social class and in comparable stylistic situations produced more prestige, or socially-sanctioned, forms than did men. Thus, it appears that sex, as a variable in linguistic performance, is relatively independent of such factors as social class and degrees of formality.

Apparently, the idea of linguistic correctness is instilled in females at a very tender age. John Fischer's 1958 study of children aged 3 to 10 showed a significant difference in the number of prestige
-ing forms produced by girls over those produced by boys of comparable age and social class and in comparable stylistic situations.\textsuperscript{16}

The linguistic areas of taboo words and euphemisms also show sex-linked differentiation. While it would be a display of total ignorance to declare that certain tabooed expressions are never used by women, they occur more frequently in the conversation of men. Vance Randolph, in his studies of Ozark mountain speech, found that many items were never used in the presence of women and were not expected to be heard from women, which is not to say, of course, that they never were. Among the censured expressions were certain rather obvious condemnations such as bull and ram, and other extremely delicate avoidances such as "she's ready to go" in lieu of "the gun is cocked." The word "cock" carried such strong taboos that it was not used in front of women in any of its senses, however benign the intent.

Apart from these isolated instances, however, it seems that the major linguistic differences which are correlated with sex, especially in adults, are extra-linguistically motivated. For example, women will tend to produce more post-vocalic /r/'s than men if /r/ happens to be the prestige form. This striving for "correctness" appears in both phonology and grammar and is so prominent that Labov hypothesizes that linguistic changes are at least partially attributable to this fact because women are apparently more influential than men in determining the linguistic habits of children.

\textbf{Age.} Dialectal variations attributable to age can be dealt

with only cursorily. The most reliable data must be obtained through longitudinal studies, which place severe methodological demands on the researcher. Thus, most of the work which has been done relies on a single age group matched with a different age group at the same point in time. Then, too, although language development in children has an enormous literature, many researchers seem content to relax with the cliché "A child has learned his language, with the exception of vocabulary, by the time he starts school." Studies such as Jean Berko's "The Child's Learning of English Morphology," and Roger Brown and Ursula Bellugi's "Three Processes in the Child's Acquisition of Syntax" are frequently cited in support of this claim. Compounding the situation is the fact that the age variable appears to be a function of such other factors as socio-economic status and possibly even race or ethnic group membership.

To study age-correlated dialects before language is "learned" seems futile. Therefore, only that data dealing with elementary school age onward will be reported here, and only a small selection from that, as it is felt that, even though age differences in language use are intuitively real, the evidence for postulating dialectal differences based on this variable alone is entirely inadequate. It must be assumed, for example, that all subjects in the extant studies have all the resources of the language at their command and that differences are due to performance factors rather than to ones of competence. In other words, it must be granted that the maturation factor has ceased to be functional.

Walter Loban found that broad age classifications (grades one, two and three vs. grades ten, eleven and twelve) showed remarkable
differences in the incidence of single and double base transformations and in double-base transformations with deletions. However, such findings must be considered in light of the conclusions of Donald Bateman who claims that transformational complexity can easily be taught, which, if true, could account for all of Loban's differences.

In the Detroit study, Walt Wolfram found the age variable to be closely tied to that of social class. What differences there were often tended toward bimodality with pre-adolescents closely approximating the speech forms of adults, and teen-agers having a different norm. However, even though this was the general pattern, variations were noticed from class to class and even from one linguistic variable to the next.

Labov, using New York City data, was able to show that the age factor created an acute sensitivity toward certain prestige forms, although generally, as in the pronunciation of post-vocalic /r/, informants of various age groups fit well into the over-all patterns of behavior, both in terms of social stratification and stylistic variation. A case in point is the socially stigmatized up-gliding vowel of such words as third, shirt and curl. This vowel, symbolized /æy/ and indicative of a New York or Brooklyn accent in the folklore of America, has come under strong social pressure and its incidence in all words has rapidly receded. This diphthong was so common in the general


speech of New York City that all of Labov's informants who were over 60 showed at least some occurrences of /Ay/. However, this percentage rapidly decreased with the youth of the informants. Fifty-nine percent of those in the 50-59 age bracket showed at least some /Ay/, 33% of those 40-49, 24% of those 20-39 and a sharp decrease to only 4% of those 8-19 years old.¹⁹

It is noteworthy, however, that a similar correlation exists between /Ay/ and social class membership. Using five social classes, the lowest ranking group, regardless of age, showed a higher incidence of /Ay/ than any other class. This index, too, decreased rapidly and linearly until the limit (0%) was reached in the highest ranking group. Therefore, we must conclude that this steady progression along both the age and class continuums indicates that the use of /Ay/, a socially stigmatized form, is systematically and highly correlated with both age and social class. Labov concludes: "For the oldest speakers, /Ay/ is used regularly by all but the highest ranking class. For our youngest speakers, the stigmatized feature has disappeared for all but the lowest ranking class."²⁰

Further evidence of the relationship between age and the perceived prestige of a linguistic form is provided by the phonological variable (r).²¹ Labov found that in casual speech New Yorkers over


²⁰Ibid., p. 340

²¹The notational system used here is taken directly from Labov. (r) represents the linguistic variable, as opposed to the phonemic unit /r/ or the phonetic unit [r].
forty showed no significant social stratification in the use of /r/. But for those under forty, upper middle class speakers (the highest ranking social group) showed a high degree of constriction (nearly 50%) while all other classes were absolutely r-less in their casual speech. However, the subjective responses to the relative prestige of r-pronunciation clearly differentiated between the two age groups. Those over forty showed a level of r-sensitivity "which is close to chance expectation. But the younger group, those under forty, are absolutely uniform in their response - 100 percent agree in recognizing the prestige status of /r/."22 Thus, the age variable seems to be highly correlated with non-linguistic factors such as sensitivity to the prestige form, which was also found to be operative along the dimension of sex.

At this point it should be mentioned that although lexical items are perhaps the most readily available indicators of linguistic differences between the sexes and also between age groups, they are often superficial indicators because many times they reflect different life styles and extra-linguistic forces which make absolute comparisons impossible. For example, in our culture, the items piston, condensor and octane rating are more frequently known to men than to women, while sachet, puree and decolletage are more easily identifiable by women. Of course, there is great overlapping, but the different circumstances in which men and women find themselves often call for different terminology.

Examples of lexical differences between age groups and between the sexes are available in many regional dialect studies. For example, Nolan LeCompte's *A Word Atlas of Lafourche Parish and Grand Isle* illustrates differences between age groups on such items as *dawn* and *a (little) ways* (used by younger informants) as opposed to *sunrise* and *few streets*, respectively (used by those over fifty-five). Sex distinctions were found between *dish rag* (males) and *dish towel* (females). These examples point to the existence of at least observational lexical differences between the sexes. The influence of cultural factors on the choice of lexical variants has been suggested, but the extent of this influence is unclear.

Very little, then, can be said definitively concerning the specific relationships between age and linguistic performance. Correlations do exist, but on the whole, they seem to be subsumed by other variables. Wolfram's finding that, in certain instances, teen-agers have more deviant language patterns than either younger children or adults, who tend to resemble each other, might be attributable to strong peer-group influence, and the relationships between age and class and certain linguistic forms in Labov's study have already been commented on. Unfortunately, the state of the art is such that only tentative statements such as these can be made.

Another area of possible variation is that of race. Much has been written in recent years on the relationships between Negro and White English, and, of the many articles and books dedicated to this subject, perhaps the most significant is that of William Labov. In
his study of non-standard English in New York City, Labov discusses the various hypotheses advanced to account for the differences in Negro English, e.g., that Negro English is simply a reduced form of Standard English, or a generalized form, or a Creolized form, or a manifestation of Southern regional dialect, or a "language" in its own right, and concludes that Negro English, although superficially quite different in many respects, is related to Standard English by differences in low-level rules which have a marked effect on surface structure. Such phonological and grammatical processes as rule extension and rule deletion account for such observable features as consonant cluster reduction and the form of the embedded sentence in "I axed him did he want to go?"

The general trend of Negro language study has been from a deficit to a difference approach, with early researchers claiming that Negro speakers in general used a degenerate form of English, in effect a language unable to express abstract thoughts and subtle nuances and filled with both grammatical and logical errors. Examples such as "He my friend" were cited as evidence of an immature and ignorant command of language. However, since about 1965, scholars have recognized Negro English as a fully functional and inherently logical system, as capable as any other form of language of expressing the most intricate thoughts and having a fully formed grammar, albeit a different one from that which governs Standard English. In the majority of cases, the rules of Standard English and Negro English are identical, but there

are sufficient differences to cause certain problems in communication.

This being the case, a discussion of those features which characterized Negro English would serve no useful purpose at this time. This study emphasizes variations within a relatively homogeneous language community. Thus indiscriminate analysis of White and Negro English together would seem to create more problems than it would solve because of the confounding influence of the race variable which introduces different, often overlapping forms of linguistic behavior. The specific rules which characterize the two varieties of English have not been formulated with enough accuracy to allow a prediction of the way in which race might co-vary with, or be a function of, the variables mentioned so far.

Then, too, the same linguistic variables which serve to differentiate among, for example, age groups, social classes, and functional styles, operate equally between racial groups. Wolfram's Detroit study shows that many of the same variables which characterize Negro groups are the same as those Labov found in New York City which differentiated among Whites. However, there is presently no data to support the contention that these scales represent like differences across racial lines. Although the same linguistic variables reflect the same kinds of extra-linguistic influences, it is not known, for example, whether a numerical index of \( r \), determined for one race, is equivalent to the same rating for another race. Therefore, it seems wise to consider the linguistic behavior of one race or the other at this point rather than risk the possible confounding influences of an eclectic approach.
Social Class. The last of the dimensions of linguistic variation to be considered is that of social class, which forms the basis of Chapter II and the setting for this study. As mentioned previously, each of these eight potentials for variation is interdependent with the others, and social class is no exception. Therefore, it was felt that an adequate analysis of social class variation could not proceed until the concomitant factors correlated with linguistic variation were placed in some kind of perspective.

It must be kept in mind that any manifestation of language is a product of at least these eight variables. Each person performing a linguistic act uses that variety of language which is current chronologically, spatially and functionally, is of one of two different modes (at least in English), and which reflects the user's social group or occupation and generally his age, sex and social class. Of course, not all the indicators of each dimension are present at all times and certain features of one dimension may overlap or be a function of those of others. But, these eight dimensions are isolable and germane to any study of language performance.

Although eight possible points of variation have been considered here, it does not seem likely that these are exhaustive. It is intuitively satisfying to believe that further work, especially in the areas of personality and native intelligence, might drastically reduce the number of relevant dimensions or at least provide a framework for incorporating several into one. Since, by definition, variation within a language community is concerned with performance, rather than competence, it seems reasonable that such a basic factor as intelligence could be accountable for much, if not all, linguistic variation.
This apparently is not the case, however, as Labov's findings indicate that the variable of education, which, heuristically, we use here as an approximation of intelligence, shows the same sharp stratification of, for example, the linguistic variable \((dh)^2\) as does the combined socio-economic index.\(^{25}\) This is not to say, of course, that intelligence variables are not to be considered in dialectal variation, but rather that other factors, such as contextual style and social class membership, appear to be valid and reliable among themselves and not a function of some other, generic, factor.

Further evidence is provided by the British school of socio-linguistics which controls both verbal and non-verbal intelligence for the purpose of isolating social differences. As will be seen in Chapter II, even with the intelligence variable held constant, clear differences are found in language performance. These consistent and systematic correlations found by Labov and Wolfram in America and by Bernstein and Lawton in England seem to indicate the dominance of social and situational factors in linguistic performance rather than the priorities imposed by native ability or individual personality factors.

Practically the same arguments must be given to justify the omission of personality as an overriding influence on performance. The clear and consistent differences found while investigating other factors, with no concern for the possible confounding effects of personality, point toward more pervasive variables whose influence

\(^{24}\) The linguistic variable \((dh)\) represents the initial consonant of *then* and is manifested by the phones \([\theta]\), \([\theta^3]\), or \([\theta^4]\). Labov, *SSENVC*, p. 55.

\(^{25}\) Labov, *SSENVC*, p. 274.
seems to be both more direct and more immediate than that which would be expected from a more general influencing factor.

These qualifications are not intended to negate any possible contributions by personality and intelligence to the explanation of performance phenomena. Rather, they indicate a present weakness in general psycholinguistic theory which is unable to affirm or deny the relationships, for example, between intelligence and usage. Then, too, since Noam Chomsky iterated the basic distinction between competence and performance, researchers in the psychology of language have tacitly assumed a relative homogeneity of linguistic knowledge among all native speakers of a given language and have sought to discover just what it means to "know" a language. Emphasis has been given to first and second language learning and to the explication of linguistic competence rather than to performance differences. The likenesses among speakers have been stressed almost to the point of excluding all mention of differences.

It appears, then, that a relationship between intelligence or personality and linguistic performance remains to be shown. Chapter II presents the linguistic and non-linguistic correlates which point toward other valid determinants of performance which may or may not be closely related to personality or intelligence themselves. Enough consistent evidence has been found in the areas of social class and contextual style to provide a broad enough base for further research without concern for the possible intervention of personal variables. Therefore, for the remainder of this study, it is to be assumed that possible contaminants other than those specifically mentioned are to be disregarded as either incidental to more primary correlates or
randomly distributed throughout the population. In either case, the effects of such variables would be neutralized.

Outline of the Remaining Chapters

Chapter II provides the sociolinguistic background and the theoretical justification for this study. A brief survey of sociolinguistic research is given to orient the reader to both the methodological and empirical considerations of sociolinguistics and the more pertinent and significant findings are summarized to provide an empirical framework for the present investigation.

Chapter III deals with the linguistic justification for this study and includes the grammatical model used in analyzing the data along with the specific methodology and experimental procedures used.

Chapter IV presents the findings and a discussion of their significance in light of the complementary research previously summarized in Chapter II.

Chapter V gives the general conclusions stated in terms of the original hypotheses and enumerates certain areas as productive for further research.
CHAPTER II

BACKGROUND AND REVIEW OF RELATED LITERATURE

In order to understand the position of present day socio-linguistic study in America, at least a minimal account of its origins and development must be given. This chapter presents a brief historical and critical survey of the ideas and attitudes which fostered, or hindered, the growth of social dialectology, stressing the relationships and the differences between contemporary studies and those which preceded them. Also included is a short account of the controlling ideas of modern dialectology of both British and American scholars, as these have been the two major contributors to current theory and practice.

The second, and larger part of this chapter, deals with the empirical evidence gathered thus far which supports the contention that social differences are reflected in linguistic performance, especially the phonological and morphological aspects of performance. The summaries of much of the data are relatively detailed as they include the theoretical foundations upon which this study is based. Throughout this chapter, the eight dimensions of linguistic variation discussed in Chapter I should be kept in mind, as they provide the non-linguistic points of reference for the study of variation in language performance.
Background

Social dialectology, the study of the relationships between certain social phenomena and linguistic performance, is a direct descendant of the regional dialectology so characteristic of Western European countries. Many scholars have postulated that the rise of sociolinguistics in America is a direct result of the differences between the social and linguistic situations in Europe and the United States. In most of the European countries, including England, there is one prestige or standard dialect which is taught in the schools, used for official pronouncement, and has a strong tradition of literary usage. It is immaterial that political and cultural factors raised this particular dialect to a position of eminence, but as a consequence, there is the assumption of a polar opposition between the standard language and the dialects, which represent the quaint but deplorable situation among the rustics.

The rise of Received Pronunciation provides a case in point for illustrating the linguistic situation both before and after language standardization, and also for showing the effects of social processes and linguistic attitudes relative to both the prestige dialect and to deviations from this norm. From the time of the first Germanic incursions into the island of Britain, regional varieties of the language were observable. Old English, used here in a generic sense, was actually a composite of at least four major dialects, although most of the existing manuscripts have come down through only one: West Saxon. This dialect situation persisted and became more sharply defined in the Middle English period (c. 1100-1450), with no less than seven
identifiable dialects vying for supremacy. In the end, however, non-linguistic factors determined that the dialect of London would become the basis for the standard English language. The language historian, G. L. Brook, notes that important literary works were written in each of the major Middle English dialects, but around the beginning of the fifteenth century there were signs that the London dialect was coming to be regarded as a standard and was often used by writers from other parts of the country.¹ The dialect of London (the East Midland dialect) was the idiom of government, law, and education, as well as the medium of Chaucer and of Caxton, whose printing press gave permanence to the vernacular in 1476. Thus we see that economic and cultural factors, rather than some intrinsic value in the language itself, gave rise to the prestige of the dialect of London.

With the rise of Standard English, the non-prestige dialects were reduced to inferior status. Brook notes that even as late as the sixteenth century, to speak a regional dialect (one other than that of London) was no hindrance to advancement, even in governmental circles. But shortly thereafter, "we find a new kind of dialect beginning to assume importance: class dialect."² Along with the recognition of social or class dialects came an attitude which has persisted until today, namely, that nonstandard social dialects are also substandard and inherently inferior to the standard variety.

Several hypotheses have been advanced to account for the rise

²Ibid., p. 55.
of class dialects in Seventeenth Century England: the Industrial Revolution, the influx of peasants from the countryside, the rise of a middle class, and the linguistic insecurity of the nouveau riche. Whatever the causes, the effects are formidable. "In the course of the history of the English language, regional dialects have become less important . . . , but class dialects have, for good or ill, become more important."3

The linguistic situation in the United States, on the other hand, offers few parallels with that of the older nations of Western Europe. For example, Raven McDavid has remarked that some of the "traditional forces of American society - industrialization, urbanization (and specialized suburbanization) and the lengthening of schooling for larger proportions of the population" have combined to accentuate the social differences in modes of communication.4 Therefore, in America, regional dialects are much less sharply defined than those in England, for example, but social dialects appear to be more prominent. We will see later, however, that social communication cleavages are becoming more and more recognized in the major cities of Europe, lending credence to the idea that social dialects are products of industrial and urban development and have gone unrecognized, though not unnoticed, for decades.

In addition to the deemphasis upon regional dialects, McDavid also finds differences in the linguistic situations in Europe and America in the areas of prestige dialects and social mobility. He

3 Ibid., p. 14.

says, "there is no single regional variety of speech that has estab-
lished itself as pretigious, and therefore to be imitated more than
all others," and "there is extreme mobility, both regional and social"
in the United States among the population as a whole. 5

McDavid, then, sees the factors of minor regional variations,
lack of a national standard language, and social mobility as the major
contributors to the dominance of social, rather than regional dialectal
variation in America. The earlier investigations in American dialecto-
logy, such as those published in Dialect Notes and the early issues of
PADS dealt almost exclusively with regional variations, but the recent
trends (post-1963) toward the study of social differences have been
strong enough to justify McDavid's claim. With this prominence of
social dialects in America in mind, we will now turn to the develop-
ment of social dialectology in the United States.

The Development of Social Dialectology

Although such scholars as H. L. Mencken and George Phillip
Krapp had commented rather extensively on the social indicators of
American speech, the systematic study of social dialectology in America
did not really begin until the 1930's when Hans Kurath, the general
editor of The Linguistic Atlas of the United States and Canada, chose
to include informants of three basic social classes, which were in turn
divided into two age groups. This procedure represented a major break
with the earlier European dialect atlases, most notably those of Jules
Gilliéron in France, Georg Wenker in Germany and Joseph Wright in

5Raven I. McDavid, Jr., "Dialectology and the Teaching of
Reading," in Teaching Black Children to Read, ed. by Joan C. Baratz
and Roger W. Shuy (Washington: Center for Applied Linguistics, 1969),
pp. 3-4.
England, in that informants of superior education were included as well as rustics of limited experience. That the Gilliéron-Wenker tradition of limiting informants to the rural and uneducated is far from dead is witnessed by the monumental work still in progress in England under the general direction of Harold Orton. Of course, it must be remembered that in England there is at least a recognized if not fully pervasive linguistic standard known as Received Pronunciation which arbitrarily relegates any different mode of speech to the category "nonstandard" with the further connotation "substandard." Thus, Orton's Survey of English Dialects chose for its subject matter:

That kind of dialect . . . normally spoken by elderly speakers of sixty years of age or over belonging to the same social class in rural communities, and in particular by those who were, or had formerly been, employed in farming, for it is amongst the rural population that the traditional types of vernacular English are best preserved to-day.6

In the respect of including a social cross-section of the population, then, the American Atlas was several decades before its time.

Kurath defined three types of informants for inclusion in Atlas research:

Type I: "Little formal education, little reading and restricted social contacts."

Type II: "Better formal education (usually high school) and/or wider reading and social contacts."

Type III: "Superior education (usually college), cultured background, wide reading and/or extensive social contacts."7


In addition, each of the above types was subdivided into
the age classifications of:

Type A: "Aged, and/or regarded by the fieldworker as old-
fashioned.

Type B: "Middle-aged or younger, and/or regarded by the
fieldworker as more modern."8

Obviously, these vague formulations of the defining criteria
for selecting informants led to multiple and often inconsistent choices
on the part of the various fieldworkers. In many instances mere
availability of a person made him an informant and in others loqua-
ciousness, if not garrulity, became the deciding factor.

Although all three types of informants were included in the
actual survey, only fifty-one subjects (less than 12 per cent of the
total surveyed) were from the cultured class, which was in keeping
with the general purposes prescribed for the Atlas, namely, to estab-
lish the broad outlines of regional and social dialects in America,
especially the regional, and to provide the quantitative data for
further research. Then, too, the more traditional aims of European
dialect geography led to a reliance on folk speechways as indicative
of settlement patterns and early linguistic history. In an attempt to
combine these objectives, Kurath wrote in the Handbook of the Linguis-
tic Geography of New England,

Regional differences in New England, as elsewhere, are greater
in the homely vocabulary of the family and the farm than in the
vocabulary of "society" and of urban areas. . . . [Humble] words
reflect most clearly the regional pattern of pre-industrial New
England, which must be reconstructed as well as possible if we
would trace the sources of New England speech back to the dialects
of England.9

Three major interpretative volumes have appeared using the

8Ibid.  9Ibid.
Atlas data: Kurath's *Word Geography of the Eastern United States* (1949), E. Bagby Atwood's *Survey of Verb Forms in the Eastern United States* (1953), and Kurath and McDavid's *The Pronunciation of English in the Atlantic States* (1961), each of which contributed to existing knowledge of both the regional and social dissemination of language habits in the United States. For example, Atwood comments, "With regard to the verb, usage is rather sharply divided along social lines, more sharply than in vocabulary or pronunciation."\(^{10}\) Nonstandard verb forms appear to be more common among the uneducated and geographically isolated, while there is much more homogeneity among the more cultured. Atwood rejects Mencken's hypothesis that there is a uniform grammar of the American vulgate, saying, "What we actually have is a variety of regional dialects, each with its own set of grammatical forms, as well as its peculiarities of pronunciation and vocabulary."\(^{11}\) However, the regional differentiations marked by variant verb forms are almost exclusively on the non-cultured level, indicating that there is a generally adhered to standard among the educated if not among the folk.

Kurath and McDavid also claim a homogeneity among the educated, although this unity varies from region to region. Kurath sets up four distinct phonemic vowel schemata which characterize cultured speech in each of the following areas: Upstate New York, Eastern Pennsylvania and the South Midland; Metropolitan New York and the Upper and Lower


\(^{11}\)Ibid.
South; Eastern New England; and Western Pennsylvania.\textsuperscript{12} Within this framework, "it is a highly significant fact that in the various areas the speech of the middle class and of the folk rarely deviates from cultivated usage in phonemic structure, though differences in the phonic character of some of the phonemes and in their incidence may be very marked."\textsuperscript{13} However, in his analytical chapter in the same volume, McDavid poses more problems than he solves. Using rinse as an example, McDavid claims that the vowels /I/ and /E/\textsuperscript{14} "are current nearly everywhere, more or less in social dissemination."\textsuperscript{15} He goes on to say that cultivated speech has predominantly /I/, "but instances of /E/ occur...." Furthermore, "in certain cities, usage is divided, the cultured and some of the middle class using /I/, the others /E/," while in other cities /E/ has disappeared completely. Compounding this situation is the fact that in folk speech rinse has predominantly the vowel /E/, but there are exceptions here, also. Then, too, in the Southern Appalachians, "/æ/ occurs beside /E/ in folk speech...."\textsuperscript{16} Such irregular and often conflicting data lead McDavid to conclude that, at least in the case of the vowel of rinse, "all in all, there are social gradations in the use of /I/ and /E/ rather than social

\textsuperscript{12}Hans Kurath and Raven I. McDavid, Jr., The Pronunciation of English in the Atlantic States (Ann Arbor: University of Michigan, 1951), pp. 6-7.

\textsuperscript{13}\textit{Ibid.}, p. v.

\textsuperscript{14}/E/ represents the "checked vowel" phoneme of ten and /I/ represents the vowel phoneme of six. Kurath and McDavid, p.5.

\textsuperscript{15}\textit{Ibid.}, p. 130. \textsuperscript{16}\textit{Ibid.}, p. 131.
boundaries." It seems that McDavid succeeded in disproving that which he set out to prove. He points to more disparate than equivalent data and is forced into the unenviable position of having to attribute to idiosyncratic variation those cases that are otherwise unaccounted for.

However, McDavid seemed to be aware of the severe limitations of the type of analysis current in the Atlas materials, as a much more lucid and highly satisfactory treatment of certain of the Atlas data appeared in his article on postvocalic /r/ in South Carolina. This interpretation extended the data necessary for an adequate formulation of the occurrences of postvocalic /r/. As McDavid says, "A social analysis proved necessary for this particular linguistic feature, because the data proved too complicated to be explained by merely a geographical statement or a statement of settlement history." McDavid had noticed the apparent inconsistency between the conventional statements that the Southern dialect area basically lacked constriction in postvocalic /r/ and the fact that many speakers, "even whole communities," were found with constriction in areas where constriction had not previously been found to exist and much lack of constriction in

17 Ibid. McDavid's comments should be considered in the context of Labov's motivation for his New York City study where he considers non-linguistic data such as social class for the light it sheds on the underlying regularities of seemingly random occurrences of linguistic phenomena. Also, as will be seen later, Labov disregards the traditional phonemic classifications of Kurath and McDavid and views individual phones irrespective of whatever phoneme they happen to have been assigned to.

areas where constriction was supposedly the norm. Both geographical interpretations and those based on settlement history failed to account for these facts, leading McDavid to seek explanations elsewhere.

McDavid claims that the r-lessness of some speakers in areas showing general constriction is the result of the prestige acquired by an originally minor speech pattern, which, when this prestige was acquired, involved certain kinds of social readjustment. Three social variables apparently operated toward decreasing the amount of constriction: generally, the better educated an informant, the less constriction; and within the same cultural level, younger speakers normally have less constriction than older ones; and urban speakers have less than rural ones.19

McDavid's article shows that as early as 1948 some thought had been given to the social determinants of language forms which explained certain kinds of linguistic phenomena that were unexplainable by the more traditional methods of dialect geography which relied heavily on settlement history and migration patterns.20


19 Ibid., 198.

20 Two years earlier, in 1946, McDavid had anticipated the utility of social factors in explaining certain aspects of language performance in his article, "Dialect Geography and Social Science Problems," which appeared in Social Forces, XXV (1946), 168-72.

American English with Especial Reference to Social Differences or Class Dialects." Fries' work represents the second major attempt to differentiate formally the linguistic usages of various social classes. Using the general criteria of education, family background and certain definite, but non-linguistic items in the subjects' writing, Fries established three social groups: Group I, which, by definition, used "standard" English, Group III, the users of "vulgar" forms, and Group II, which included all those whose formal characteristics did not place them in one of the other two groups. By definition, Group II used "common" or "popular" English. Fries studied nearly three thousand letters written to the War Department during World War I in an attempt to define formally "standard English" in a non-prescriptive and non-arbitrary way. This work is a direct outgrowth of American Structuralism in that it aims to describe any given language in terms of its own structural principles rather than by the more traditional Latin-based modes of analysis. Therefore, Fries began with empirical data and his guiding principles were such that whatever language forms Group I used were, therefore, characteristic of standard English.

Fries' book was quite successful in describing the actual language behavior of Americans. He discovered that many of the usages long proscribed by English teachers were integral parts of everyday language and that many others had no basis in fact. The long-standing rule for the use of shall and will, for example, was shown to be no longer operative, if in fact it ever was. It was also found that such long abhorred (by English teachers) constructions as "It's me" and "Who do you want?" were regularly used by cultivated speakers.
Although Fries' influence on English education was minimal, *American English Grammar* remains as one of the first methodologically sound and empirically valid attempts to distinguish social and cultural varieties of English.

A further contribution to American sociolinguistics came from Glenna Pickford's 1956 article which severely criticized the methodology used in surveying for the American Atlas. Miss Pickford questioned the structural design of the Atlas which raises "grave doubts as to the validity and reliability of procedures used in it." The gravity of these concerns is increased, she says, when one considers the stated objectives of the Atlas in the context of the American cultural and social milieu. "To put it bluntly, American linguistic geography has expended vast energies in order to supply answers to unimportant, if not to nonexistent, questions." She goes on to say that the American situation in the twentieth century is far different from that of Europe in the nineteenth century and any linguistic investigation which more or less mechanically imitates older European methods is doomed to failure for this reason. If the study of American English is to contribute to a fuller understanding of the American scene, then, Pickford says, "it must address itself . . . to such questions as the political structure of American society, differences and interrelationships between rural and urban communities, changes in the size and organization of the family, linguistic snobbery, and a wealth of other aspects of American social life. . . ."  

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23Ibid., 212.  24Ibid.
Pickford faults the Atlas methodologically on sampling, interview techniques, and assorted interviewer and subject biases, and theoretically for failing to concern itself with developing theory to explain linguistic behavior. Many of these deficiencies could have been eliminated if the editors of the Atlas had not "ignored much of the developing theory in sociology, anthropology, and psychology."\textsuperscript{25}

Pickford's attack on the methods and purposes of the Atlas was devastating to regional dialectology and productive to the sociology of language. From the time her paper was published (1956), it was a short seven years before a shaky marriage between the methods of the social sciences and the data of linguistics was consummated in William Labov's "The Social Motivation of a Sound Change."\textsuperscript{26} Labov used social criteria in studying the centralization of the diphthongs /ai/ and /aw/ on the island of Martha's Vineyard. This linguistic variable was distributed over several ethnic, occupational, and age groups, but was found to correlate with none of them. Instead of merely stating the existence of this disparate distribution of linguistic phenomena as the Atlas researcher would perhaps have done, Labov sought to find some social factor which would account for the seemingly random occurrences of particular degrees of centralization. He found that the speaker's orientation toward the island was reflected in the pronunciation of these diphthongs. Those who laid claim to native status showed the greatest centralization while those who abandoned the island to live on the mainland showed no centralization at

\textsuperscript{25}Ibid., 220.

all. By merely extending the data to be considered and using the methods and techniques of the social sciences, Labov, brought order and predictability to an otherwise chaotic linguistic situation. The notion of the linguistic variable and the concept of contextual style were further elaborated by Labov in his massive study of the English of New York City, which, along with Walt Wolfram's Detroit study, represents the most comprehensive applications of contemporary sociolinguistic theory. Since both of these works will be discussed in some detail in the next section, further elaboration here is unnecessary.

Although this brief survey of social dialect study is far from exhaustive, it does highlight the more pertinent ideas and contributions which have resulted in the current interpretations of social dialectology in America. We have seen a decided shift in emphasis from rural to urban studies, from older informants to more representative age groupings, from more naive to more sophisticated informants, and perhaps the most influential shift of all, a change in theoretical orientation from the observation of language data alone to the description (if not explanation) of linguistic facts. These changes, together with a more fully formed methodology, promise much in the way of explaining linguistic behavior which now seems random and unmotivated. As we will see in the next section, using sociological criteria to interpret linguistic data has brought regularity and predictability to certain language phenomena and there is every reason to believe that more regularities will be found as the necessary linguistic variables are increased both in number and explicitness.

Before leaving this section dealing with the rise and current position of social dialectology in America, a few remarks on the
existing European situation seem in order. The differences between
the attitudes of European and American scholars toward dialect study
were mentioned earlier. It seems now that, in Europe as well as the
United States, the prevailing attitudes are similar and empirical
studies are concerned with the same types of social phenomena which
seem to be more revealing in heavily industrialized, urban areas than
the more traditional regional studies. G. L. Brook, in a position
paper concerning the directions which dialect studies in England
should take, calls for a greater emphasis on town dialects which,
although more inconsistent than regional variations, are more produc-
tive in the sense of reflecting the dominant social processes of the
great majoritv of the people. He says:

Once we get away from the idea that the only dialects worthy
of serious study are those spoken by elderly country-dwellers,
town dialects can begin to come into their own. . . . Perhaps the
time has come when we should bracc ourselves to study the language
of those whose speech is inconsistent. Linguistic variations in
towns depend on occupation or social class . . . , and the study
of town dialects is likely to develop side by side with the study
of class dialects.27

Thus, as we have seen, the British and American positions,
originally similar, have survived a period of separation, and now
closely approximate one another again.

Theoretical and Empirical Foundations

In this section, the major philosophical considerations for a
science of sociolinguistics are examined against a background of the
relevant research findings. Each of the papers summarized below is

Leeds Studies in English, N.S. II (1968), 17.
concerned with some aspect of the relationship between social factors (usually the socio-economic class of the speaker) and linguistic performance. It must be kept in mind that language usage is here thought of as reflecting certain social conditions, rather than initiating or causing them. Since this study is purely descriptive in nature, its intent is to further the existing knowledge of which linguistic factors correlate with or reflect social class behavior. Thus, speculations on the origins or causes of this correlation are alien to the basic premise of the present study. With this in mind, each of the works reviewed here has made some contribution to the present state of knowledge concerning the relationships between social class and linguistic behavior.

The presentation here is generally chronological within three major divisions. The first deals with early American research (pre-1963). The second deals with the British contribution and emphasizes the work of Basil Bernstein; and the third with the recent American investigations of Labov, Shuy, Wolfram and others.

Early Sociolinguistic Research in America

The relevant findings, and subsequent criticisms, of the Linguistic Atlas of the United States and Canada have already been mentioned, and, although Fries' American English Grammar has also been mentioned, it cannot be summarily dismissed as it represents the first legitimate attempt to define formally the language usage of different social classes. However, by using letters, Fries was naturally restricted to examining the morphological and syntactic characteristics of the informants. Possible phonological differences were, of course, unreportable.
Fries' discussions of the differences between Standard English (Type I) and Vulgar English (Type III) are presented in terms of observation alone. The differences are usually expressed as percentages of all possible occurrences and the figures must speak for themselves as Fries makes no attempt to interpret the significance, for example, of the fact that, in Standard English the construction have + past part, occurred nearly four times as frequently as in Vulgar English. With this procedure in mind, then, the following quantitative summary of Fries' findings is given. No attempt is made here to determine significance between the groups. Rather, those differences which observationally discriminate one class from the other are included to provide a basis for comparing later findings.

The users of Vulgar English (those who had not gone beyond the eighth grade and who held manual or unskilled jobs) differed from the users of Standard English in the following ways. They (Group III) used more uninflected plurals, more distinct second person plural pronouns, them as a demonstrative, more distinct verb preterites, regularized genitives (hisself), was as the plural form of to be, ought as a past participle, don't with a third singular subject, and fewer participles than occurred in Standard English.

In the area of syntax, the lowest ranking group used a simpler system of function words, fewer multiple modifiers, fewer passives, fewer occurrences of by + past part, have + past part, and have + been + past part. However, have + been as a past participle is more frequent in the Vulgar materials.

Standard English had many more nouns as subjects than did

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Vulgar English, which relied on pronouns in that function. The noun + noun construction (noun adjunct) was found to be more characteristic of Standard English, along with more adjective modifiers and more noun modifiers. Vulgar English used the function words to and for to indicate the direct object relation instead of the word order method.

It is in the area of modification, however, that more particular differences occurred. The Vulgar English letters used a function word "to make a substantive a modifier of a noun" much less frequently than did Standard English. "In seeming compensation, they used the function work to make the substantive a modifier of the verb much more frequently." Example of the first instance would be "His arrival at Camp Knox" and of the second "He enlisted about May 8." This finding is reinforced by the fact that Vulgar English had fewer clauses modifying nouns than did Standard English. This is perhaps necessitated by the frequent use of pronouns in subject position (see above).

Fries' data, as mentioned above, is mostly on the observational level, and as such lacks inherent significance. But some real differences appear to be present and, in fact, we will see many of the things Fries pointed out reappearing in future studies. Fries examined a mass of data (about three thousand letters) and took at least the preliminary steps toward identifying the significant performance differences between social classes.

Following Fries, the next major contribution to sociolinguistic study in America was that of George Putnam and Edna O'Hern, who were interested in determining the reliability of speech as an indicator of social class. To this end, Putnam and O'Hern surveyed virtually all

the inhabitants of an alley in Washington, D.C. that was isolated
"both culturally and physically," from the surrounding environment.\(^{30}\)

Within this social matrix, Putnam and O'Hern attempted first
to describe the salient linguistic features of an extremely depressed
economic area, and then to investigate the significance of these
linguistic habits as markers of social status. The authors knew
a priori that the dialect they were investigating was used by low
socio-economic status speakers. However, it remained to be seen how
well naive listeners could rank unknown speakers on the basis of their
speech patterns alone.

Putnam and O'Hern found that the dialect spoken by the study
group deviated from Standard English in the areas of phonology,
morphology and syntax. Phonetic deviations included an inclination
toward centralizing the vowels, the weakening (often to the point of
omission) of certain consonants, especially those in word-final posi­
tion, and multiple allophones for certain phonemes, especially /E/\(^{31}\)
and /æ/. Morphological differences were found in the preterite and
present forms of both weak and strong verbs, along with unique forms
for the present and past perfect and for the progressive. The irreg­
ular verb to be showed a tendency to regularize. Distinctive syntactic
usage included unconventional word order in various constructions,
word-order substitutes for marking certain types of embedded sentences,
and generalized use of the dummy subject it.

It should be mentioned that Putnam and O'Hern appear to have

\(^{30}\)George N. Putnam and Edna M. O'Hern, The Status Significance
of an Isolated Urban Dialect, Language Dissertation No. 53, Language,
XXXI (1955), Part 2, 2.

\(^{31}\)/E/ represents the vowel phoneme of bet or ten - Putnam and
O'Hern, 5.
set no controls or limits on the amount and extent of the data they collected. Nor do they seem to have analyzed it systematically. The report as a whole abounds with such judgmental qualifiers as "frequently, sometimes, commonly, fairly common, occasionally, much more common, etc." without any visible attempt to relate the significance, if any, of the incidence of occurrence of a given feature to the total incidence of possible occurrences. In short, the findings have to be taken as impressionistic for the most part, as they lack even the numerical equivalents found in Fries' American English Grammar.

The second part of the Putnam and O'Hern study was an investigation of the significance of the alley dialect as a mark of social status. Three samples of the dialect were recorded along with nine additional samples from speakers of known higher social status. Using a tape of the informants' speech "made it possible to study speech as a class mark in isolation from all irrelevant clues such as might be furnished, for example, by the speaker's appearance."32

The twelve subjects, who were all Negroes, thus eliminating any possible dialectal differences associated with race, were read Aesop's "The Lion and the Mouse," after which they retold the story in their own words. These retellings were then played to seventy listener-judges who rated the speakers on a socio-economic continuum. The correlation between the judges' ratings and the Warner-Meeker-Eells Index of Social Characteristics was +0.80, which allowed the authors to conclude that "these results bear out the hypothesis of this study, that the dialect [of these speakers] does reflect low socio-economic status."33

32 Ibid., 5. 33 Ibid., 26-27.
Further analysis of the tapes of the three lowest socio-economic speakers (the residents of the alley) showed some striking resemblances, especially the general tendency toward weakening of the consonants, especially the stops,\textsuperscript{34} the use of the phones $[\text{ai}]$ and $[\text{èu}]$ as allophones of the phonemes /ai/ and /au/\textsuperscript{35}, respectively, which goes along with a more general tendency to centralize most vowels, and simplified grammatical structure. However, the authors are quite vague about which specific features, or lack of specific features, constitute simple grammatical structure.

However, the greatest value of the Putnam-O'Hern study lies not in the description and analysis of the alley dialect, but rather in the more general finding that a very short sample of recorded speech is sufficient to determine the speaker's social status. The authors freely admit that they are unsure of the specific features which serve to indicate social status, but the broader outline is clear. Speech is indicative of social position, but whether the indicators are phonetic, morphological, syntactic, or even paralinguistic, remains to be shown.

In a series of experiments designed to replicate and extend the findings of Putnam and O'Hern, L. S. Harms, using the technique of cloze procedure, attempted to determine the relationships and effects of status features in speech to the comprehension of a spoken message. Speakers of high social status (on the Hollingshead Two Factor Index of Social Position) were generally more comprehensible to listeners of all social statuses than were speakers of either middle or low status.

\textsuperscript{34}According to the authors, weakening of consonants can be manifested by total omission, lack of release, or inclusion of aberrant allophones.

\textsuperscript{35}Both the phonetic and phonemic symbols are taken directly from Putnam and O'Hern, 11-12.
Also, and perhaps more signi. cant, Harms found that listeners hearing a speaker of their own status comprehended this speaker more readily than did listeners of other statuses. The short recorded speeches used (approximately 100-115 words) allowed each speaker to construct his own presentation, therefore, Harms was unable to determine which specific areas of the speeches, such as intonation, phonetic or grammatical elements, or even paralinguistic features, were actually used by the listener in forming his judgment. However, it does seem clear that something in an individual's speech patterns allows him to be classified socially by naive listener-judges.36

A second study by Harms used taped samples from the Putnam-O'Hern study to obtain judgments of a speaker's social status from listeners who shared neither race nor geographic region with the speaker. Again, no attempt was made to specify the criteria on which the judges' decisions were based. Their subjective evaluation of the speakers was all that was being tested.

The decisions of Harms' sixty-four listener-judges correlated +.88 with the Warner Index of Social Characteristics, which was slightly higher than the +.80 correlation which Putnam and O'Hern obtained from seventy judges who were from the same regional dialect area as the speakers.

The same situation was presented to seventy Eastern listeners whose rankings correlated +.94 with those of Mid-Western judges, which suggests "that the region the judge is from does not much affect his identification of status dialect." Neither does the matter of race as

"social dialect appears to be recognized across race boundaries."\(^{37}\)

In a third study, Harms used a large number of listeners (180 non-college adults) who judged 40-60 second tape recordings of speakers previously stratified by means of the Hollingshead Two Factor Index of Social Position. The listeners assigned correct status labels to the speakers on the basis of the tape recording alone which led Harms to conclude that "cues are present which enable a listener to recognize the status of the speaker." However, he is circumspect enough to mention that the specific features upon which the listeners based their decision are undefined. "The ratings could be based on word choice, pronunciation, grammatical structure, voice quality, articulation, [or] other . . . features."\(^{38}\)

Harms' findings are internally consistent and indicate the presence of very real, but unspecified, features in person's speech patterns which are so pervasive that even an untrained listener can generally assign correct social status after hearing less than a minute of speech. These unspecified indicators of social status appear to be generalized across both racial and geographic boundaries, although this aspect of social variation has yet to be investigated adequately.

The British Position

Speech as a social class indicator in England received one of its wittiest treatments in Alan S. C. Ross' essay "U and Non-U," in


Nancy Mitford's compilation *Noblesse Oblige*. Relying heavily on the sociolinguistic work of Ross, "a U scholar in a non-U university," Miss Mitford notes that "most of the peers share the education, usage, and point of view of a vast upper middle class, but the upper middle class does not, in its turn, merge imperceptibly into the middle class. There is a definite border line, easily recognizable by hundreds of small but significant landmarks." These linguistic lines of demarcation range all the way from modes of address (to speak of an earl as The Earl of P is non-U, while Lord P is U) to the stress pattern of yesterday ('yester,day is non-U, 'yesterday is U). U and non-U distinctions also occur in the selection of lexical items, such as jack (in playing cards) (non-U) as opposed to knave (U), and non-U toilet paper versus U lavatory-paper.

In his essay, Ross implies that the upper class (those who unconsciously and intuitively generate only U linguistic forms) has no use or need for code-switching as their mode of expression is both the prestige dialect of England and the medium of all but the most informal transactions. The native speakers of non-U, however, are forced into the position of being at least bidialectal if they have any hopes or prospects of communicating with anyone beyond their immediate circle of other non-U speakers. This necessary bidialectalism shows up most acutely in the formal writing of non-U speakers which apparently shows lexical choices synonymous with those of the upper class. As Ross says, "A piece of mathematics or a novel written by a member of the upper class is not likely to differ in any way from one written by a

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member of another class, except in so far as the novel contains conversation. We can also infer that morphological and syntactic patterns, if not uniform between U and non-U speakers, are capricious to the extent that they do not serve to distinguish consistently one social class from another.

Although Ross based his essay largely on intuition and direct observation, many of the distinctions he makes are also found by Bernstein and later British investigators. This implies the existence of some very real linguistic reflectors of social position.

The Work of Bernstein - An Appraisal of Basil. The influence of Basil Bernstein on both British and American scholars has been profound. Bernstein's contributions to the theory of sociolinguistic research have affected sociologists, linguists, and educators and have clarified and formalized many previously nebulous concepts and intuitive realities. Although Bernstein's writings are themselves neo-recondite, his ideas concerning the relationships and implications of language-bound social classes have provided both the impetus and the direction for much high quality research in the past decade. Bernstein's theoretical papers will be discussed first. Then, his empirical findings will be presented.

Bernstein cites several studies which "point to critical relationships" between social class and performance and notes that no reasons are given which would even partially explain these relationships. Thus, "it is within this gap in the existing knowledge

of the relations between social class and educational attainment that [these papers] are primarily concerned.41

Bernstein proposes a conceptual framework within which to review and organize the existing data which will, at least in part, account for the performance of those children of the working classes who do less well at British high schools than their middle class counterparts and who likewise do less well on verbal intelligence tests than on comparable nonverbal tests.

A central tenet of Bernstein's thesis is the way the two large social classes make use of cognitive expression. It is proposed that the working classes are characterized by a predisposition toward an ordering relationship which stresses the content of objects while the middle classes tend toward an ordering relationship which "arises out of sensitivity to the structure of objects."42 These polar terms, content and structure, are not conceived of as dichotomous, but rather as stages on a continuum and must be distinguished from innate cognitive ability. Members of the lower classes, relative to the middle classes, "do not merely place different significances upon different classes of objects, but... perception is of a qualitatively different order." Bernstein feels that conflicts arise when, for example, a content-oriented child attends a structurally-oriented school. The


42 Sensitivity to the structure of objects is defined as a function of the ability to respond to an object perceived and defined in terms of a matrix of relationships, while sensitivity to content is a function of the ability to respond to the boundaries of an object rather than to the matrix of relationships in which it stands with other objects. Ibid., 160.
child's resistance is not an individual reaction but rather "a function of a mode of perceiving . . . which is characterized by a sensitivity to the content rather than to the structure of objects."

Only in the middle class world does society emphasize the language structure which "mediates the relation between thought and feeling." This mediation through language structure is lost to the lower class child whose ordering relationships are concerned basically with content rather than structure. However, the middle class child, while primarily perceiving structural relationships, also responds meaningfully to content relationships. The middle class child becomes naturally "bidialectal" as he can respond to both modes of language usage. Not so the lower class child, who, although he may understand utterances containing both modes, will not differentiate effectually between the two.

Although Bernstein is woefully weak on examples to support his contention, he does cite a situation which he claims illustrates the limitations imposed by a public language on its speakers. He feels that while the elementary mathematical rules of addition, subtraction and multiplication may not show a discrepancy between social classes, difficulty will arise when the person confined to a public language attempts to apply these principles to the new symbols involved in fractions, decimals and percentages. The speaker of a public language "does not understand the underlying principles and so cannot generalize the operations to different situations. The principles and operation apply only to discrete situations. Further, verbal problems based upon this symbolism, which requires an initial ordering of

\[\text{Ibid.}\]
As indicated above, Bernstein feels that each linguistic mode of expression modifies, in a generally predictable manner, the perception of its user. Bernstein also distinguishes between nonverbal and verbal expressions of meaning. Gestures, facial expression and other paralinguistic features are termed "immediate," or direct expression, while the linguistic items per se are called "mediate" or indirect expression. A language containing a high proportion of short, simple statements and questions, where "symbolism is descriptive, tangible and concrete, where the emphasis is on the emotive rather than the logical implications . . ." is called a public language. Any personal qualifications given to a public language must be through nonverbal means. A public language is, obviously, characteristic of the working classes and the source, according to Bernstein, of many intra-language conflicts.

Bernstein lists the following criteria of a public language:

1) Short, grammatically simple, often unfinished sentences, a poor syntactical construction with a verbal form stressing the active mood,
2) Simple and repetitive use of conjunctions (so, then, and, because),
3) Frequent use of short commands and questions,
4) Rigid and limited use of adjectives and adverbs,
5) Infrequent use of impersonal pronouns as subjects (one, it),
6) Statements formulated as implicit questions which set up a sympathetic circularity, e.g. 'Just fancy?'. 'It's only natural, isn't it?', 'I wouldn't have believed it.',
7) A statement of fact is often used as both a reason and a conclusion, or more accurately, the reason and conclusion are confounded to produce a categoric statement, e.g. 'Do as I tell you', 'Hold on tight', 'You're not going out', 'Lay off that',
8) Individual selection from a group of idiomatic phrases will frequently be found,

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44 Ibid., 171. 45 Ibid., 164.
9) Symbolism is of a low order of generality,

10) The individual qualification is implicit in the sentence structure, therefore it is a language of implicit meaning. It is believed that this fact determines the form of the language."^46

While a public language is severely limited in the amount of verbal meaning it can convey, the formal language of the middle class has no such restriction and its speakers are able to convey linguistically what must be conveyed paralinguistically in a public language. Because personal qualification is omitted from the sentence structure of a public language, it is a language of "implicit meaning." The language of the middle class, on the other hand, "is rich in personal, individual qualifications," where the arrangements of words and connections between sentences convey a large part of the total meaning.^47

The characteristics of a formal language are:

1) Accurate grammatical order and syntax regulate what is said.
2) Logical modifications and stress are mediated through a grammatically complex sentence construction, especially through the use of a range of conjunctions and relative clauses.
3) Frequent use of prepositions which indicate logical relationships as well as prepositions which indicate temporal and spatial contiguity.
4) Frequent use of impersonal pronouns, (one, it).
5) A discriminative selection from a range of adjectives and adverbs.
6) Individual qualification is verbally mediated through the structure and relationships within and between sentences. That is, it is explicit.
7) Expressive symbolism conditioned by this linguistic form distributes affectual support rather than logical meaning to what is said.
8) A language use which points to the possibilities inherent in a complex conceptual hierarchy for the organizing of experience."^48


Bernstein further notes that lexical or vocabulary items are unrelated to either a public or a formal language, as the same items are found in both. The major differences between the two modes of expression, and hence of the speaker's perception of natural phenomena, are found in the area of syntax, the way in which words are related structurally. Furthermore, an individual may possess two linguistic modes, both the public and the formal, or he may be restricted to one. By implication, the middle class speaker has access to both while the lower class user is confined to the public language.

In his theoretical papers, Bernstein presents the basis for his distinction between "Elaborated" and "Restricted" language codes. Pragmatically, Bernstein is concerned with the general problems of learning which many working class children encounter upon entering school and he attributes many of these problems to a different sort of Weltanschauung which characterizes different social classes. Furthermore, these different perspectives on the world are in great measure the result of different linguistic codes, which are socially manifested and characteristic of particular social classes in addition to serving as the channel through which the child gains his perspective into the world of reality. Thus, particular linguistic codes act as both indicators and determiners of social situations.

It is important to remember that linguistic codes are socially and culturally, rather than intellectually, motivated and therefore verbal intelligence tests tend to discriminate on the basis of social class rather than innate ability. As will be shown in the next section, nonverbal intelligence is controlled in order to determine
the linguistic correlates of social structures.

Bernstein contends that speakers who come from the lower socio-economic classes are limited by their restricted code to the concrete and the immediate, which is manifested linguistically by a relatively high order of syntactic predictability and little if any verbal qualification. Users of an elaborated code, on the other hand, have many and varied possibilities inherent in their code which are lacking in the restricted code. Individual qualifications and mediations are given linguistically and are oriented toward abstraction and generality.

At this point, few quantitative features of the respective codes have been given, but the studies which follow supply the empirical bases for postulating the existence of both an elaborated and a restricted code.

In a series of experiments designed to lend empirical support to his thesis, Bernstein analyzed samples of both working class and middle class speech. Assuming that an elaborated code was characteristic of middle class speech, and a restricted code was characteristic of working class speech, and with nonverbal intelligence held constant, the working class subjects differed from the middle classes with respect to mean phrase length, mean pause duration, and mean word length stated in number of syllables. The working class group used a significantly longer phrase length (a phrase is defined as the speech between pauses), spent much less time pausing between phrases, and used a considerably shorter mean word length. From these findings, Bernstein concludes that middle and working class subjects are "oriented to different levels of verbal planning which control the speech process."
These planning orientations are . . . independent of psychological factors and inherent in the linguistic codes which are available to normal individuals."^49

In a second study, Bernstein found no social class differences in the relative proportions of finite verbs, nouns, different nouns, prepositions, conjunctions and adverbs. There were no class differences in the relative incidence of these items. Differences were found however, in the following areas: The egocentric sequence I think is used more frequently by the middle class group, while the "sympathetic circularity" sequences such as wouldn't it, isn't it, etc. are used much more frequently by the working class groups. However, Bernstein fails to give the statistics of significance for this particular feature. It is interesting to note that while the egocentric sequence is characteristic of the middle class and the socio-centric of the working class, the total of the two for each class is not significantly different from the total for the other. Apparently such expressions of non-referential content are equally common among social groups, but each group seems to select a particular sequence and apply it in a characteristic manner. This would lend support to Bernstein's hypothesis that language is infinitely productive, but each group selects certain features or forms rather than others.

The middle class groups used a higher proportion of subordinate clauses, complex verbal stems, passive constructions, total adjectives and "uncommon" adjectives, uncommon adverbs and conjunctions, 

^49 Basil Bernstein, "Linguistic Codes, Hesitation Phenomena and Intelligence," Language and Speech, V (1962), 44.

of as a proportion of *of*, *in* and *into*, and the personal pronoun *I*, while the working classes used a higher proportion of total personal pronouns and, more specifically, *you* and *they*.

Bernstein's definition of subordination must be gained from inference as it is not explicitly stated. Apparently, any grammatical device linking two finite verbs is considered an instance of subordination.

Uncommon adverbs were those left over after an admittedly arbitrary choice had excluded such adverbs of degree and place as *just*, *not*, *yes*, *then*, *when* and *why*. This same arbitrariness was used to exclude the more common adjectives (numerical and demonstrative as well as *other* and *another*) from those which reflected possible differences. Conjunctions were also arbitrarily divided into common (*and*, *so*, *or*, *because*, *also*, *then*, *like*) and uncommon, which included all others.

These findings lead Bernstein to conclude that "the results of this study clearly indicate that the class groups are differentially oriented in their structural relations and lexicon choices." In addition, these trends are relatively consistent within the social class subgroups and appear to be independent of measured intelligence. In general, then, Bernstein's studies confirm his basic hypothesis that there are socially determined constraints on the forms of individual speech habits and that these constraints are both general and specific as they permeate an entire speech community and exert considerable influence on the individual speaker.

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Other British Studies Designed to Test the Bernstein Hypothesis. In a series of three experiments, Denis Lawton sought to confirm or refute Bernstein's hypothesis, to extend the range of evidence by using subjects younger than Bernstein's, and to investigate written as well as oral language. Ten middle class and ten working class boys, ranging in age from twelve to fifteen, each wrote four essays on various topics and filled in two sentence completion tests.

Lawton found significant differences between the two social classes in the areas of essay length per thirty-minute period, uncommon clauses, the Loban weighted index of subordination, uncommon adjectives, total adverbs, passive verbs, use of personal pronouns, and, on a judgemental index, differences of abstraction and generalization.

The sentence completion test used by Lawton was designed to test the hypothesis that middle class speakers would select subordinating conjunctions while the working class subjects would use compound constructions or would start a new sentence. Examples of this test are: "The Prime Minister made ______" with the instruction "add 16 to 18 words," and "We went for a walk ______" with the instruction "add 20 to 22 words." The hypothesis was accepted at the 0.01 level of confidence. However, it should be kept in mind that these results were obtained from written work only.

Lawton's second study used the same subjects as the first and

attempted to analyze certain aspects of the speech of these subjects in group discussions, thus making possible a comparison of the written and spoken modes of the same subjects. Significant differences were found in five areas: egocentric sequences (I think) vs. sociocentric sequences (you know, isn't it?), total subordinate clauses, the Loban weighted index of subordination, complexity of the verbal stem, and passive constructions. The middle class speakers used more egocentric sequences, more subordinate clauses, greater verbal complexity, and more passive forms than did the working class with nonverbal I.Q. held constant. Although not statistically significant, trends toward social class differentiation were found in an increased use by the middle class of adjective clauses, three specific types of subordination (types B, C, and D on the Loban Index,53 uncommon adverbs and personal pronouns.

A third study using the same subjects was designed to provide evidence on the existence of middle class code switching (between Elaborated and Restricted codes, depending upon the social context) and to contrast the performance of the two groups in situations labeled "description" and "abstraction." Description was defined as that speech which immediately followed the instruction to tell the story shown in four sequential pictures, and abstraction as that speech in answer to the instruction "What do you think the point of the story is?"

On the description section, social class differences were found on the Loban B, C, and D clauses, total adjectives and the incidence of

53See Lawton, "Social Class Differences," 126, for a discussion of the Loban Index.
passive verbs. Trends, although not statistically significant, were found for adjective clauses and uncommon adverbs. On the abstraction sections, significant differences were found on egocentric vs. sociocentric sequences, passive verbs and incidence of personal pronouns. Trends were reported, all in the direction which favors the middle class, for use of adjective clauses, the Loban B, C, and D clauses, complex verb stems, total adjectives and uncommon adjectives.

The hypothesis dealing with code switching stated that the groups would make some linguistic adjustments to the difference in context between the description and the abstraction sequences, and that the middle class group would make greater adjustments than the working class speakers. Also, implicit in this hypothesis is the idea that the middle class speakers would possess greater facility in code switching. Code switching was measured by the difference between the score on abstraction and the score on description for individual items. Subjects of both social classes did indeed tend toward different modes of speech in the areas under consideration and middle class subjects reached a higher average degree of code switching on all measures than did those of the working classes.

From these three studies, Lawton feels that his work strongly supports the basic tenets of Bernstein's thesis. Interclass differences exist in whole classes of words, e.g., adjectives, adverbs, pronouns, and in grammatical structures as well, e.g., passive forms and various types of subordination. In each case working class boys, users of a Restricted Code, selected words and structures from a narrower range of alternatives. Also, there seems to be at least a partial confirmation of the thesis that the same kinds of things which
differentiate social groups orally also differentiate between them on the written level. Then, too, social class differences seem to be more pronounced on the topics that encouraged abstract speech or writing.

W. P. Robinson used cloze procedure in an attempt to determine the extent to which middle and working class subjects use the same lexicon and, as a corollary to this hypothesis, to see if the utterances of the working class were more predictable than those of the middle class. With nonverbal intelligence held constant, middle class subjects showed more different responses than did those of the working class. There was also significant homogeneity within each group. With two responses requested for each omitted word, the word with the most frequent first response for each item in the middle class was more frequent for this class than the working class on eighteen of the twenty-five items. Conversely, the most frequent first choices of the lower class had a higher incidence in their own group than in the middle class group.

Therefore, it seems clear that, at least on the matter of lexical items within a grammatical framework, middle class speakers show a greater tendency as a group toward diversity, or elaboration, to use Bernstein's term, than does the working class. But also this diversity revolves around a different locus than that of the working class. Each class seems to draw from a different reservoir of lexical items, one with significantly greater possibilities than the other, suggesting that perhaps a qualitative as well as a quantitative

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difference exists between the lexical performance of different social
groups.

In a second article, Robinson sought to test Bernstein's hypothesis that many members of the working class do not have access to an elaborated code. To this end, Robinson constructed two situations which he felt would encourage the use of a restricted code and an elaborated code. It was hypothesized that significant differences of the type Bernstein describes should be present in the letter written in response to the cues establishing the need for using an elaborated code as the middle class writers would be under pressure to use their elaborated code, while a majority of working class writers would be confined to their restricted code.

However, as Robinson says, "The statistically significant differences in the 'formal' letters [those encouraging an elaborated code] were few in number [while] the informal letters exhibited more significant differences,"55 suggesting that the working classes also have access to an elaborated code. Robinson analyzed 148 items (both lexical and structural), of which only twenty-nine significantly differentiated the groups on the basis of the formal letter. However, seventy items discriminated between the classes in the informal letters. Although Robinson's evidence tends to negate one of Bernstein's central tenets, it adds supporting evidence to the fact that real structural differences occur between the groups, though not in precisely the context which Bernstein had hypothesized.

In a preliminary study, Hawkins had found that, as far as the

nominal group was concerned, there was a general tendency for the middle class to use nouns and nominal forms more frequently than the working class, who made greater use of pronouns and pronominal forms. These preliminary findings led Hawkins to a more thorough investigation of possible social distinctions within the nominal group itself.

In the nominal group the head word is obligatory, but modifiers and quantifiers are optional. For example, the nominal "three big dogs in the yard" is analyzed as follows: three big (modifiers) dogs (head) in the yard (qualifier). Hawkins argues that, as in the example just given, a noun as head admits of many modifications, but a pronoun head automatically eliminates all potential modifiers, e.g., notice the ungrammaticality of "the very big he _______." Thus, the middle class forms are open for linguistic qualification and thus support Bernstein's contention that in the elaborated code of the middle class, meaning is (linguistically) explicit. Nouns as nominal group heads can be indefinitely expanded, but intelligibility is severely hindered after several expansions.

Pronominal reference can also be differentiated into anaphoric, which, for Hawkins' purpose, is merely linguistic reference, either forward or backward, and exophoric, meaning the reference is to something in the world of reality and outside a linguistic referent. An example of exophoric reference would be "Well, they've done it," where it's anybody's guess just who "they" refers to.

Hawkins found that working class children used more pronouns than the middle class and, more significantly, used more pronouns of the exophoric kind which rely heavily on surrounding context for their interpretation. Using nouns as heads allows the middle class speakers
to be more specific and more elaborate because "[they] are referring to the objects, and the characters, by name, not by the vague he, she, it, they." This, says Hawkins, allows middle class speakers to be understood outside the immediate context, and by his linguistic output alone, while the speech of the working class child is bound to the context in which it occurs.

Hawkins study also supports Bernstein's basic outline, especially the idea that speakers of a restricted code are more context-bound than the middle class counterparts, thus, meaning is implicit and individual qualification must be non-linguistic, because the possibilities for linguistic elaboration are, a priori, severely limited.

In summary, the British empirical studies tend to support, at least in basic outline, the fundamental assumptions of Bernstein. Enough statistically significant differences were found, especially in the area of syntax, to justify the claim that real differences are present in both speech and writing which serve to differentiate one social class from another. Even though the samples in many instances leave much to be desired, it appears that certain quantifiable language forms accurately reflect social class membership.

Recent American Investigations

While the British approach to the relationships between social class and language performance is of major theoretical concern, the American position has tended toward field work and the collection of empirical data. The major American contributions in the field of

general theory have been by William Labov and consist largely of his methodological considerations in the areas of sampling and in the explicit formulation of the linguistic variable. Labov's major work is *The Social Stratification of English in New York City* and contains, in detailed form, most of the material relevant to the present discussion.

Methodologically, Labov introduced the notion of random sampling to sociolinguistic analysis. He was especially critical of such earlier, ostensibly socially stratified samples as those of Kurath in the Linguistic Atlas, saying that:

Kurath's principle aim remained the traditional aim of dialect geography: to trace the underlying pattern of regional differentiation in American dialects. In New York City proper the Atlas used 25 informants. These informants were selected according to the social criteria that are given in the New England handbook, admittedly informal, somewhat circular, and leaving a great deal of judgment to the field worker. In a city like New York, it's obvious that the Atlas would not get as representative a sample as in a more rural area. . . . [Also], convenience played a large part in selecting informants.\(^5\)

In lieu of informants selected by idiosyncratic judgment and convenience, Labov randomly selected 195 informants from a group of 320 subjects previously established by a social survey of the total population of 100,000 living in the Lower East Side of New York City in 1961. Of these 195 potential subjects, 38 were unavailable for one reason or another, leaving 157 in the interview sample. Full information was obtainable from 122 persons. Of these, 81 were raised in New York City and these provided the main body of data reported in the

Social Stratification of English in New York City. Labov is conscious of the fact that 81 informants represent substantially less than 1 per cent of the total population, but he is convinced that his subjects numbered too many rather than too few.

The result of our work is that we can now say about how many informants you would need for a particular correlation to be well defined. In the case of the class stratification of the main linguistic variables, we find, for example, that a sample of about 25 speakers is enough. . . . When the records of only 25 informants had been transcribed and analyzed . . . the pattern of class stratification was essentially the same [as in the final tabulation].

The Linguistic Variable. Labov can also be credited with formalizing and extending the concept of the linguistic variable. According to Labov, general linguistic theory had atrophied in several respects due to the prevailing notion that language was a set of invariant social norms generally held in common by all members of a speech community and deviations from these norms were sporadic and idiosyncratic to the point of being dismissed as multiple cases of "free variation." In support of his argument, Labov cites several studies of the pronunciation of English in New York City, such as those by Yakira Frank and Allan Hubbell which generally conclude that New Yorkers' pronunciation of post vocalic /r/, for example, "exhibits a pattern . . . that might most accurately be described as the absence of any pattern. Such speakers sometimes produce /r/ before a consonant or a pause and sometimes omit it, in a thoroughly haphazard fashion."60

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58 For full sampling information, see Labov, SRENYC, pp. 154-99.
In contrast to Hubbell, Labov claims that many if not all of these supposedly random deviations are socially and culturally motivated and are thus amenable to objective scrutiny and analysis. In short, by extending the range of data to be considered, "studies of the social context in which language is used show that many elements of linguistic structure are involved in systematic variation which reflects both temporal change and extra-linguistic social processes."\textsuperscript{61} It is important to note, however, that even though social situations and certain linguistic items are related, this should not be construed as evidence, much less definitive proof, that the effects of the two are reciprocal because it appears that linguistic behavior has little or no effect on social development. "On the contrary, the shape of linguistic behavior changes rapidly as the speaker's social position changes. This malleability of language underlies its great utility as an indicator of social change."\textsuperscript{62} Of course, an indicator is only as useful as it is applicable. To this end, Labov codified the notion linguistic variable as an abstract functioning unit roughly analogous to the concepts phoneme and morpheme, and manifesting itself in occurrences of particular items or variables which "are ordered along a continuous dimension and whose position is determined by an independent linguistic or extra-linguistic variable."\textsuperscript{63}


\textsuperscript{62}Ibid.

At least four major criteria are necessary for establishing a linguistic variable. The variable should: 1) be high in frequency, 2) have relative immunity from conscious suppression, 3) be an integral part of a larger structure, and 4) be easily quantifiable on a linear scale. Precisely these reasons led Labov to prefer phonological variables "because of their high frequency, their immunity to total suppression, their codability, and wide distribution throughout the population." These four criteria are necessary preliminaries for determining the specific linguistic variables to be analyzed. In addition, there are at least five steps necessary for adequate collection of the variable data.

The first step, which is usually carried out in exploratory interview, is the isolation of the major variables that carry social significance. Labov's department store study (which will be discussed in greater detail later), and other preliminary work, led to his positing five phonological variables of potential significance in New York City (each of which will be discussed later): (r), the occurrence of final preconsonantal /r/; (eh), the height of the vowel in such words as bad, ask, dance, laugh; (oh), the height of the vowel in Paul, office, talk, etc.; (th), the use of the fricative, affricate, or stop as the initial consonant of thing, thought, etc.; and (dh), the corresponding voiced variable of such words as this and their.

The second step is the construction of quantitative indexes

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66Ibid., 7.
which take into account each and all manifestations of the variable in question. "The analyst codes each phone on a simple numerical scale. . . . A numerical average of these ratings is the basis for the index." In the case of Labov's variables, these numerical scales ranged from two categories for (r) to five for (eh) and (oh). After the quantitative index has been established, the next steps are the selection of a sample (see above), the isolation of styles (which will be discussed later) and the necessary progression from stylistic variation to social variation, "where an even higher degree of regularity may be found."

Thus Labov makes explicit the criteria and methodology for establishing linguistic variables, which sufficiently extend the entire range of linguistic data to explain many seemingly irregular aspects of language variations. A more thorough analysis of the relationships between linguistic variables and social phenomena will be given in the general discussion of Labov's findings.

The Problem of Contextual Style. As mentioned in the general introduction to this project, one of the ways in which language performance varies depends upon the non-linguistic situation in which the speaker finds himself. Labov is quite categoric in his statement that "there are no single-style speakers." Every speaker will show some variation in his language patterns according to the immediate context. This is easily demonstrated by listening to a U. S. Senator on the

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67 Ibid. 68 Ibid., 12.

Floor and then at an informal conference or a business executive at conference and then at home with his family. The only questions to be resolved, then, are the extent of style shifting, and the linguistic features which differentiate among various styles.

One of the earliest and most influential formulations of contextual style was John Kenyon's "Cultural Levels and Functional Varieties of English." Kenyon's article was a landmark in that it distinguished for the first time between "two distinct and incommensurable categories, namely, cultural levels and functional varieties" of speech. Kenyon distinguished several cultural levels, ranging from illiterate speech to the language used by those generally recognized as cultivated. These different cultural levels are summarized in the two general classes of substandard and standard. Functional varieties of English, on the other hand, are independent of cultural levels and include such sub-areas as colloquial language, legal, scientific and other expository writing, and prose and poetic belles-lettres. The different functional varieties may be grouped together into the two classes familiar and formal writing or speaking. Kenyon makes it clear that the two major groupings are based on entirely separate principles of classification which allows for such possibilities as formal substandard and familiar standard speech.

Substandard English . . . has its functional varieties for . . . different occasions and purposes. . . . So the functional variety formal writing or speaking may occur on a lower or on a higher level according to the social status of writer or speaker.

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It follows, therefore, that the colloquial language of cultivated people is on a higher cultural level than the formal speech of the semiliterate. 

Kenyon would say, then, that the generally accepted connotations of the word style are equatable with his term functional varieties, which depend in greater measure upon the non-linguistic context of the speech situation than do cultural levels which are defined by entirely different criteria.

The concept of style in language was further formalized in Martin Joos' *The Five Clocks*. Joos identifies five distinct styles: intimate, casual, consultative, formal and frozen, each one having particular defining criteria and each applicable (by social convention) to a particular range of non-linguistic contexts. Joos claims that consultative style is the easiest kind of English to describe, so he uses it as a reference point from which to orient the other four. Consultative style has two defining features: 1) the speaker supplies background information and assumes that he will not be understood without it, and 2) the listener or addressee participates continuously, even though his contributions may be only of the oh, I see, or that's right type. Casual style, one step toward informality from consultative style, is for "friends, acquaintances, and insiders." There is an absence of background information and no reliance on listeners' participation. Formal characteristics of casual style are the use of ellipsis and slang, and an arbitrary list of formulas such as come on.

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While both consultative and casual styles depend on public information, intimate style excludes it entirely and relies upon both speaker and hearer knowing the code and the private meanings of words in the code. "The point of any intimate utterance is simply to remind (hardly 'inform') the addressee of some feeling . . . inside the speaker's skin."74

Toward the opposite end of the style continuum lie formal and frozen style. The crucial difference between formal and consultative style is that participation on the part of the listener drops out completely. This absence of participation may carry over to the speaker himself. "He may speak as if he were not present, avoiding such allusions to his own existence as 'I, me, mine'. . . ." The form of the text, then, becomes dominant and "it endeavors to employ only logical links, kept entirely within the text. . . . The grammar tolerates no ellipsis and cultivates elaborateness. . . . Background information is woven into the text in complex sentences." The defining features of formal style are detachment on the part of the speaker and cohesion within the message itself.75

Frozen style is defined by the absence of authoritative information and by the fact that the reader or listener is unable to question the author. "Frozen style is for people who are to remain social strangers."76 The literature of any community (both oral and written) appears in frozen style, so called by Joos because any deviation from an accepted norm is immediately recognized as such and emphatically corrected.

Joos' monograph represented great progress toward formalizing

74 Ibid. p. 30. 75 Ibid., pp. 36-38. 76 Ibid., p. 41.
the concept of linguistic style. It should be noted that Joos' approach is basically in keeping with that of Kenyon. Conceivably, there are both substandard and standard styles of speech. The frozen oral literature of the lower classes as well as the intimate banter between high class lovers bear this out. That the lower classes possess a literature of the highest order is borne out by the ballad collections of Francis Child in rural England. Although Child balked mightily at some of the subject matter related by the ballads, he clearly recognized their artistic merit.

Perhaps it should be mentioned at this point that the British position concerning varieties of English is somewhat different from that mentioned above. The British generally make a distinction between style, as generally interpreted in the American sense by Joos, and register, which covers a slightly different range of phenomena. According to J. T. Wright, style is language variation "with reference to the interpersonal tension between speaker and listener . . . [while] register covers variations conditioned by social context." Examples of the former would be face to face familiar discourse, and for the latter would be situations as a lawyer before the bar or at a football game. Admittedly, the distinction between style and register becomes quickly blurred but it is easily recognized that some social situations constrain speakers in a different sort of way than do social relationships between individuals. Perhaps cognizance of these basic positions will allow a better perspective of the studies which follow.

Generally speaking, the cultural levels and functional varieties

distinction by Kenyon and the formulation of five language styles by Joos remained virtually unchallenged until Labov's New York City study. Labov identified five distinct styles, each with its own particular contextual and linguistic correlates. However, as will be shown below, they often bear little resemblance to those formulated previously. Like Joos, Labov first chose a more or less neutral style and identified the other four by deviations from this norm. In Labov's study, by definition, Style A, referred to as casual speech in general, occurs in non-linguistic context A. The definition of casual speech "requires that at least one of five contextual situations prevail, and also at least one of five non-phonological cues." The contextual situations are: 1) Speech outside the formal interview. For example, casual remarks by the subject, either to the interviewer or to someone else, before the interview proper begins, interruptions during the interview, or casual comments after the interview has ended would all be conducive to eliciting casual speech. 2) Speech with a third person. Casual speech may emerge at any point before, during, or after the interview, when the informant directs comments to someone other than the interviewer. 3) Speech not in direct response to questions, especially long digressions or reminiscences on the part of the subject. The final two contextual cues for identifying casual style or spontaneous speech are found within the structure of the interview itself. 4) Childhood rhymes and customs. With pre-adolescent informants, jump-rope rhymes, counting-out rhymes, the rules of fighting, etc., provide a context in which casual speech is likely to occur.

In fact, some of the known rhymes are impossible to relate in a more formal style. Note specifically the lack of orthographic /r/ in the
following:

Cinderella  
Dressed in yellow  
Went downtown to buy some mustard  
On the way her girdle busted.  
How many people were disgusted?

5) The danger of death. If the answer to the question "Have you ever been in a situation where you thought you were in serious danger of being killed - where you thought to yourself 'This is it?'" is "yes," then the informant often "becomes involved in the narrative to the extent that he seems to be re-living the critical moment. . . ."78 Spontaneous speech is more than likely to occur at this point.

Labov gives anecdotal evidence to support the partial validity of each of these situations as indicators of casual speech. These contexts, along with channel cues discussed below, give ample support to the notion that spontaneous speech is, in fact, being elicited.

The five linguistic channel cues which, to avoid circular reasoning, must be nonphonetic, all consist of modulations of the vocal mechanism which affect speech as a whole. Labov notes that the absolute values of the modulations may be irrelevant, but their contrasting values are indications of a differentiation in style. The five cues are: 1) a change in speech tempo, 2) a change in pitch range, 3) a change in volume of breathing, 4) a change in the rate of breathing, 5) laughter. Whenever one of these cues is present in one of the contexts listed above, casual speech is being obtained.79 For these reasons, there is both linguistic and non-linguistic contextual justification for establishing a casual style of speech.

Style B, found in Context B, (careful speech), is that type of

79Ibid., pp. 109-10.
speech "which normally occurs when the subject is answering questions which are formally recognized as 'part of the interview'". Careful speech is generally more formal, i.e., more an object of conscious thought by the speaker, than most conversation. "It is certainly not as formal . . . as a public address, and less formal than the speech which would be used in a first interview for a job, but it is certainly more formal than casual conversation among friends or family members."80

Reading style, more formal than both casual and careful speech, serves the pragmatic purpose of concentrating the subjects' speech on the series of variables under consideration. Labov mentions the fact that there is such a gulf between styles B (speaker-originated language) and C (the reading passage) that instructing the subject to use as informal a reading style as possible produces barely noticeable differences. In other words, reading style will never reach the point of informality where it becomes confused with careful conversation.

The subjects' pronunciation of words in isolation (word lists) is a further step in the direction of formality, here labeled Context D, and the reading of minimal pairs, e.g., dark-dock, source-sauce, etc. called D', directs the informant's attention to the specific phonetic contrast involved,81 and, by implication, also bringing all of his linguistic consciousness into consideration. D', then, is the most formal style since it is associated with a particular mental set on the part of the speaker in which the greatest amount of conscious attention is paid to his speech habits, calling into play such things as the ingrained prohibitions most of us have encountered in the schools and

80Ibid., p. 92. 81Ibid., p. 98.
one's personal evaluation of what should be the "correct" pronunciation or usage.

As will be shown in more detail later, Labov found highly significant correlation: between social levels and the incidence of each of the five phonological variables at each style of speech. It appears, then, that Labov's findings directly contradict the earlier formulation by Kenyon, namely, that style and class stratification of language are actually independent of one another. It also refutes Kenyon's implication that no matter how casually an educated person speaks, he will always be recognized as an educated person. Labov says, "It is remarkable that this is not the case. In actual fact, the same variables which are used in style shifting also distinguish cultural or social levels of English." Labov shows that for each of the five phonological variables studied, there is social stratification at each style. Thus, "whether we are listening to casual speech or to reading, it is clear that the social background of the speaker is reflected in his use of these variables."

Labov's New York City Study. The phonological variables and contextual styles germane to Labov's study were mentioned above, along with an outline of the methodology employed in deriving the variables. A brief discussion of the preliminary studies which led Labov to certain potential variables and the development of a quantitative numerical index is now necessary for a fuller understanding and interpretation of the findings.

The general consensus that New Yorkers' use of orthographic /r/ was a case of massive free variation led Labov to formulate the

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82Labov, Study of Nonstandard English, p. 22. 83Ibid., p. 22.
hypothesis that pronunciation of /r/ might not be totally idiosyncratic, but might instead be correlated with certain social distinctions. A pilot study was done in three New York City department stores, socially ranked according to their clientele and employees. The three stores, given here in the order of decreasing social ranking, were Saks Fifth Avenue, Macy's, and S. Klein. It was hypothesized that the prestige form of /r/ (definite, noticeable constriction) would decrease as one went from Saks to Macy's to Klein's. The interviewer would approach an employee, asking such questions as: "Excuse me, where are the women's shoes?", knowing in advance that they were on the fourth floor. Thus the employee's use of /r/ would be readily obtainable. The results of the study showed "clear and consistent" stratification of /r/ in all three stores in the direction hypothesized. Of all informants, 30 per cent from Saks showed constriction in all possible /r/ responses, 20 per cent in Macy's and 4 per cent in Klein's. From this study, Labov felt justified in establishing a linguistic variable (r) which would reflect social stratification.

Earlier, the necessity for obtaining a quantitative numerical index for each manifestation of a variable was mentioned. In the case of the possible occurrences of final or preconsonantal /r/, the number 1 was recorded if definite constriction was heard, and 0 if not. Indeterminate cases were recorded but not used in the final index.

The second phonetic variable, (eh), the height of the vowel in such words as bad, bag, ask, pass, etc., was classified into six discrete units and each manifestation was assigned a rank number.

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Labov, SBENYC, pp. 63-73.
creating the following integers:

<table>
<thead>
<tr>
<th>No.</th>
<th>App. Phonetic Quality</th>
<th>Level With the Vowel of:</th>
</tr>
</thead>
<tbody>
<tr>
<td>(eh-1)</td>
<td>[i]</td>
<td>NYC beer, beard</td>
</tr>
<tr>
<td>(eh-2)</td>
<td>[ɛ]</td>
<td>NYC bear, bared</td>
</tr>
<tr>
<td>(eh-3)</td>
<td>[ə]</td>
<td>NYC bat, batch</td>
</tr>
<tr>
<td>(eh-4)</td>
<td>[ə:]</td>
<td>Eastern New England pass, aunt</td>
</tr>
<tr>
<td>(eh-5)</td>
<td>[ə:]</td>
<td>NYC dock, doll</td>
</tr>
</tbody>
</table>

The index scores for (eh) were derived by multiplying by ten the average of all the individual occurrences of the vowel. Labov notes that "it is irrelevant for the purposes of this index whether the vowel in question would structurally be assigned to /ae/ or /eh/ or even /ih/; the index measures the phonetic position of the vowel only." 85

A six-point scale parallel to that for (eh) was used to measure the height of the third variable (oh), the mid-back rounded vowel of caught, talk, awed, dog, etc., i.e.

<table>
<thead>
<tr>
<th>No.</th>
<th>App. Phonetic Quality</th>
<th>Level With the Vowel of:</th>
</tr>
</thead>
<tbody>
<tr>
<td>(oh-1)</td>
<td>[u]</td>
<td>NYC sure</td>
</tr>
<tr>
<td>(oh-2)</td>
<td>[ə]</td>
<td>General American for, nor</td>
</tr>
<tr>
<td>(oh-3)</td>
<td>[ə]</td>
<td>IPA Cardinal /ɔ/</td>
</tr>
<tr>
<td>(oh-4)</td>
<td>[p]</td>
<td>Eastern New England hot, dog</td>
</tr>
<tr>
<td>(oh-5)</td>
<td>[p] (rounded)</td>
<td>NYC dock, doll</td>
</tr>
</tbody>
</table>

Variables four and five, (th) and (dh), the initial consonants of thing and then, appear in three different forms, as interdental fricatives [θ] and [ð], respectively, as affricates [tθ] and [dθ], and as lenis stops [t] and [d], 86 which are assigned the rank numbers

85 Ibid., pp. 52-53.

86 Labov considers both [t] and [d] as lenis stops. SSENYC, p. 55.
1, 2, and 3 respectively. The index for (th) and (dh) is derived by obtaining the average value of all occurrences of (th) and (dh), subtracting 1, and multiplying by 100.87

A full appreciation of the findings requires at least a summary of the theoretical and philosophical considerations in which Labov's work is rooted. Labov felt that data from the speech community could be used to solve certain fundamental problems of linguistic theory rather than merely describing the covarying relationships between language and society. Some of the problems of general linguistic theory with which Labov was concerned include the description of continuous variation, the subjective correlates of linguistic variation and the causes of linguistic differentiation and the mechanisms of linguistic change.88 It was felt that by extending the range of data to be considered, certain regularities in heretofore irregular data could be found. Labov writes:

These problems [those mentioned above] all depend upon regular alternations which have no place in our [current] general linguistic theory, and their importance is suddenly magnified by the many new and unaccountable regularities that are found in sociolinguistic research.89

It should be noted that, on the whole, Labov's predecessors had dealt with idiolectal speech patterns - the utterances of the individual. But, as Labov is careful to point out, "the system of the individual speaker appears to be less coherent than that of the speech community as a whole."90 The individual's speech patterns are "studded with oscillations and contradictions" and achieve a regular structural pattern only when viewed against the overall framework of the

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87 Ibid., pp. 53-56. 88 Ibid., p. vi.
variations, both social and stylistic, of the larger speech community.91

Within this context of community, rather than individual or idiosyncratic variation, Labov quantified the indices of occurrence of each of the five variables as they relate to both class and stylistic variation. The socio-economic index used by Labov allowed for an infinite number of discrete divisions. Reference is usually made to either three or five social classes, depending, as will be seen below, on such factors as "sharp" or "fine" stratification and on the amount of detail desired.

As can be seen in the five figures below, each of the linguistic variables shows social differentiation in all contextual styles. Figure 1 shows a steady increase in the incidence of /r/ with increasingly formal styles. The basic social relationships hold for all styles showing that "although there is a great range in the absolute values of these variables . . . there is great agreement in the pattern of stylistic variation."92 For example, an upper middle class speaker may show the same pattern on a given variable as a lower class speaker although this pattern may be on a different level at each stylistic point of reference. As seen in the diagram, the values for (r) start at a very low point in Style A (casual speech), which Labov says "reflects the basically r-less pattern of the language of the streets. . . ." The relative rise of the incidence of (r) is quite steady through Style C (reading style), then turns sharply upward for styles D and D' (word lists and minimal pairs) which "shows habits

in the pronunciation of individual words which are not characteristic of connected speech."93 Labov calls the divisions created by the incidence of (r) "fine stratification," "since it appears that the [social] class continuum may be divided into as many small units as the size of the sample will allow, and [still be] correlated accordingly with the use of (r)."94

The phonological variable, (th), on the other hand, shows "sharp" stratification (see Figure 4) in that "the population is divided into two radically different sections by their use of the (th) variable."95 Notice that this same pronounced cleavage appears not only when the social continuum is divided into three classes, but also when five discrete divisions are considered, as shown in Figure 6. Thus it seems that a real difference between major social divisions is reflected in the use of the (th) variable.

The remaining phonological variables ((eh), (oh), (dh)) show the same general discriminations as those discussed above, leading Labov to conclude that in the plotting of these variables, "the basic outlines of social differentiation are established."96 Thus, when the seemingly idiosyncratic behavior of individual speakers "is placed in the context of the structure of stylistic and social variation characteristic of the community, it appears as part of a highly determined system."97 This system appears to be so highly determined that Labov is confident that only ten to twenty utterances of a given speaker at several stylistic levels is sufficient to show a regular progression of the linguistic variables. Furthermore, "when this speaker is

94Labov, "Phonological Correlates," 171. 95Ibid., 170.
Figure 1
Class stratification of (r)

Figure 2
Class stratification of (eh)

Figure 3
Class Stratification of (oh)

Figure 4
Class Stratification of (th)

All figures are adapted from Labov, *SBEWYC*, p. 222.
Figure 5
Class Stratification of (dh)

Adapted from Labov, *SSENYC*, p. 222.

Figure 6
Class Stratification of (th)

Adapted from Labov, "Hypercorrection as a Factor in Linguistic Change," 86.
placed with ten or twenty others of the same social class, the combined values of the variables fall into a relatively fixed position. . . ."98

From the above discussion of Labov's work in New York City, the following conclusions seem justified:

1) A definite and readily observable correlation exists between social class norms and certain features of linguistic behavior,

2) A relatively small sample, randomly chosen, is sufficient to determine the major outlines of linguistic differentiation,

3) Contextual style and social structure are interdependent and not independently determined, as Kenyon believed,

4) Certain linguistic phenomena are reflections and not determinants of social phenomena,

5) And, perhaps the most significant of Labov's contributions, by extending the range of data to be considered, certain aspects of language behavior, heretofore thought to be random and unmotivated, show regular and systematic variation.

Labov, then, has contributed at least three items to sociolinguistic theory: the concept of the linguistic variable, the codification of social and stylistic variation, and empirical data to support the notion of constrained rather than random language variation.

Following Labov's New York City study, the next major contribution to sociolinguistic study in the United States was Linguistic Correlates of Social Stratification in Detroit Speech published in

98 Labov, **SSENYC**, p. 225.
The Detroit study has many methodological shortcomings, however, and must be considered with these in mind. For example, although more than 700 Detroit residents were randomly sampled, the major linguistic data was gathered from only thirty-six, and these were chosen (from the 700) on the basis of geographical location throughout the city. This procedure necessarily obviates all claims to randomness. Then, too, the authors are inconsistent in their description of the various styles of speech. Although three styles were called for (conversational, single response to questions, and reading), the accompanying charts are unclear as to the style which they reflect.

However, even with these drawbacks, the Detroit study corroborates the basic distinctions previously formulated by Labov, and makes a first attempt toward establishing the syntactic correlates of social stratification.

As examples of the kinds of linguistic distinctions the Detroit researchers were after, the following charts are presented here. Figure 7 shows quartile divisions of the socio-economic continuum as they relate to the incidence of multiple negation, which is expressed as a percentage of the actual occurrences to all possible occurrences. From this chart we can see that, as the speaker's social status decreases, his use of multiple negatives increases.

A second example of linguistic correlation with social phenomena is presented in Figure 8, which shows the relative percentages of occurrences of pronominal apposition (e.g. "My brother, he . . . .").

---

Figure 7

Multiple Negation

Group I is the highest ranking group.

Figure 8

Pronominal Apposition

Group I is the highest ranking group.

Adapted from Shuy, Wolfram, and Riley, Linguistic Correlates, Part III, p. 12.
Again, there is a clear indication that this linguistic item reflects the social class of the speaker. Although the significance of the relationships has yet to be explored, at least the broad outlines of certain linguistic phenomena as reflections of social status are clear.

In the area of syntax, the Detroit study is especially weak. It should be commended, however, for attempting to define, however inadequately, the syntactic parameters of social variation. Using sixteen basic clause types derived from H. A. Gleason's *Linguistics and English Grammar* and Paul Roberts' *English Sentences*, the authors classified the clauses of only four carefully selected informants (one white adult female of the highest ranking social group, one Negro female adult, one white female child, and one Negro male child, all from the third ranking social group). The differences that were found are thus very specific and not generalizable to the population as a whole. The following findings must be considered with this restriction in mind.

For all four informants, the construction subject + transitive verb + direct object is the most frequent pattern. This sentence type, along with subject + intransitive verb, and subject + copulative verb + noun subject complement account for more than two-thirds of all clauses. Although these were the trends, the authors caution that "no contrast between informants can be postulated, however, on the basis of presence or absence of particular patterns." 100

However, in partial defiance of their own warning, the authors note that the informant from the highest ranking social class "seems

to contrast with the others" in terms of the relative infrequency of the subject + intransitive verb + direct object pattern, although the numerical indices for the forms is not significant.

Further trends noted for the informant of the highest ranking class are a frequency of expanded rather than minimum forms, more clause patterns using the copula, a higher incidence of relative clauses, more parenthetical embedding, fewer dependent clauses, and a less frequent use of coordination to connect clauses. Unfortunately, however, the research data are neither extensive nor explicit enough to draw more than these casual, and largely trivial conclusions. The formulation of the clause types was outdated even when this study was done and the defining criteria show too much overlapping and omission to be more than merely suggestive at best. On the whole, the "conclusions" confirm basic intuitions, but offer no explicit distinctions nor formalized differentiations between social classes.

Building upon the theoretical framework established by Labov and using data from the Detroit study (mentioned previously), Walt Wolfram investigated the social stratification of four phonological and four grammatical linguistic variables. In the main, his findings corroborate the basic premises of Labov, namely, that certain social phenomena are reflected in linguistic regularities. Figure 9 below shows a regular increase in the reduction of the final element in certain word-final consonant clusters as social class decreases. The lowest ranking social class shows the highest percentage of consonant cluster reduction. Figure 10 also shows social stratification, in this case of the variable (o) in medial and final position. (o) is

101 Ibid., pp. 6-21.
manifested as [ʊ], [ʃ], [t], or [ʊ], and each manifestation reflects relative social class membership. Nonstandard morpheme-final (d) is often realized as [t] or [ʊ] and this variable, too, shows social stratification, although not as sharply defined as the features mentioned above (see Figure 11).

The absence of postvocalic /r/, as seen in Figure 12, also shows regular and consistent social differentiation. As the speaker's social class decreases, so does his incidence of /r/. The occurrence of this feature shows fine stratification, to use Labov's term, as it progressively discriminates one social group from the next and does not show any pronounced line of demarcation which isolates one or more groups from the others. On the other hand, the absence of suffixal, orthographic -s in the third person singular presents a picture of sharp stratification as the highest ranking social group considered (the lower middle class) is sharply differentiated by this feature from the two lower groups (see Figure 13).

The percentage of realized multiple negation also shows sharp stratification as this feature discriminates the middle from the lower classes in a most pronounced way.

Zero realization of the copula and invariant be are the other two linguistic variables Wolfram discusses. Each of these shows social stratification and each is a nonstandard feature, i.e., they are not ordinarily found in the standard dialect. Therefore, their discriminating power among social groups consisting largely of speakers of the standard language is severely restricted. The occurrence of zero copula in Wolfram's study is shown in Figure 14.

After discussing the distribution of these variables, Wolfram
Figure 9
Percentage of absence of final member of consonant cluster

Figure 10
Realization of medial and final (Ø)

Figure 11
Realization of syllable-final (d)

Figure 12
Percentage of postvocalic -r absence

Adapted from Walt Wolfram, A Sociolinguistic Description of Detroit Negro Speech.
Figure 13

Percentage of -Z absence in 3rd singular

Figure 14

Zero realization of copula

UM = Upper Middle Class
LM = Lower Middle Class
UW = Upper Working Class
LW = Lower Working Class

All figures are adapted from Walt Wolfram, *A Sociolinguistic Description of Detroit Negro Speech*. 
concludes that "social status is the single most important variable correlating with linguistic differences,"\textsuperscript{102} thereby lending support to the Labovian doctrine that by considering the social status of the informant, much regularity can be found in otherwise irregular linguistic behavior.

The work of Labov and Wolfram represent the two major applications of sociolinguistic theory to dialect study in the United States. Several miscellaneous studies will also be summarized here as they give supporting evidence to the correlations between social class and certain linguistic phenomena.

Joyce Buck attempted to ascertain the relationships between three prevalent New York City area dialects and their evaluations by listeners and to determine whether dialectal variations affect the competence and trustworthiness dimensions of a speaker's credibility. Buck found that the subjects' attitudes were significantly more favorable toward the standard dialect of both White and Negro speakers than toward the nonstandard dialect of either group. Also, there was no significant attitude difference between white speakers of the standard dialect and their Negro counterparts. On an individual basis, both the White and the Negro standard dialect speaker was perceived more favorably when compared with nonstandard White and Negro speech.

Dialectal variations also affect perceptions of speaker's credibility. Negro and White speakers using the standard New York City dialect were considered significantly more competent than either Negro or White speakers using a nonstandard dialect, and as might be

predicted from the first finding, there were virtually no differences in perception of competence between the White and Negro speakers of the standard dialect. There was also no significant difference between judgments of the competence of Negro and White speakers of nonstandard dialects. It should be noted, however, "that whereas the patterns of the [nonstandard] Negro speaker were preferred to those of the [non-standard] White speaker, the competence of the Negro speaker was not deemed greater." 103

From Buck's study, we may infer that the standard dialect was preferred over two nonstandard dialects and this preference was apparent across racial lines. Standard dialect (which we must assume was that of the listeners) carries with it connotations of competence and trustworthiness and is generally preferable to nonstandard dialects. We could conclude, then, from Buck's study, that certain features in the sound waves are sufficient to allow listeners to identify prestige forms and to make various value judgments on this basis alone.

Frederick Williams and Barbara Wood, using cloze procedure, attempted to determine the differences between Negro children from low and middle class schools in approximating one another's language. Using both formal and informal (home-talk) language styles, the authors found that the lowest measures of prediction were obtained when lower class decoders were attempting to replace words in the middle class language samples. Furthermore, the middle class decoders "were capable of replacing words in both the lower class and middle class samples at a level exceeding the lower class decoders' replacements in the middle

class samples. The conclusion reached was that lower class children could not approximate the language of the middle class children as well as the middle class children could approximate that of the lower class samples. This conclusion supports the Bernstein hypothesis that middle class speakers have access to both an elaborated and a restricted code, while those of the lower class are confined to a restricted code only.

The foregoing papers, both theoretical and empirical, provide the necessary theoretical background for this study. It seems highly probable that a speaker's social class is reflected in his linguistic performance. The studies of Harms, Putnam and O'Hern, and Buck, all point to certain, but unspecified, linguistic indicators of social class. The empirical evidence of Bernstein, Labov, Wolfram and others attempts to formalize and isolate the linguistic variables of social class discrimination. Mainly, their work has been productive in the areas of phonology and morphology, where both fine and sharp social discriminations have been found. However, as mentioned previously, no extensive foray into the area of syntax has yet been made. There is no reason to believe that linguistic items which distinguish social classes are found only in phonology and morphology. Rather, syntax appears to be more basic to a speaker's linguistic habits than other areas. If differences are found in such transient items as vocabulary, which Williams and Wood's study indicates, then there is every reason to believe that syntax will provide as reliable an index of social stratification as any of the previous linguistic variables. But as

yet no researcher has investigated these possible and intuitively real relationships.

The overwhelming evidence presented above indicates very real and significant linguistic reflections of social class membership and the present study attempts to extend these findings into the area of syntax with the hope of adding to the store of basic discriminating items through a more generalizeable medium than has been used before, one which is more basic to the speaker than phonology and vocabulary, which are easily learned, and morphology, which occurs in only limited contexts in ordinary English usage. It seems, then, that syntactic indicators of social class are of more potential usefulness than other aspects of language performance because they are less dependent upon superficial realizations than either phonology or morphology and, inferentially, are less easily distorted by experiences subsequent to language acquisition.

This study is predicated on the assumption of homogeneity among the members of a language community, i.e., all members of the community have access to the same store of syntactic processes, and that observed differences are due to extra-linguistic forces (in this case, social class membership) which determine the numbers and kinds of syntactic processes actually used by a speaker.

With this essential distinction in mind, this study proposes to examine the oral linguistic output of members of various social classes in an attempt to determine the kinds and frequency of syntactic structures which characterize different social classes. The preliminary justification for such a study has already been established by the work of Bernstein, Labov, and many others, the most
important of which having been reviewed above. This study will both complement and extend the extant knowledge of socially determined linguistic forms and will add a new dimension to sociolinguistic research.

The linguistic means by which this study will analyze the requisite data is presented in the next chapter, which also includes justification for the grammatical model chosen and the specific methodology and statistical tools which are used.
CHAPTER III

METHODOLOGY

In this chapter, the rationale for choosing a modified
generative-transformational grammatical model is given, along with the
specific research design and the particular methodological procedures
which were followed. As was pointed out in the preceding chapter,
several different approaches to the formalization of linguistic data
have been taken. Fries, in his 1940 study, attempted to count the
incidence of occurrence of various items, Bernstein tried to relate
certain linguistic phenomena to modes of perception which were deter­
mined by social class membership (e.g., "sympathetic circularity"
sequences), and Robinson and Lawton were interested in codifying
more precisely the linguistic manifestations of social class norms.
However, as also indicated earlier, no researcher has yet attempted to
specify the particular grammatical processes, if any, which serve to
differentiate among different socio-economic classes.

This neglect is perhaps due in part to the prevailing linguistislectic philosophy of Structuralism, which has only recently given way to
the generative-transformational approach to language study. The
Structuralism of Fries stressed the identification and tabulation of
particular items, while the Transformationalists view linguistic items
and their arrangements as "trivial" objects of study and seek to
explain the processes by which these arrangements occurred. Many of
the studies reviewed above are in the Structural, or Taxonomic, vein only, while others, notably those of Lawton, are of a hybrid variety, attempting to quantify the results of certain syntactic processes.

As a method of dealing with linguistic data, the transformational approach seems to be far more revealing and more generally applicable than anything preceding it. In other words, this approach appears to show more explicitly the underlying processes which produce surface linguistic phenomena. Therefore, performance differences can be stated more succinctly and more generally in transformational terms because of the infinite number of instances which can be accounted for by single formalized rules. For example, Fries' finding that the form don't rather than doesn't used with a third person singular subject seems to be characteristic of Vulgar English can easily be stated by saying that the Standard English rule requiring does in this situation is not applicable. In other words, the more general rule, common to both Standard and Vulgar English, which states that:

\[
\begin{align*}
\text{\{1st sing\}} & + \text{tense + Neg} \\
\text{\{2nd sing\}} & \\
\text{\{all plurals\}} &
\end{align*}
\]

\[
\begin{align*}
\text{\{1st sing\}} & + \text{do + tense + Neg}
\end{align*}
\]

has been generalized in Vulgar English to instances of the third singular also. Likewise, Fries' mention of the Vulgar English use of the uninflected present verb form where Standard English uses the uninflected present form plus a dental suffix can be stated by the grammatical rule:

\[
\text{verb stem + past} \rightarrow \text{verb stem}
\]

In these instances, the utility of stating such information

---

\(^1\)The notational system used throughout this discussion is basically that found in Andreas Koutsoudas, *Writing Transformational Grammars* (New York: McGraw-Hill, 1966), pp. 5-13.
in the form of linguistic rules is quite evident. It allows a concise formulation of phenomena which extends far beyond the actual data observed and predicts, in a general way, many, and often varied, surface differences. Even within this transformational framework, however, there have been several different attempts to identify and codify specific areas of syntactic diversity, one of the earliest being Victor Yngve's formulation of the depth hypothesis.

Yngve feels that syntactic complexity can be understood in terms of restrictions built into human memory capacity which determine the amount of information which can be held in temporary storage. The expansion of the initial symbol $S$ into $NP + VP$, for example, requires no storage as the one level ($S$) in effect disappears completely. The expansion of $NP$ into $Art + N$, though, requires that the other constituent on the level of $NP$ ($VP$) be held in storage. This process would result in a "depth," then, of one. This kind of syntactic complexity is cumulative for left-branching (regressive) constructions, but right-branching (progressive) constructions may be expanded indefinitely by using a temporary memory storage of one symbol only. An example of the first (regressive) would be, "Very clearly projected

---

2 It is assumed that the reader is familiar with the general concepts, terminology, and formulae of generative-transformational grammar. If clarification of the concept "grammatical rule" is needed, see Noam Chomsky, "On the Notion 'Rule of Grammar'," in The Structure of Language, ed. by Jerry A. Fodor and Jerrold Katz Englewood Cliffs: Prentice-Hall, 1964), 119-36.

3 Such measures of linguistic diversity as type/token ratios are excluded from this discussion as they relate more to the lexical level rather than to syntactic processes.

pictures appeared," and of the second, "I imagined him hearing the announcer reporting Bill catching Tom stealing third base." Yngve supports the "magical number seven" thesis of George Miller and feels that about seven items, or in this case a depth of seven, closely approaches the encoding and decoding limits of the human capacity for temporary storage.

Another approach to the notion of syntactic complexity is George Miller and Noam Chomsky's node/terminal node ratio.\(^5\) This measure is determined by counting all the nodes in a branching tree diagram and dividing this figure by the number of terminal nodes. A very basic example would be the sentence, "The boy hit the ball," which would be represented by the following tree:

\[ S \\
\quad | \quad |
\quad NF \quad VP \\
\quad | \quad |
Art N V NP
\quad | 
the boy hit the ball

The total number of nodes is fourteen (all the category symbols plus five lexical items) and the number of terminal nodes is five. Thus the node/terminal node ratio is \( \frac{14}{5} \) or 2.8.

A third attempt at quantifying syntactic variables is found in Donald Bateman's analysis of high school writing exercises. In an attempt to include the number of grammatical operations (roughly equatable with transformations) included in each surface structure, Bateman derived a Structural Complexity Score which ranges from a low

of 1 (for a kernel sentence) to an indefinite high depending on the number of transformations which have been applied. For example, "a sentence using two embedding transformations, one conjoining transformation, and one simple transformation receives an SCS score of 5."^6

More recently, Sheldon Frank and Harry Osser have proposed a fundamentally different kind of approach, one that makes use of transformational operations within the kernel sentence itself as well as in the transformational subcomponent proper. For example, they would weight the addition of the adverb phrase from the office to the simple kernel "That man is sick" equally with the negative transformation which adds not, or n't. This procedure appeals to the intuitive reality of many people that, for example, the kernel sentence "The boy is here" is less complex than "The boy must have been being perverse," both of which are ordinarily generated by the phrase structure alone and are therefore, by definition, "kernel" sentences.

Frank and Osser feel that the grammatical operations of additional, deletion, transposition and intonation change represent "logical steps of roughly equal difficulty," and "the two primary operations of creating the NP and the VP are each of the same order of complexity as the other operations."^7 Each of the four types of change mentioned, as well as the basic NP and VP are assigned one unit of complexity in this system.

The authors argue that their method of analysis confirms more


intuitively-held notions of syntactic complexity than the systems previously mentioned. Frank and Osser apply each of the forms of analysis to several test sentences which seems to bear out the inadequacies of the depth hypothesis and the node/terminal node ratio. And, although they do not discuss Bateman's procedure, it appears to be lacking in many of the same areas, including the questionable assumption that all transformations (rather than the transformational operations of addition, deletion and permutation) are equally complex. For example, the authors, by using the node/terminal node ratio, found the sentence "We sing songs and play" to have an index of 1.8, and the sentence "You set them up on the floor because they can't stand on the rug" to also have an index of 1.8. However, in the Frank and Osser system, the first sentence would be rated 4 and the second 12, thereby confirming at least an intuitive feeling of which of the two sentences is the more complex.

For reasons such as these, I feel that the method of analysis proposed by Frank and Osser is highly superior to anything else currently available. Therefore, I have chosen a modified form of this approach for the present study.

Unfortunately, no explicit generative grammar of English exists. It was thought by many that the concise presentation of grammatical rules which is possible within the framework of generative grammar would allow a total and accurate formulation of a complete language. But such is obviously not the case.

The most modern complete grammar of English now available is
Paul Roberts' *Modern Grammar*, and I have chosen this work as my major source of information. Although the book has many theoretical flaws (there are no co-occurrence restrictions, for example), its explicitness and its applicability to the type of study being done make it pragmatically useful. The grammar that follows, then, is not to be thought of as a theoretical grammar, nor as a pedagogical grammar; but rather as a heuristic device which allows for the identification of the differences which this study seeks.

The Grammatical Model

Phrase Structure Rules

1. \( S \rightarrow NP+VP \)

2. \( NP \rightarrow \{ \begin{array}{l}
\text{proper noun} \\
\text{personal pronoun} \\
\text{indefinite pronoun} \\
\text{Det (adj) N}
\end{array} \} \)  

3. \( \text{Det} \rightarrow \{ \text{pre-art} \} \begin{array}{l}
\text{Art (Dem)} \\
\text{Poss}
\end{array} \) \begin{array}{l}
(\text{Number})
\end{array} \)

4. \( \text{Art} \rightarrow \{ \begin{array}{l}
\text{Def} \\
\text{Nondef}
\end{array} \} \)

5. \( \text{Def} \rightarrow \text{the} \)

6. \( \text{Nondef} \rightarrow \text{a, some, null} \)

7. \( N \rightarrow \{ \begin{array}{l}
\text{count (pl)} \\
\text{noncount}
\end{array} \} \)

8. \( VP \rightarrow \text{Aux} \begin{array}{l}
\text{be} \begin{array}{l}
\text{NP} \\
\text{adj}
\end{array} \begin{array}{l}
\text{adj-pl} \\
\text{verbal}
\end{array} \end{array} \) \begin{array}{l}
(\text{adv-f})(\text{adv-t})
\end{array} \)

9. \( \text{Adj} \rightarrow \{ \text{very} \} \text{Adj} \)

---


11. Aux $\rightarrow$ tense \{ M(have+part)(be+ing) \} ought to \{ be going to \} (have+part)(be+ing) \{ (be to)(have+part) \} (have to)(be+ing)

12. tense $\rightarrow$ \{ present, past \}

13. M $\rightarrow$ can, may, will, shall, must, dare, need

14. Dem $\rightarrow$ \{ $D_1$, $D_2$ \}

15. Number $\rightarrow$ \{ cardinal, ordinal \}

16. indef pronoun $\rightarrow$ \{ every, some, no, any \} + \{ one, body, thing \}

17. personal pronoun $\rightarrow$ I, we, you

18. $V_s$ $\rightarrow$ seem, look, appear, feel, sound, taste, smell

19. $V_b$ $\rightarrow$ become, remain

20. $v$-mid $\rightarrow$ cost, weigh, total, amount to, have, resemble, marry, fit

21. Pre-art $\rightarrow$ several of, two of ...

22. Def + $D_1$ $\rightarrow$ \{ this \} \{ these \}

23. Def + $D_2$ $\rightarrow$ \{ that \} \{ those \}

24. Nondef + $D_1$ $\rightarrow$ a certain

25. Nondef + $D_2$ $\rightarrow$ some
26. \( \text{poss } \rightarrow \{ \text{poss pro} \} \)

27. \( \text{poss pro } \rightarrow \text{my, your, his, her, its, our, their} \)

28. \( Z \rightarrow \text{poss morpheme} \)

Transformational Rules

1. \( Af + V \rightarrow V + Af \)  
   \( Af = \text{tense, part, ing} \)  
   \( V = \text{M, have, be, verb} \)

2. T-adverb of frequency (optional when \( \text{Adv-f} \neq \text{never} \))
   a) \( \text{NP+aux+be+X+adv-f+Y } \rightarrow \text{NP+aux+be+adv-f+X+Y} \)
   b) \( \text{NP+aux+be+X+adv-f+Y } \rightarrow \text{NP+adv-f+aux+verb+X+Y} \)

3. T-yes/no

4. T-negative

5. T-wh, adverbial of place, time, manner, frequency

6. T-wh, noun phrase

7. T-prep
9. T-ing, adjective

\[
\text{NP}_1 + \text{aux} + V_t + \text{NP}_2 \rightarrow \quad \text{NP}_1 + \text{aux} + V_t \rightarrow \text{NP}_2 + \text{aux} + \text{part} + V_t \quad (\text{by NP}_1)
\]

10. T-there

\[
\text{X+nondef} + \text{aux} + \text{be+adv-p} \rightarrow \text{there} + \text{aux} + \text{be} + \text{X+nondef} + \text{Y+adv-p}
\]

11. T-passive

\[
\text{NP}_1 + \text{aux} + V_t + \text{NP}_2 \rightarrow \text{NP}_2 + \text{aux} + \text{be} + \text{part} + V_t \quad (\text{by NP}_1)
\]

12. T-rel

\[
\text{X+NP+Y} \rightarrow \text{NP} \begin{cases} \text{who} \\ \text{which} \\ \text{that} \end{cases} + \text{X+Y}
\]

13. T-rel, prep

\[
\text{X+prep+NP+Y} \rightarrow \text{NP+prep} \begin{cases} \text{who} \\ \text{which} \end{cases} + \text{X+Y}
\]

14. T-rel (double base)

\[
\text{X+NP}_1 + \text{Y} \rightarrow \text{Z+NP}_1 \begin{cases} \text{who} \\ \text{which} \\ \text{that} \end{cases} + \text{X+Y+W}
\]

15. T-rel, del

\[
\text{NP} \begin{cases} \text{who} \\ \text{which} \\ \text{that} \end{cases} + \text{tense} + \text{be} + \text{X} \rightarrow \text{NP+X}
\]

16. T-noun modifier

\[
\text{Det+X+modifier} \rightarrow \text{Det+modifier+X}
\]

17. T-rel, del, ing

\[
\text{NP} \begin{cases} \text{who} \\ \text{which} \\ \text{that} \end{cases} + \text{tense} + \text{X} \rightarrow \text{NP+ing+X}
\]

18. T-sentence modifier (nonrestrictive only)

\[
\text{NP+2-3-2+modifier} \rightarrow \text{modifier+2=3=2+NP}
\]
19. T-subordinate clause

\[ S \rightarrow \text{Sub} + S \]

Sub \( \rightarrow \text{that, whether, if, although, unless} \)

20. T-sub clause, it

\[ \text{sub clause} + \text{aux} + X \rightarrow \]

\[ \text{it} + \text{aux} + X \rightarrow \text{sub clause} \]

21. T-relative adverb

\[ X + NP + Y \rightarrow NP + \{ \text{where} \} + X + Y \]

\[ X + NP + Y \rightarrow NP + \{ \text{when} \} + X + Y \]

22. T-rel, of which

\[ X + NP_1 + \text{of} + NP_2 + Y \rightarrow NP_2 + NP_1 + \text{of} + \text{which} + X + Y \]

23. T-rel, possessive

\[ X + \text{poss} + Y \rightarrow X + \text{who} + \text{poss} + Y \]

24. T-comparative

\[ NP_2 + \text{aux} + \begin{bmatrix} \text{be} \\ \text{verbal} \end{bmatrix} + \begin{bmatrix} \text{adj} \\ \text{adv-M} \end{bmatrix} + \]

\[ \text{er} + \text{than} + NP_1 + \text{aux} + \begin{bmatrix} \text{be} \\ \text{verbal} \end{bmatrix} + \]

\[ \begin{bmatrix} \text{adj} \\ \text{adv-M} \end{bmatrix} \]

\[ OR: \]

\[ NP_2 + \text{aux} + \begin{bmatrix} \text{be} \\ \text{verbal} \end{bmatrix} + \text{more} + \]

\[ \begin{bmatrix} \text{adj} \\ \text{adv-M} \end{bmatrix} + \text{than} + NP_1 + \text{aux} + \]

\[ \begin{bmatrix} \text{be} \\ \text{verbal} \end{bmatrix} + \begin{bmatrix} \text{adj} \\ \text{adv-M} \end{bmatrix} \]

25. T-Superlative

\[ NP_2 + \text{aux} + \begin{bmatrix} \text{be} \\ \text{verbal} \end{bmatrix} + \begin{bmatrix} \text{adj} \\ \text{adv-M} \end{bmatrix} \]

\[ NP_2 + \text{aux} + \begin{bmatrix} \text{be} \\ \text{verbal} \end{bmatrix} + \text{the} + \]

\[ NP_1 + \text{aux} + \begin{bmatrix} \text{be} \\ \text{verbal} \end{bmatrix} + \begin{bmatrix} \text{adj} \\ \text{adv-M} \end{bmatrix} \]

\[ NP_2 + \text{aux} + \begin{bmatrix} \text{be} \\ \text{verbal} \end{bmatrix} + \text{est} + \text{of} + NP_1 \]
26. T-as . . . as

\[
NP_1^{+\text{aux}+} \begin{bmatrix}
\text{be} \\
\text{verbal}
\end{bmatrix} \begin{bmatrix}
\text{adj} \\
\text{adv-m}
\end{bmatrix} \Rightarrow NP_2^{+\text{aux}+} \begin{bmatrix}
\text{be} \\
\text{verbal}
\end{bmatrix} \begin{bmatrix}
\text{adj} \\
\text{adv-m}
\end{bmatrix} + as+ NP_1^{+\text{aux}+}
\]

27. T-sentence modifier

\[
S \Rightarrow \text{Sub}+S
\]

Sub \(\Rightarrow\) because, until, unless, if, although, since, inasmuch as, whereas, when, as, where, wherever

28. T-subordinate and relative clause deletion

\[
\text{sub}+NP^{+\text{tense}+\text{be}+X} \Rightarrow \text{sub}+X \text{ (for insert sentence)}
\]

29. T-nominative absolute

\[
NP^{+\text{tense}+X} \Rightarrow NP^{+\text{ing}+X}
\]

30. T-for . . . to

\[
NP^{+\text{tense}+X} \Rightarrow \text{for}+NP^{+\text{to}+X}
\]

31. T-for . . . to, deletion

\[
\text{for}+NP^{+\text{to}+X} \Rightarrow \text{to}+X
\]

32. T-poss+ing

\[
NP^{+\text{tense}+X} \Rightarrow NP^{+\text{poss}+\text{ing}+X}
\]

33. T-poss+ing, del

\[
NP^{+\text{poss}+\text{ing}+X} \Rightarrow \text{ing}+X
\]

34. T-sentence - modifier, adverb

\[
X^{+\text{verbal}} \begin{bmatrix}
\text{Adv} \\
\text{PP}
\end{bmatrix} \Rightarrow \begin{bmatrix}
\text{Adv} \\
\text{PP}
\end{bmatrix} + X^{+\text{verbal}}
\]

\[
NP^{+\text{tense}+\text{be}+\text{adv-p}} \Rightarrow \text{adv-p}^{+\text{tense}+\text{be}+NP}
\]

35. T-in order to

\[
NP^{+\text{tense}+X} \Rightarrow \text{in order for}+NP^{+\text{to}+X}
\]
36. T-in order to, del

in order for+NP+to+X \rightarrow \text{in order+to+X}

in order for+NP+to+X \rightarrow \text{for+NP+to+X}

37. T-conj

S_1+S_2 \rightarrow S_1+\text{conj}+S_2

\text{conj} \rightarrow \text{and, or, but, for, yet, so, nor}

38. T-conj, del

X+A+Y+\text{conj}+X+B+Y \rightarrow X+A+\text{conj}+B+Y

39. T-sentence connectors

S_1+S_2 \rightarrow S_1+\text{sent conn}+S_2

\text{sent conn} \rightarrow \text{therefore, however, nevertheless, nonetheless, besides, likewise, indeed, moreover, thus, hence, accordingly, consequently, and, etc.}

40. S \rightarrow \text{that+S}

41. NP_1+\text{tense+verbal(NP_2)+X} \rightarrow NP_1+\text{poss+tense+verbal+ing(NP_2)+X}

42. \begin{align*}
\{ \text{Prop N} \\
\text{Pers Pro} \\
\text{Indef Pro} \} & \xrightarrow{\text{be+NP}_1} \{ \text{Prop N} \\
\text{Pers Pro} \\
\text{Indef Pro} \} \\
& \xrightarrow{\text{be+a+} \begin{cases} V_1 \\ V_t \end{cases}} \text{er+(of X)}
\end{align*}

43. NP+Aux+V+X \rightarrow NP+\text{poss+have+part+V+ing+X} \rightarrow NP+\text{poss+have+ing+V+part+X}

The grammar just presented should be considered as an approximation of the specific rules which could generate all the grammatical sentences of English. It is important to remember that fundamental grammatical processes are considered rather than the superficial manifestations of these processes. The grammatical operations which are considered here are those of addition, deletion, substitution, transposition, and embedding. These five processes seem to be, as Frank and Osser contend, of roughly equal complexity and therefore can be assigned equivalent values. Notice that by dealing with processes
rather than results, we can formalize the intuitive feelings that some transformations are more complex than others without relying on arbitrary measures of complexity. For example, the question transformation (T-q), when applied to a structure containing a model, makes use of one of the above operations - transposition. The declarative sentence "He can go" becomes a question by merely transposing the model _can_ to initial position, resulting in "Can he go?"

In Bateman's formulation, T-q would be weighted equally with T-passive, for example, which, in the modified Frank-Osser system used here, is roughly twice as complex as the simple kernel sentence cited above. Thus the present method of analysis appears to be more revealing as to the actual processes involved in various transformations by assigning greater complexity where more grammatical operations have been performed.

Specifically, one point is assigned for each NP and each VP generated by the phrase structure subcomponent of the grammar and one point is given for each optional item selected (optional items are those in parentheses). In the transformational subcomponent, one point is assigned for each occurrence of addition, deletion, substitution, transposition, and embedding regardless of the specific transformation which was applied. For example, the simple declarative kernel sentence "John hit Bill" would be assigned two points, one each for the NP (John) and the VP (hit Bill). "John hit Bill in the mouth," however, has an optional preposition phrase, and thus would be assigned three points (one each for the NP, VP, and PP). If the passive transformation (T-pass) were applied, either four or five points would be assigned depending upon the occurrence of the optional elements by NP1.
The passive "Bill was hit by John" would receive five points: one each for the original (untransformed) NP and VP, one for the transposition of Bill to initial position, one for the addition of the correct form of be (was), and one for transposition of the preposition by John.

Examples of sentences analyzed by this method are given below, ranging from the less to the more complex.

Example 1. "The boy is sick." Two points are assigned, one each for the NP (the boy) and the VP (is sick).

Example 2. "The boy is sick and tired." Two kernel sentences have contributed to this compound sentence: 1) "The boy is sick," and 2) "The boy is tired." Therefore, four points are given for phrase structure generations (one for each of the NP's and one for each of the VP's). One point is given for the addition of the word and and one point for the deletion of the second NP the boy. Thus a total of six points is given for this surface sentence.

Example 3. "The man whom you saw is my brother." Here again two kernel sentences are combined into one surface structure. The first, "The man is my brother" would receive three points, one each for the NP and VP and one for the optional possessive element. The second, "You saw the man," would get one point for the NP and one point for the VP. Embedding the second into the first, resulting in "The man you saw the man is my brother," would be assigned one point, as would the substitution of the proper form of who for the object the man and the transposition of this element to initial position in the embedded sentence. Eight total points would thus be given.

Example 4. "Who in the shop on the corner heaved he used
kleenex heartily through the window?" This, the most complex of our examples, will be analyzed one kernel at a time.

**K1.** Someone is in the shop - 2 points (NP and VP)

**K2.** The shop is on the corner - 2 points (NP and VP)

**K3.** Someone heaved the used kleenex heartily through the window - 5 points (NP, VP, optional adjective (used), optional adverb of manner (mightily), optional adverb of location (through the window)).

A total of nine points, then, would be assigned to kernel structures. The form of be is deleted from both K1 and K2, adding two points, the deletion of the second occurrence of the shop adds another, as does deletion of the second dummy subject **someones**. The shape of the sentence at this stage is "Someone in the shop on the corner heaved the used kleenex heartily through the window." T-wh, noun phrase, which introduces the element who is then applied, resulting in the surface form of the sentence and bringing the grand point total to fourteen.

Although the sentence just presented would probably never occur, it is grammatical and provides a good example of the syntactic processes which characterize the present system of analysis.

It should be mentioned that any utterance not representable by the grammar given above cannot be included in this analysis and thus must be omitted in the final tabulations. This is not to say that anything not amenable to characterization by the present grammar is unworthy of serious study. Rather, it shows inherent weaknesses in the present state of theoretical linguistics. For example, oral output might very well include the following utterance: "Well, ah, he should have people don't do those things." Within the framework of the grammar presented above, all of the vocalizations up to the word people would have to be thrown aside. The analysis proper would confine itself to the sentence "People don't do those things." The notion "sentence"
must be defined in some fashion, and in this case it is defined by the grammar itself. Any string of words which could be generated by the pragmatic grammar used here is, by definition, a sentence. Any string which cannot be so generated is not included in this analysis.

The handling of specific items, such as nominals, for example, cannot be discussed in detail here due to the inherent richness of any natural language which makes extended discussion selective at best. The burden for defining and analyzing language forms is shifted to the grammar which provides the necessary formalizing mechanisms.

By way of extended example and sociolinguistic justification for this study, complete analysis of two speakers from the Putnam-O'Hern study are included here. The first is from the socially highest ranking speaker and the second from the lowest ranking speaker. Both selections are transcribed into normal orthography although they appear phonetically in the original work. For ease of understanding, each utterance is presented in full and then analyzed first in terms of phrase structure generations and then in terms of the grammatical processes employed by the transformational subcomponent. A comparison of the two speakers then follows.

Speaker 1 (High Social Status)

1 Once upon a time a lion was sleeping under a tree and a little mouse came along and ran over his nose. 2 The lion was very angry and roared and woke and expressed his rage that the little mouse should have awakened him. 3 The little mouse begged for forgiveness and promised if the lion would let him go that he would return the favor some day if the lion got in difficulty. 4 This amused the lion because he couldn't imagine that the little mouse could ever do him a favor. 5 Eventually the day came. 6 The lion fell into a trap and was secured by a big rope. 7 He roared and was powerless, could do nothing about it. 8 Along came the

little mouse and gnawed with his sharp teeth, gnawed the rope until the rope was broken and the lion was free. And this showed that the little mouse after all could help the strong lion.

Analysis of Speaker 1

Phrase Structure, with point totals (optional selections in parentheses).

K1 A lion (was) sleeping (under a tree)(once upon a time) 5 points
K2 a (little) mouse came along 3
K3 a (little) mouse ran over (the lion's) nose 4
K4 the lion was (very) angry 3
K5 the lion roared 2
K6 the lion woke 2
K7 the lion expressed (the lion's) rage 3
K8 the (little) mouse (should)(have) awakened the lion 5
K9 the (little) mouse begged for NP 3
K10 the lion forgave the mouse 2
K11 the (little) mouse promised NP 3
K12 the lion (would) let go the mouse NP 3
K13 the (little) mouse (would) return the favor (some day) 5
K14 NP got the lion in difficulty 2
K15 NP amused the lion 2
K16 the lion (could) imagine NP 3
K17 the (little) mouse (could) do for the lion a favor (ever) 5
K18 the day came (eventually) 3
K19 the lion fell (into a trap) 3
K20 a (big) rope secured the lion 3
K21 the lion roared 2
K22 the lion was powerless 2
K23 the lion (could) do something about it 3
K24 the (little) mouse came along 3
K25 the (little) mouse gnawed (with the (little) mouse's) (sharp) teeth 7
K26 the (little) mouse gnawed the rope (until NP) 4
K27 NP broke the rope 2
K28 the lion was free 2
K29 NP showed NP 2
K30 the (little) mouse (could) help the (strong) lion (after all) 6

Total PS points 96

The designation NP in the sentences above is a position holder for embedded S's, complements, etc., and is not to be thought of as a specific lexical item. Thus, of the thirty kernel sentences that make
up this full utterance, ninety-six points are assigned, sixty for the basic NP's and VP's and thirty-six for optional selections from the phrase structure rules. For example, K1 receives five points, one each for NP and VP, and one each for the optional items being, the preposition phrase (adverb of place) under a tree and adverb of time once upon a time.

One point is also awarded for each of the grammatical operations listed above which come from the transformational subcomponent and which, in the above example, closely approximate the following. K1, K2, and K3 are combined into one surface sentence (SS1) by the addition of two occurrences of and, transposition of the adverb of time, deletion of the final occurrence of little mouse, and substitution of the pronoun his for the underlying possessive element the lion's. Therefore, at this point five additional points are added to the ninety-six from the phrase structure.

K4 through K8 are transformed into SS2 by adding three ands, deleting three deep structure subject occurrences of the lion, nominalizing K8 by the addition of that, embedding K8 into the NP position of K7, and substituting his and him for the lion's and the lion in K7 and K8, respectively. Ten points from the transformational subcomponent are added by these processes.

Surface sentence three is composed of kernels 9 through 14. K10 is nominalized, becoming "the lion's forgiveness of the mouse," which adds one discontinuous element, and is then embedded into K9. Both the lion's and of the mouse are subsequently deleted. The resultant sentence is then conjoined to K11 by the addition of and.

K14 is passivized, resulting in the transposition of the lion to
initial position and deletion of the unspecified deep structure subject NP. Kl4, now an intermediate structure, is complementized by prefixing if. Kl3 is nominalized by prefixing that and then embedded into the NP position of Kl2. The resulting structure is complementized by if and embedded into the NP of Kl1. At this stage in the derivation, SS3 appears as "The little mouse begged for forgiveness and the little mouse promised if the lion would let go the mouse that the little mouse would return the favor some day if the lion got in difficulty." The second occurrence of the little mouse is deleted, the third occurrence is replaced by the pronoun him, and the fourth occurrence by he. The verbal element go is then transposed to a position following him which results in the surface form of sentence 3. Surface sentence three, then, has five incidents of addition, three of embedding, four of deletion, two of transposition, and two of substitution, for a total of sixteen points.

Sentence four (K15 through K17) shows substitution of this for the dummy subject NP of K15, addition of the complementizer because to K16, substitution of he for the second occurrence of the lion (K16), addition of the nominalizer that and subsequent embedding of K17 into K16, addition of the negative morpheme to K16, substitution of him for the lion in K17, and transposition of the adverb ever.

Surface sentence five shows only one transformational operation - transposition. The adverb eventually is brought to sentence initial position.

K20 is passivized which adds the elements was and by and transposes both the lion and a big rope. K20 is then conjoined to K19 by the addition of and and the second occurrence of the lion is deleted.
Sentence seven is composed of K21 through K23. The negative morpheme is substituted for something in K23, K21 and K22 are conjoined by the addition of and, and the second and third occurrences of the lion are deleted. He is substituted for the lion in K21.

Five kernel sentences contribute to the surface structure of sentence eight. The verbal elements of K24 (come and along) are each transposed, his replaces the little mouse's of K25, and conjoins K24 and K25, and the subject NP's of K25 and K26 are deleted. K27 is passivized which adds the elements was and -en, transposes the rope and deletes the unspecified deep structure subject NP. The intermediate structure thus derived from K27 is then embedded into the NP slot of K26 and, finally, K28 is conjoined by and to this resultant sentence.

The final surface sentence, number nine, is composed of two kernels. The unspecified dummy subject NP of K29 is replaced by the indeterminate surface subject this. K30 is nominalized by prefixing that and then embedded into the object position of K29. And is prefixed as a sentence connector and the adverb phrase after all is transposed to a position following the subject of K30.

The number of points added to the analysis by the transformational subcomponent is sixty-six. These, added to the ninety-six points derived from the phrase structure analysis, provide the basis for discriminatory differences between linguistic performances.

A basis for comparing the performance of the above high social status speaker is provided by another of Putnam and O'Hern's informants, this time the socially lowest ranking subject. After this performance is analyzed by the above criteria, some potentially
significant inferences can be drawn.

Speaker 2 (Low Social Status)

1 There was a big lion sleeping underneath the tree. 2 A little mouse ran underneath the big lion's nose. 3 The big lion told the little mouse that he was going to kill him. 4 The little mouse asked the big lion to forgiveness. (the little lion) and if he get in trouble he will help him. 5 The little lion wondering how the little mouse could help him. 6 One day he fell in a trap (and a rope)(the little) 7 He cried and cried for help. 8 The little mouse heard the crying. 9 The little mouse chewed and chewed the rope until he set the lion free.

Notice that there are three segments of the utterance (those enclosed by parentheses in the original paragraph) which are not amenable to analysis under the present system. They seem to represent false starts or changes of mind on the part of the speaker and must be excluded from this study.

Analysis of Speaker 2

Phrase Structure

K1 a (big) lion (was) sleeping (underneath the tree) 5 points
K2 a (little) mouse ran underneath the (big)(lion's) nose 5
K3 the (big) lion told the (little) mouse NP 4
K4 the lion (was) going to NP 3
K5 the lion killed the mouse 2
K6 the (little) mouse asked the (big) lion to NP 4
K7 the lion forgave the mouse 2
K8 NP got the lion in trouble 2
K9 the mouse (will) help the lion 3
K10 the (little) lion (was) wondering NP 4
K11 the (little) mouse (could) help the lion 4
K12 the lion fell (in a trap)(one day) 4
K13 the lion cried for NP 2
K14 the lion cried for NP 2
K15 NP helped the lion 2
K16 the (little) mouse heard NP 3
K17 NP cried 2
K18 the (little) mouse chewed the rope (until NP) 4
K19 the (little) mouse chewed the rope (until NP) 4
K20 the (little) mouse set free the lion 3

Total PS Points 64
Transformational Analysis of Speaker 2

Kernel sentence one is converted into surface sentence one (SS1) by a single transformation, T-there, which adds the element there and transposes was to K-initial position.

K2 is directly convertible into SS2 without any syntactic transformations.

SS3 is derived by embedding K5 into the object NP slot of K4. The combined kernels are then embedded into the NP position of K3, giving 'The big lion told the little mouse the lion was going to the lion killed the mouse.' That is appropriately added by transformation, pronouns are substituted for second occurrences of the lion and the mouse and one occurrence of the lion is deleted. Thus, six points from the transformational subcomponent are assigned to SS3.

K6 through K9 form SS4 in the following way. K7 is nominalized yielding 'The lion's forgiveness of the mouse.' Both the lion's and the mouse are subsequently deleted. The result is then embedded into K6. K8 is passivized, which transposes the lion and deletes the unspecified subject NP. The resultant sentence is then complementized by prefixing if and then conjoined by and to the result of K6 and K7. Appropriate pronouns are substituted for the three NP's remaining from K8 to K9.

Surface sentence five is derived by applying T-wh to K11, which adds the morpheme how. This structure is then embedded into K10 and him is substituted for the lion of K11.

The adverb phrase one day is transposed to initial position and the pronoun he is substituted for the lion, thus forming SS6 from K12.
Surface sentence seven is formed by conjoining K13 and K14 with and and nominalizing and embedding K15. The process of nominalization deletes both the subject and object NP's of K15, and, again, the pronoun he is substituted for the lion of K13 and the second occurrence of this subject NP is deleted.

In deriving SS8, K17 is nominalized, resulting in "NP's crying," the subject is deleted, and this structure is then embedded into K16.

Surface sentence nine is derived by conjoining K18 and K19 by and, deleting the subject and object NP's of K19, embedding K20 into the resultant sentence, substituting he for the subject of K20, and transposing the second verbal element to sentence final position.

With the aid of the above analyses, it is now possible to consider various facets of the two speakers' linguistic performances. The information that will be referred to below is presented in the following figure:

<table>
<thead>
<tr>
<th>Linguistic Item</th>
<th>High Status Speaker</th>
<th>Low Status Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td># of surface sentences</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td># of kernel sentences</td>
<td>30</td>
<td>20</td>
</tr>
<tr>
<td>total # of optional kernel elements</td>
<td>36</td>
<td>23</td>
</tr>
<tr>
<td># of modals</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>have + part</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>be + ing</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>total PS points</td>
<td>96</td>
<td>64</td>
</tr>
<tr>
<td>total transf. points</td>
<td>66</td>
<td>39</td>
</tr>
<tr>
<td># of additions</td>
<td>22</td>
<td>9</td>
</tr>
<tr>
<td># of substitutions</td>
<td>12</td>
<td>9</td>
</tr>
<tr>
<td># of deletions</td>
<td>14</td>
<td>10</td>
</tr>
<tr>
<td># of transpositions</td>
<td>11</td>
<td>4</td>
</tr>
<tr>
<td># of embeddings</td>
<td>7</td>
<td>7</td>
</tr>
</tbody>
</table>

Even a cursory glance at the above tabulation shows certain linguistic items to be very suggestive of real differences in performance. The ratio of kernel sentences per surface sentence, for example, is a potential area of discrimination, as are those of optional
elements selected within the kernel sentence structure and the use of modals. The selection of optional items within the phrase structure subcomponent may be deceiving, however, as both speakers show approximately the same ratio of optional elements per kernel sentence.

Greater and potentially more powerful discriminators seem to lie in establishing the surface sentence as the criterion to which grammatical processes are compared. If this is done, observational differences are apparent in the number of kernel sentences which are coalesced into one surface sentence and the total number of phrase structure points per surface sentence then becomes an indicator of possibly real differences. This seems to be justified if we observe the compounding effect created by considering the number of points derived from the transformational subcomponent which is an indication of the total number of grammatical processes which in effect created each surface sentence.

Taken by themselves, each of the above kernel sentences appears to have undergone approximately the same numbers and kinds of transformations, but when considered collectively, the degree of "compression" of these kernels into surface forms is much higher in the speech of the high status speaker. In other words, where grammatical processes operate arithmetically on underlying kernel sentences, the effect, if not the actuality, is geometric when considering syntactic processes and surface structures. This observation can be demonstrated by comparing both kernel and surface sentences with the total number of points derived from both the phrase structure and transformational subcomponents. The number of phrase structure points divided by the number of kernel sentences is approximately equal for both speakers.
(3.17 for the HSS and 3.15 for the LSS). However, by using the number of surface sentences as the criterion, potentially significant differences are noticed. In this instance, the HSS shows 10.6 PS points per sentence and the LSS 7.0 points. The same patterns are repeated when point totals from the transformational subcomponent are compared with the number of surface sentences.

Using surface sentences as the criterion is also observationally and intuitively satisfying as it attempts to account for the means by which linguistic forms are derived, and offers at least a partial explanation, stated in terms of processes, for the existence of these overt surface forms. This implies that the notion "surface sentence" has at least an intuitive reality. It now seems that this notion can be employed as a means by which different grammatical processes serve to distinguish different speakers or perhaps even different performances by the same speaker. Few, if any, native speakers of English would find more or less than nine surface sentences in the performance of Speaker 2. But, even so, and although at present there is no way to formally define "sentence" (except, as mentioned above, by constructing a grammar which would by definition generate only "sentences"), the reality of the concept is heuristically valuable and will be employed here as a basis for comparison of different linguistic performances.

Reliance on the intuitive concept of surface sentence in linguistic analysis is nothing new. In fact, the tacit ability of a native speaker to recognize the sentences, or grammatical sequences of his language, as opposed to nonsentences underlies both classical and modern approaches to linguistic study. Noam Chomsky’s essay on
the "Creative Aspect of Language Use" is filled with statements from Descartes and Humboldt to the effect that some inborn trait peculiar to man allows an individual to both formulate and interpret unique messages on the basis of linguistic structure alone. "Descartes maintains that language is available for the free expression of thought or for appropriate response in any new context and is undetermined by any fixed association of utterances to external stimuli or physiological states. . . ."¹⁰ This creative aspect of language is again apparent in what Humboldt calls the "Form" of language. Chomsky, critiquing Humboldt, says "It is only the underlying laws of generation that are fixed. . . . The scope and manner in which the generative process may operate in the actual production of speech (or in speech perception . . .) are totally undetermined."¹¹ Thus we can conclude that the intuitive reality of "sentence sense" is what makes it possible to create and interpret novel utterances.

This sentence-defining ability of native speakers reappears in the rigid formalism of the structural grammarians. Charles C. Fries recognizes the fact that such things as sentences exist and devotes twenty pages to justifying his "assumption" that a sentence, echoing Bloomfield, "is a single free utterance, minimum or expanded, i.e., that it is 'free' in the sense that it is not included in any larger structure by means of any grammatical device."¹² On the whole, however, Fries' classification of sentences is highly unsatisfactory.

¹¹Ibid., p. 19.
From the methodology developed by the structuralists, it seems that if a formal definition of the notion "sentence" were obtainable, they would have found it. But such is not the case. H. A. Gleason, in what has become the summary statement of American Structuralism, is forced to concede that "Language users identify sentence structures with apparent ease, and seem to be highly successful. Yet the way they do this is probably the least understood of all language skills. We have very little idea of how it is done. . . ."\(^{13}\)

With the advance of generative grammar, the implicit, intuitive sentence knowledge of the native speaker was assumed and the linguist's task became that of explicating the concept "grammatical sequence." By concerning itself with a speaker's competence, a grammar thus, "describes and attempts to account for the ability of a speaker to understand an arbitrary sentence of his language and to produce an appropriate sentence on a given occasion."\(^{14}\)

Thus, the intuitive notion of surface sentence appears to be concomitant with the ability to use language, and, even though the concept cannot be formally explicated at present, a sentence-defining grammar, such as the one proposed above, provides the necessary mechanism for establishing the sentence as a structural unit. Therefore, it appears that much can be gained by using the grammar-defined notion "sentence" as the criterion for investigating performance differences.

The proposed method of analysis also offers the opportunity to specify the individual areas of syntax which contribute to surface


structures. Statements of the relative influence of subareas of both the phrase structure and transformational subcomponents can be readily observed and immediately analyzed with respect to the resultant structures, i.e., the linguistic output of individual speakers.

Since areas of potential linguistic discrimination (based upon the social status of the speaker) are observationally present in the output of the two informants discussed above, this study will investigate on a larger scale and with more extensive language samples, the ratio of surface sentences to: 1) number of kernel sentences, 2) number of modals, 3) number of the form have+part, 4) number of being, 5) total phrase structure points, 6) total transformational points, and 7) the five specific syntactic operations of addition, substitution, deletion, transposition and embedding; and the ratio of kernel sentences to the total number of phrase structure points. Modals, have+part and being are included because their use can be correlated with other areas of language performance, e.g., the semantic component, while other optional elements from the phrase structure, such as adjectives, are idiosyncratic and do not show the patterned correspondences which are found in the items mentioned above.

These relationships may be tested by the following null hypotheses:

1. The ratio of surface sentences to kernel sentences does not differ as a function of social class membership.

2. The ratio of surface sentences to the total number of phrase structure generations (PS points) does not differ as a function of social class.

3. The ratio of surface sentences to optional selections
from the phrase structure subcomponent does not differ as a function of social class.

5-9. The ratio of surface sentences to the grammatical processes of 5) embedding, 6) addition, 7) deletion, 8) transposition, and 9) substitution does not differ as a function of social class.

10-12. The ratio of surface sentences to the incidence of occurrence of 10) modals, 11) have+part, and 12) be+ing does not differ as a function of social class.

13. The ratio of kernel sentences to optional selections from the phrase structure subcomponent does not differ as a function of social class.

14. The Index of Sentence Complexity (ISC), consisting of the sum of the PS points and the T-points divided by the number of surface sentences does not differ as a function of social class.

Subjects

Subjects for this study were chosen from among 207 students enrolled in Speech 1 classes at Louisiana State University, Baton Rouge, during the spring term of the academic year 1970-1971. During February, 1971, an instrument to determine social position was administered to all students then enrolled in ten sections of Speech 1. This represented one section from each Speech 1 instructor. The measure used was that developed by Warner, Meeker and Eells and
presented in Social Class in America.\textsuperscript{15} From this measure, the scores were ranked and divided into quartiles. The scores ranged from a high of 21 to a low of 68. Quartile division placed 51 potential subjects in the upper quartile, with scores ranging from 12 through 23, and 49 in the lower quartile, with scores from 41 through 68. These two groups, and the subjects ultimately selected from them, will hereafter be cited as the "high" and "low" social groups respectively. From each of these two groups of potential subjects, 20 were selected randomly\textsuperscript{16} to serve as possible informants for this study, although only 6 of these were ultimately chosen.

Collection of the Data

The data ultimately gathered for extensive analysis were the final in-class speeches of the first six available informants from the 20 originally chosen in each group. Due to absence or withdrawal from the University, certain potential subjects were no longer available. When this happened, the next potential informant was selected. The speeches were delivered in May of 1971 and each speaker was tape recorded overtly by his own Speech 1 instructor who prefaced the actual taping with a comment such as "I'm going to record your speeches today, in case I want to listen to them again." At no time was mention made of the fact that the speeches would be analyzed linguistically by the investigator. It was felt that these measures were necessary to maintain as much uniformity between the recording


situations as possible. In all instances, the microphone was placed on the speaker's side of the lectern and the recorder was in full view of the entire class. All of the speakers of each of the classes were recorded, even though the previously selected subjects were the only ones to be analyzed.

It was mentioned earlier, in discussing the work of William Labov, that contextual style played an important part in the occurrence of certain linguistic phenomena. It was in order to control this variable as much as possible that the more structured situation of the classroom was chosen for the collection of data. The speech thus obtained is certainly not casual speech, nor is it platform oratory. Rather it represents some intermediate style between casual and careful speech. But no matter what the specific style is, the important thing to remember is that it is generally consistent among the various speakers, and this consistency was bought at the small price of not obtaining totally spontaneous, casual speech. It was felt that consistency was of much more value than informality.

After all the recordings had been made, the speeches of the twelve subjects (six from each social group) were transcribed into conventional orthography with only the vocal hesitations omitted. At this point the researcher had typescripts of all of the subjects, although at that time he did not know to which social class any given speaker belonged.

Analysis of the Data

From the typescripts of each informant, the investigator deleted the grammatical non sequiturs which would have made analysis impossible (see Example 2, pp. 125-26). This procedure is roughly
the same as deleting what Kellog Hunt calls "garbles" and Walter Loban calls "mazes." 17

The entire speech for each subject was then divided into surface sentences by the investigator. Here again it must be stressed that at this point in the analysis all the investigator had was a numbered typescript. He was unaware of the social class to which the speaker belonged. The investigator relistened to the speeches, often many times over, with typescript in hand to determine the extent of each of the surface sentences. When in doubt, intonation was relied upon as the final arbiter, and it is because of this that strings of words containing and will sometimes be analyzed as a single sentence and other times as two separate surface sentences. For example, the sequence "He went to town and he bought some candy" would be separated into two surface sentences if, and only if, the intonation pattern 231# occurred before the word and. If 231# did not occur there, the string would remain as a single surface sentence.

After the surface sentences had been defined, each was analyzed according to the criteria previously established in pp. 115-18 above. Each surface sentence was reduced to the kernel(s) underlying it, and the transformations which resulted in the existing surface sentence were identified. A tally was then made of the obligatory (NP, VP) and optional kernel elements and also of each of the grammatical processes (embedding, addition, deletion, substitution, transposition) found in the individual transformations. These tallys,

exemplified in the analyses of speakers 1 and 2 above (p. 125) became the raw data for the comparative summary which is presented in Chapter IV.

Statistical Tests

At the outset of this project it was hoped that the speech of enough different speakers could be analyzed to permit the use of a parametric and widely-used statistic, Analysis of Variance. However, as the study proceeded, it became clear for several reasons that it was more desirable to gather extensive data from fewer subjects than minimal data from more subjects. For one thing, preliminary analysis showed a peculiar distribution in the speech of certain informants. Gross differences in the kinds and extent of certain syntactic phenomena appeared from one section of the speech to another. As will be seen later, certain constructions are prevalent in, for example, the first third of a speech, and completely absent in the second third. Therefore, it was decided to reduce the number of speakers and increase the amount of data for each speaker. This necessitated using a nonparametric statistic, the Mann-Whitney U test, which is based upon the relative ranking of each subject and disregards the magnitude of the differences between subjects. In dealing with sociolinguistic data, the Mann-Whitney test has been used extensively (especially by British researchers) and has been proved a valid and reliable measure for linguistic differences. The investigator followed the procedure for computing U outlined by Sidney Siegel. All numerical data in the following presentation as well as references to the probabilities

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of any particular U are to be considered with this test in mind.

Before proceeding to the findings themselves, a few words concerning types of grammatical operations that are subsumed under the headings embedding, addition, deletion, transposition, and substitution are in order. Such comments are necessary if the reader is to understand fully the implications and ramifications of the findings.

It must be kept in mind that, in keeping with the Frank and Osser approach, both underlying possessive elements and all adjectives (pre-nominal as well as post-to be) are considered as generations from the phrase structure rather than the transformational subcomponent. Thus, no underlying sentential structure from which adjectives are derived is presumed. For example, the surface sentence "The old man chased the car" is assigned one point for the optional choice of the pre-noun adjective old. This differs from the system advocated by certain grammarians which treats all pre-nominal adjectives as arising from an underlying sentence, such as "The man is old" \(\Rightarrow\) the old man which is then embedded in the NP position of the matrix sentence "NP chased the car."

With these notions in mind, then, the following brief summary of just what constitutes the processes mentioned above can be given. None of the examples which follow are exhaustive. Rather they give an indication of the many and often varied manifestations of these processes.

As used in the results which are presented in the next chapter, addition refers to a new grammatical element obtained from the transformational subcomponent of the grammar and inserted into an appropriate position in the surface structure. The most obvious examples are
conjunctions and negative elements. Also considered as added elements are forms of to be when the passive transformation is applied, and sentence connectors such as however, therefore, and thus, which appear to have no other motivation than relate one sentence to another syntactically.

Deletion includes all items generated by the phrase structure which fail to appear in any form in the surface structure. As will be shown later, certain items appear in often radically different form when substitution occurs, but in cases of deletion no trace of the underlying forms survive in the surface structure. Examples of deletion are numerous and often obvious. The two kernel sentences "The wastrel ate" and "The wastrel drank," which result in the surface sentence "The wastrel ate and drank" represent deletion of one occurrence of the wastrel. Deletion may also occur after the passive transformation is applied, e.g., "Fred hit Tom in the mouth," which becomes by T-pass "Tom was hit in the mouth by Fred" and may become "Tom was hit" with the original NP1 deleted.

Any deep structure sentence which replaces an unspecified NP in another deep structure sentence is an occurrence of embedding. In English any sentence can be nominalized, for example, by merely prefixing the word that, in which case the nominalized sentence may then be inserted, or embedded, in any NP position in a matrix sentence. The kernel sentence "He is sick" can be nominalized by prefixing that and then embedded into the NP position of "I know NP," for example. Another major area of embeddings is found in such sentences as "I want to sing" where the underlying kernels are "I want to NP" and "I sing."

By embedding and deletion the surface form "I want to sing" is derived.

Substitutions are surface structure "stand-ins" for different deep structure phenomena. Personal pronouns are easily understood examples. The boy + poss, for example, may become the surface form his and the men might become they. Substitutions are also found among verbs and with the pro-sentence forms this and that. Do is the most common verb substitute in English and may take the place of want to go swimming in answer to the question "Who wants to go swimming?" "I do" is one of the most common replies. That and this as sentence substitutes are more difficult to define, but they seem to function in a parallel manner with personal pronouns and verb substitutes. Here again, the best definition is by example. Assume that there are two surface sentences "I hate school" and "That is why I'm drinking beer." It seems best to handle the existence of that not as a deep structure subject in itself, but rather as a substitute or surface structure stand-in for a lower level construction such as "I hate school" in *I hate school is why I'm drinking beer. Such forms do occur in surface sentences, usually with the complementizer because and yielding "Because I hate school is why I'm drinking beer," or more likely "I'm drinking beer because I hate school." For reasons of distribution such as these, similar occurrences of this and that are treated as substitutions.

Transpositions can be easily dealt with as they involve only the linear (or temporal in the case of speech) movement of linguistic elements from one position to another. The phrase structure subcomponent of the grammar presented above would generate the sentence "The
woman drinks coffee in the morning." An optional transformation transposes the preposition phrase to initial position, giving "In the morning the woman drinks coffee." A similar occurrence would be "Telescopes are more effective on the moon" which becomes, by the same transformation, "On the moon, telescopes are more effective." Another type of transposition results from the application of T-passive when the original NP2 is moved to sentence-initial position. Incidents of transposition are perhaps the most easily recognized of the five processes under consideration here.

With these brief explanations in mind, then, it is now possible to proceed to a presentation and discussion of the research findings.
CHAPTER IV

RESULTS AND DISCUSSION

Results

The raw scores and data relevant to each of the hypotheses for each individual speaker are presented in Table One. For convenience of presentation, the informants are assigned consecutive numbers. The number of each speaker is followed by a capital letter which designates the social class of the speaker (L = Low, H = High). The numerical Index of Social Status as determined by the Warner-Meeker-Eells scale is given next. Since each speech was divided into thirds, the columns of figures following the status index represent the number of occurrences of each linguistic item in the first, second and third segments (thirds) of the speech. The final column, labeled T, shows the total number of occurrences of each item for the speech as a whole. To the right of these tabulations is the individual speaker's performance relative to each of the previously stated hypotheses, expressed as ratios.

From the data presented in Table One, several items are worthy of comment. Ten of the twelve speakers show a noticeable change in the degree of sentence complexity from one third of the speech to the next. The most characteristic pattern, observed in the speech of four informants, is that of a sharp increase in complexity from the first to the second third, and then a decrease in the final third, but
not to the level seen in the initial segment. This trend is found in both the phrase structure and transformational aspects of sentence complexity. An ISC (Index of Sentence Complexity) for speaker 3, for example, shows a score of 7.7 in the initial third of the speech. This measure rises sharply to 17.4 in the second third and then falls to 13.2 in the final third. Another indication of this progression is provided by the number of kernel sentences which are combined into a single surface sentence (KS/SS). For speaker 3, this measure shows a ratio of 1.80 for the first third of the speech, 3.27 for the middle segment, and 2.54 for the final third. This pattern, as mentioned above, is found in four speakers, three in the high status group and one in the low.

Two other patterns of sentence complexity are shared by at least two speakers each. These are the linear, or relatively consistent patterns which show little variation from one segment of the speech to the next, and the patterns which manifest a sharp but regular decrease in complexity as the speech progresses. The first of these patterns is illustrated by speaker number one. An ISC computed for each segment of this informant's speech shows an initial complexity of 15.4. This index falls, but ever so slightly, in the second third to 14.3, and remains relatively constant in the final third, at 15.7. Also, the three part analysis of KS/SS shows the same, generally consistent, pattern.

The last of the patterns to be discussed here is that of dramatically decreasing complexity, as illustrated by speaker 5. The ISC for the first segment of this speech is 14.8. Complexity then decreases to 12.8 in the middle third, and further declines to 10.7 in the final third. Again, this pattern is corroborated by the ratio of
kernel to surface sentences in each of the segments.

Several other patterns can be found in the data presented in Table One, but these are idiosyncratic to the point of being observed in the performance of a single speaker only. Whether they are characteristic of larger numbers of speakers is uncertain, but since they appear to be isolated instances they are of no further concern here.

The mere fact that dramatic changes in sentence complexity occur during the course of ten of the twelve speeches considered here requires at least some speculation as to the factors which could account for the changes. The possible explanations which come most readily to mind are that sentence structure is content-bound or perhaps tied to certain as yet undetermined personality or situational variables. Realizing the tentativeness of any attempt to explain these fluctuations at this time, it does seem noteworthy that of the twelve speeches analyzed, ten showed a marked change in complexity as the speech progressed and, of these ten, six showed an increase in complexity from the first to the second third, and four showed a decrease during this same period. From the second to the third segments, six subjects showed a decrease in complexity, three an increase, and one remained constant. Such information by itself appears random and unmotivated. However, in considering group performance and changes in relative complexity, several interesting phenomena can be noticed.

Of the six subjects in the high status group, four showed an increase in complexity from the first to the second third of the speech, i.e., using the ISC as the criterion, the second third was more complex than the first. Only two members of the low status group showed an increase in the same period. From the second to the third
segments, a general tendency toward decreased complexity is noticed. Half of the twelve subjects, three from the high status group and three from the low, showed a decrease during this period. However, five of the six low status subjects either decreased in complexity or remained stable from the second to the third segments of the speech, while five of the six informants from the high group either increased or decreased in complexity in a bimodal distribution, i.e., two subjects increased in complexity during this period and three decreased. From the very small samples under consideration, any statement concerning the relationships between social class and the progression of sentence complexity must be made with great caution, but it is possible, as was just implied, that even here the social status of the speaker might play a larger role than previously suspected.

Table Two shows the relative performances of the high and low social groups rather than of individual speakers. The average of the six speakers in each group relative to each of the hypothesis is shown here along with the group means, standard deviations, and ranges. For example, from Table Two it can be seen that, relative to the previously mentioned Index of Sentence Complexity (ISC), those speakers in the high social group averaged 19.29, had a standard deviation (SD) of 2.79, and a range of 7.06.

Several comments seem justified concerning the data presented in Table Two. Considering the range, on nine of the thirteen measures, the low group shows relatively less spread from the highest to the lowest scores within the group than does the high group. This apparently greater homogeneity within the low group is further enforced by considering the standard deviations for the two groups. Here again,
the low group tends toward more uniformity within itself. Of the thirteen calculations of the SD,\(^1\) eight are smaller than the corresponding SD's of the high group, and the others are equal to those found in the high group. Both of these measures of relative homogeneity indicate that speakers in the high status group are more variable than those in the lower group.

It appears that this finding at least partially supports the Bernstein hypothesis in that speakers of the high status group are less predictable than speakers of the lower group, who may be restricted to certain grammatical patterns and processes. The possibilities for sentence construction in any language are infinite and speakers who apply and reapply grammatical rules are much more unpredictable than those who are confined, or who confine themselves, to selected and unreiterated processes. In a different situation, the high status group may be more homogeneous, but at least in this instance, one of the defining features of lower social class membership is a greater homogeneity in linguistic performance. Both groups would seem to have equal language competence, but, as Bernstein's work would suggest, speakers of lower status consistently select similar syntactic items and processes, and these often are basic, unqualified forms. As will be seen below, optional elements, which to a large degree add individual modifications and qualifications to basic elements, are much more frequent in the performance of the high status speakers. Thus, to reiterate Bernstein, unmodified linguistic items create a language of implicit meaning for the lower group while linguistic explicitness

\(^1\)Standard deviations were calculated according to the procedure outlined in Henry E. Garrett, *Statistics in Psychology and Education* (New York: David McKay, 1966), pp. 51-3.
is characteristic of higher status speakers. While it would be impossible to say categorically that lower status speakers are confined to a particular means of linguistic expression, it does seem that the possibilities for verbal mediation are exploited more fully, both in quantity and quality, by speakers of the higher ranking group.

Table Three shows the fourteen linguistic items under consideration and the actual score made by each speaker on each of the items. These are presented in rank order, with the highest score at the top and with a capital letter designating the social class of the speaker making that particular score. This information is necessary for computing the Mann-Whitney U. Immediately below the list of twelve scores is the U found for each measure and the probability associated with that U when $N_1=6$ and $N_2=6$.

Discussion

Since the hypotheses, which were stated in Chapter III, will be treated formally in Chapter V, this section will be used to discuss the general findings and the ways in which the fourteen items which were tested serve to differentiate or fail to differentiate between the high and low social status groups.

The two social classes under consideration seem to be most acutely discriminated linguistically by the use of the phrase structure as opposed to the transformational subcomponent of the grammar. This is indicated by the ratio of surface sentences to both the total

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### TABLE 1

**INDIVIDUAL SCORES AND RELATIVE PERFORMANCE**

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### TABLE 2

GROUP MEANS, STANDARD DEVIATIONS, AND RANGES

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*aRaw scores were too small to compute a meaningful SD for this measure.*
### TABLE 3

RANKED INDIVIDUAL SCORES, SOCIAL CLASS OF EACH SPEAKER, U, AND PROBABILITIES ASSOCIATED WITH U FOR EACH LINGUISTIC ITEM

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U = 6  U = 1  U = 5  U = 1  U = 10  U = 11  U = 14

P = .032  P = .001  P = .021  P = .001  P = .120  P = .155  P = .294
TABLE 3—Continued

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<th>Del/SS</th>
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<th>Modals/SS</th>
<th>Have/SS</th>
<th>Be/SS</th>
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^tie^a

| 1.93 H | .65 L     | 1.10 H | .89 H   | .50 L     | .145 L  | .11 H |
| 1.75 L | .63 H     | .97 L  | .71 L   | .48 H     | .137 H  | .08 L |
| 1.63 H | .55 H     | .85 L  | .65 L   | .48 H     | .125 L  | .07 H |
| 1.53 H | .52 L     | .81 L  | .64 L   | .41 L     | .113 L  | .05 H |
| 1.45 L | .43 L     | .80 L  | .50 L   | .35 H     | .067 L  | .03 L |
| 1.39 L | .41 L     | .70 L  | .48 L   | .157 H    | .032 L  | .03 L |
| 1.34 L | .35 L     | .53 L  | .38 L   | .156 L    | 0.00 L  | 0.00 H|

| U = 11 | U = 2     | U = 16 | U = 16 | U = 11^b| U = 1   | U = 16^b|
| P = .155 | P = .016 | P = .409 | P = .409 | P = .421 | P = .001 | P = .409 |

^a^Ties were ignored in computing U.

^b^Direction of difference favors Lower Status Group.
number of phrase structure (PS) points and optional selections from the phrase structure subcomponent. As a group, the speakers of the high social class used more optional and more total selections from the phrase structure than did speakers of the lower class. Those speakers in the high group used an average of 6.59 optional kernel elements (possessives, adverbs, prepositional phrases, etc.) per surface sentence, while the speakers in the low group used an average of 4.28 optional choices. This tendency to rely on phrase structure generations is accentuated by considering the ratio of surface sentences to total PS points, where the high group averaged 13.26 phrase structure elements to the low group's 10.11. Further evidence is provided by the number of optional kernel elements per kernel sentence (OP K/KS). Here again, the high group relies significantly more on the phrase structure sub-component than does the low group. This is not to say, however, that the high group relies exclusively on the phrase structure portion of the grammar to the neglect of the transformational subcomponent.

The Index of Sentence Complexity (ISC), which takes into account both the phrase structure and transformational subcomponents of the grammar, also shows a significant difference between the groups. However, primary reliance on the transformational subcomponent (indicated by T points/SS) is not characteristic of either of the two classes. The difference, while suggestive, is nonsignificant.

From the distribution of these items, then, it can be concluded that speakers from the higher social class tend toward a more elaborate phrase structure, with more optional selections, than do speakers from the lower class. High status speakers also utilize the transformational possibilities inherent in the language to a greater extent, though
not significantly so, than do lower social status speakers.

Interestingly enough, of the five transformational processes considered, only one, the use of transposition, yields significant differences. The high status speakers tend to move items around in the sentence more and thus create different arrangements of the same linguistic elements. Of the remaining four transformational processes (embedding, addition, deletion, substitution), only addition shows even a trend toward discrimination. This finding seems strange, because, as the grammar given above is defined, there are essentially only two ways of generating semantic content: by selecting elements from the phrase structure, or by adding or embedding which utilizes the transformational subcomponent. In each of these instances, the high social status speakers use more of these potential sources of semantic information, with the exception of embedding, which appears to be rather evenly distributed. We are thus forced to conclude that either some other source of semantic content is present but unaccounted for, or that the lower social status speakers have inherently less "content" in each sentence than high status speakers. Here again these findings support the Bernstein hypothesis in that the possibilities for verbal qualification and mediation are exploited more fully by the higher status speaker. Additional semantic information, which is given linguistically, or explicitly, by speakers of higher status must be given extra-linguistically, or implicitly, by speakers of the lower group. Whether comparable information is ultimately conveyed is impossible to determine by this study as only linguistic output was considered.

Returning now to the ratio of surface sentences to other
linguistic structures, it can be seen that a trend, although not statistically significant, is present which shows that the surface sentences of higher status speakers contain more underlying kernel sentences than do those of lower status speakers. This finding seems to tie in with and reinforce those presented above, namely that speakers of higher status fuse together more, and more diverse, linguistic elements into surface structures than do lower social status speakers. This tendency is reiterated and reinforced by noting the relative magnitude of higher status scores in the interactions of surface sentences with various kernel structures, as well as with the transformational operations of addition and transposition. Perhaps the best indication of this tendency is the Index of Sentence Complexity which was mentioned above. The ISC gives equal weight to the number of underlying kernel sentences, optional selections from the phrase structure, and the combined number of points from the transformational subcomponent. On the whole, and using the ISC as the criterion, higher social status speakers use richer surface structures, richer in the sense that each surface sentence contains more, and more varied, linguistic items than are found in comparable structures generated by lower social status speakers.

One of the very significant findings appears to defy explanation. Of the three optional elements from the auxiliary which were considered in this study, only one, have+part, shows an other than chance distribution. Statistically, the high status group uses more have+part constructions than the low group, and the difference is quite significant (p = .001). Of the other two items, be+ing, which characterizes the "progressive" in English, shows a purely chance
distribution, and the other, the incidence of modals, shows a very slight trend in favor of greater use by the lower class. But in both of these cases, the differences are nonsignificant. The increased use of *have+part* by the high status group is difficult to explain. As mentioned above, the incidence of *have+part* was one of the defining features of Type I (Standard English) as found by Charles C. Fries. Fries mentions that this feature occurs "twice as frequently in [Standard English] as in [Vulgar English]." Perhaps this is yet another indication of the extent of verbal mediation used by higher status speakers and represents, in Bernstein's terms, a grammatically more complex sentence construction which expresses syntactically that which must be expressed extra-linguistically by speakers of a more restricted language code.

Thus far, the six findings which show significant differences between the social groups have been discussed. These are the combined Index of Sentence Complexity (ISC), optional kernel elements relative to both surface sentences and kernel sentences (OP K/SS and OP K/KS), the total number of phrase structure points per surface sentence (PS/SS), the number of transpositions per surface sentence (Transpositions/SS), and, finally, the incidence of *have+part* per surface sentence (Have/SS). It should be kept in mind that, in each case, high status speakers use significantly more of the items under consideration than do speakers of low social status.

Of the remaining eight items which were investigated, three show trends in the predicted direction, i.e., increased use by the

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high status speakers, three show chance distribution and two show very slight indications of possibly real differences. Trends which can be reported are in the areas of number of kernel sentences which underlie surface structures, the total number of transformational operations per surface sentence, and the grammatical process of addition. Embedding, which often comes to mind when one thinks of sentence complexity, indicates, though nonsignificantly, increased use by the high status group, and the other possible trend is the only one of the fourteen items to favor the lower status speakers. As mentioned above, the lower social status speakers use relatively more modals than their higher status counterparts, although the difference is statistically nonsignificant. In fact, the probability of a real difference existing between the groups in the use of modals is only slightly greater than the chance probabilities found in the areas of deletion and substitution, and the occurrence of the form be+ing (see Table Three).

It seems, then, that nine of the fourteen items under consideration serve to differentiate the linguistic performance of the social classes with which this study was concerned. The most consistent indicator appears to be the increased use of the phrase structure subcomponent by the high status group, and consists largely of optional selections from the phrase structure rules. High status speakers are also characterized by a greater grammatical density, as measured by the ISC, by combining more underlying kernel sentences into one surface sentence (usually by addition), by an increased use of transpositions, and by a greater incidence of the form have+part. Although trends can be cited for several other items, these seem to be the major sources of syntactic differences between the social classes which formed the
basis for this study.

Before leaving this section, a few words about the modified Frank and Osser methodology seem in order. The procedure outlined in Chapter III seems to be especially amenable to quantifying differences between the phrase structure and transformational subcomponents of the grammar as well as those dealing with optional selections from the phrase structure rules. The quantifications thus derived are especially useful in determining the extent of the required and the optional elements and processes of linguistic performance. This was the basis for the statements above pertaining to a broader and more varied use of linguistic competence by speakers of the higher status group.

Further evidence for the validity of the procedure used here is provided by the fact that the present findings in the area of syntax largely confirm the earlier findings in pronunciation and morphology, namely, that social status markers are present in an individual's linguistic performance. It is regrettable that extra-linguistic features could not be considered in this procedure, but as far as dealing with verbal output, the approach used here appears valid and is generally applicable to any linguistic situation.
CHAPTER V

CONCLUSIONS AND IMPLICATIONS

Null Hypothesis One was not rejected, although a trend was cited which indicates that the high status group combines more kernel sentences into a single surface sentence than does the low group.

Null Hypothesis Two was rejected. It was concluded that members of the high social status group use significantly more elements generated by the phrase structure rules than do members of the low group.

Null Hypothesis Three was rejected. Optional selections from the phrase structure subcomponent of the grammar serve to differentiate the social groups, with the high group using significantly more optional elements per surface sentence than the low group.

Null Hypothesis Four was not rejected although a trend was cited showing an increased use by the high status group of the transformational subcomponent of the grammar.

Null Hypothesis Five was not rejected. It was concluded that the ratio of embeddings per surface sentence does not differ as a function of social class membership.

Null Hypothesis Six was not rejected. However, a trend was cited indicating increased use of the grammatical process of addition by the high status speakers.

Null Hypothesis Seven was rejected. Increased use of
transposition serves to differentiate between the high and low groups, with speakers of high social status using significantly more transpositions.

Null Hypothesis Eight was not rejected. It was concluded that the use of deletion does not differ as a function of social class.

Null Hypothesis Nine was not rejected. It was concluded that the use of substitution does not differ as a function of social class.

Null Hypothesis Ten was not rejected. It was concluded that the use of modals does not differ as a function of social class.

Null Hypothesis Eleven was rejected. The use of have+part differs as a function of social class.

Null Hypothesis Twelve was not rejected. It was concluded that the use of be+ing does not differ as a function of social class.

Null Hypothesis Thirteen was rejected. It was concluded that the ratio of optional elements from the phrase structure to the number of kernel sentences differs as a function of social class.

Null Hypothesis Fourteen was rejected. It was concluded that the Index of Sentence Complexity differs as a function of social class.

In general, the findings of this study reinforce and extend much of the earlier work in social dialectology. There appear to be syntactic as well as phonetic manifestations of social stratification. In this sense, the present work adds to the findings of Harms, Bernstein, Labov and Wolfram. It also appears that both the general and specific findings have implications and ramifications which extend beyond the confines of the study itself. The problem of the basis on which listeners assign social status to speakers is still unresolved as
significant differences between social classes have now been found in syntax as well as in phonology and grammar. Further research which holds either pronunciation or syntax constant could provide insight into the specific linguistic features of class dialect.

The present findings also have implications in the area of perceptual linguistics and its psychological concomitants. For example, what effects does an increase or decrease in syntactic complexity have on a listener? Is a speaker who uses few transpositions thought of as inherently "low class"? The answers to questions such as these could form a basis for public speaking situations as well as for small or large group communicators. The whole field dealing with the psychological and emotional responses to various syntactic patterns has yet to be explored, but the implications of findings in this area have such varied and far-reaching applications that they deserve much further study.

The English curriculum can also benefit from the work presented here. English teachers can use these findings to teach sentence patterns and syntactic processes which in effect will make any student multi-dialectal and remove the stigma which is all too frequently attached to the speaker of a low status dialect. More specifically, these findings would indicate that such features as transposition and have+part should be actively taught. Bateman's work indicates that transformational processes can indeed be learned. The present study identifies those areas which may be learned if one is to be freed from the more restricted syntactic usages of the lower class.

Syntactic performance may also correlate with other aspects of man's social nature. The syntactic parameters of situation,
linguistic context, and emotional state have yet to be defined. And, of course, the rhetorical question raised in Chapter I can be reiterated here. How much, if at all, does an individual's linguistic performance reflect his intellectual or psychological makeup. Syntax has often been thought of as more basic to a speaker than either pronunciation or vocabulary, and also, by implication, less easily altered. If this is true, then the study of syntactic differences should provide both revealing and valid reflections of certain aspects of a person's intellectual faculties and personality. An attempt was made here to identify the syntactic reflections of social class membership. With more sophisticated analyses, this work may be extended into other areas, notably those just mentioned.
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Robert Edward Callary was born near Rocks, Maryland on June 23, 1939. He attended public schools in Harford County, Maryland, and received a Bachelor of Science degree from Towson State College in Baltimore. He taught high school in Baltimore for two years, then went to Moriarty, New Mexico, where he taught high school English for two years. He received a Master of Arts from the University of New Mexico in 1968, and, in August, 1971, he will receive a Doctor of Philosophy in Linguistics from Louisiana State University, Baton Rouge. He and his wife, Jean, will be living in DeKalb, Illinois, where he has accepted an assistant professorship in the Department of English at Northern Illinois University.
EXAMINATION AND THESIS REPORT

Candidate: Robert Edward Callary

Major Field: Linguistics

Title of Thesis: Syntactic Correlates of Social Stratification

Approved:

[Signature]
Major Professor and Chairman

[Signature]
Dean of the Graduate School

EXAMINING COMMITTEE:

[Signatures]

Date of Examination:

July 20, 1971