COMPETENCE AND PERFORMANCE

IN

LANGUAGE AND CULTURE
COMPETENCE AND PERFORMANCE IN LANGUAGE AND CULTURE

By

MARGARET C. REES, B.A.

A Thesis
Submitted to the School of Graduate Studies
In Partial Fulfilment of the Requirements
for the Degree
Master of Arts

McMaster University
November, 1972
TITLE: Competence and Performance in Language and Culture

AUTHOR: Margaret C. Rees

SUPERVISORS:  Professor R. Preston
              Professor R. Landes
              Professor J. Hitchcock
              Professor P. Steager

NUMBER OF PAGES: V, 83.

SCOPE AND CONTENT: The claim is made that a theory of performance must include theories of communicative or cultural competence. A theory of performance will model the interlocking of related but distinct communicative competences.

Some hypotheses concerning the relationship of language and culture are considered briefly. The concepts of competence and performance as used currently in linguistic analysis are discussed in the light of the competence-performance distinction, and evidence gathered from this discussion as to the nature of a theory of performance.
ACKNOWLEDGEMENTS

The author wishes to express her thanks to all of her committee and other members of the department for their encouragement in the course of this essay. Special thanks are due to Dr. Cooper, who brought her to the point of writing the first draft of this thesis, and to Dr. Preston who advised her to write a second draft, and to Dr. Hitchcock, who arrived at McMaster in time to help with the final version. Financial assistance was provided initially by McMaster University and more recently by Dr. C. E. Rees, who also did the dishes and drew the diagrams.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>CHAPTER</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Language in Relation to Culture</td>
<td>1</td>
</tr>
<tr>
<td>2. The Concepts of Competence and Performance in Language and Culture</td>
<td>10</td>
</tr>
<tr>
<td>3. Contemporary Approaches to the Analysis of Language</td>
<td>20</td>
</tr>
<tr>
<td>1. Transformational-Generative Grammar</td>
<td>22</td>
</tr>
<tr>
<td>2. Componential Analysis</td>
<td>30</td>
</tr>
<tr>
<td>3. Lévi-Strauss</td>
<td>42</td>
</tr>
<tr>
<td>4. Psycholinguistics</td>
<td>47</td>
</tr>
<tr>
<td>5. Trager-Smith-Joos Model</td>
<td>52</td>
</tr>
<tr>
<td>6. Kinesic and Proxemic Studies</td>
<td>58</td>
</tr>
<tr>
<td>7. Phonetics</td>
<td>64</td>
</tr>
<tr>
<td>8. Tagmemic Model</td>
<td>68</td>
</tr>
<tr>
<td>9. Sociolinguistics</td>
<td>71</td>
</tr>
<tr>
<td>4. Conclusion</td>
<td>75</td>
</tr>
<tr>
<td>Bibliography</td>
<td>78</td>
</tr>
</tbody>
</table>
# List of Figures

<table>
<thead>
<tr>
<th>Figure No.</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Transformational-Generative Model of Language</td>
<td>25</td>
</tr>
<tr>
<td>2.</td>
<td>Two Derivations of an Ambiguous Sentence</td>
<td>27</td>
</tr>
<tr>
<td>3.</td>
<td>A Taxonomy</td>
<td>31</td>
</tr>
<tr>
<td>4.</td>
<td>A Paradigm</td>
<td>33</td>
</tr>
<tr>
<td>5.</td>
<td>A Tree</td>
<td>34</td>
</tr>
<tr>
<td>6.</td>
<td>Figure Most Easily Seen as a Rectangle</td>
<td>50</td>
</tr>
<tr>
<td>7.</td>
<td>Figure That is 'Impossible'</td>
<td>50</td>
</tr>
<tr>
<td>8.</td>
<td>Block Diagram of a Grammar</td>
<td>66</td>
</tr>
</tbody>
</table>
Chapter 1. Language in Relation to Culture

Language is important to anthropologists because it is seen as being central in the concept of culture. Its centrality is perceived in different ways, depending on one's view of the interrelationship of language, culture and cognition.

In this thesis my intention is to integrate a number of diverse approaches to language study, using the competence:performance distinction as a frame of reference, in order to support the proposition that language must be studied in its context of the whole of human behaviour. Linguists have traditionally narrowed their field of inquiry, and have thus been able to advance linguistic theory in a way that has not been possible in cultural anthropology, where so many more variables than the purely linguistic are to be accounted for. Some anthropologists and linguists have talked about a 'theory of performance'. Since such a theory, if it is attainable at all, ideally requires the integration of all that is known about behaviour, I suggest that it will have to account for complexities whose extent has not yet been fully grasped.

Although the extent to which 'communicative competence' is dependent on cultural knowledge about the use of language in its social setting is only beginning to be recognised, the influence of language on perception, and therefore on the rest of culture, has been widely debated. Discussion has centred around the concept of linguistic relativity, which, expressed in its most extreme form in the Whorfian hypothesis, can be seen as the outcome of the work of nineteenth-century comparative
linguistics, where the detailed study of individual languages began to reveal the depths of linguistic diversity, combined with speculations on the origin and nature of language and thought on the part of such philosophers as Kant, von Humboldt, Steinthal, Cassirer, Wittgenstein. Roger Langham Brown has traced the network of ideas and influences culminating in Whorf's presentation. (Brown, 1967) He summarizes the concept of linguistic relativity as the belief that

there are establishable correlations between various aspects of linguistic behaviour and various aspects of non-linguistic behaviour, with the added suggestion, made particularly strongly by Whorf in certain passages, that linguistic behaviour is in some sense the independent variable within a cultural context upon which non-linguistic behaviour is dependent. (Brown, 1967: 10)

It is not possible within the scope of this chapter to do more than point out that Whorf's ideas were not without precursors, and that the climate of contemporary thought about language was conducive to the strong form of the concept of linguistic relativity which Whorf expressed. Wittgenstein, for instance, was a contemporary of Whorf's who apparently shared his conviction that language structures thought. In the preface, written in 1918, to the Tractatus, he says:

The whole sense of the book [i.e. the Tractatus] might be summed up in the following words: what can be said at all can be said clearly, and what we cannot talk about we must pass over in silence. Thus the aim of the book is to set a limit to thought, or rather—not to thought, but to the expression of thoughts: for in order to be able to set a limit to thought, we should have to find both sides of the limit thinkable (i.e. we should have to be able to think what cannot be thought). It will therefore only be in language that the limit can be set, and what lies on the other side of the limit will simply be nonsense. (Wittgenstein, 1961: 3)

Wittgenstein's words have only indirect bearing on linguistic relativity,
but his suggestion that anything which cannot be expressed in words is nonsense, or that words are the only medium for thought, give language ultimate importance in human affairs, as does Whorf's notion that the structure of language determines the structure of behaviour. In the Philosophical Investigations Wittgenstein apparently shares Whorf's opinion: "How do I know that this colour is red? It would be an answer to say: 'I have learnt English'" (1953: para. 381); and a further claim for language's structuring thought: "You learned the concept 'pain' when you learned language." (1953: para. 384)

Brown points out three possibilities as far as the relationship between language and thought are concerned:

The three sorts of relationships differ in the temporal sequence supposed to hold between some unit of language and some unit of thought with which it is associated. In the first case, the unit of thought precedes the unit of language; in the second case, the unit of language and the unit of thought are contemporaneous, the distinction between the two being merely that language (exemplified by a sequence of actual spoken words, say) is the outward manifestation of an inner process that accompanies and matches it at every point. In the third case, the temporal sequence of the first case is virtually reversed, in the sense that here the possibility of what may be thought is dependent upon, and supposedly posterior to, what is said, the language setting limits to what is thought. (1967: 54)

Brown sees the viewpoint of Enlightenment or Rationalist thinkers, such as Locke, on language as being associated with the first point of view, and of the Romantics, including von Humboldt, with the second. Whorf and Wittgenstein exemplify the third point of view. Of course there are counter-currents to the temporal sequence of these three points of view, so that proponents of the first point of view may be found currently, such as the logical positivists, mentioned by Brown. The
psychologist Rudolf Arnheim also seems to hold the first point of view: he argues, starting from the position of a student of aesthetic appreciation, that there are other modes of perception and of thought than the linguistic one.

Arnheim may be taken as an example of those scholars who grant language only secondary importance in cognition. He does not deny the usefulness of language in delimiting and condensing thoughts on the one hand, and in setting up associations and relationships on the other, but demonstrates experimentally that the mind perceives and works with patterns which are unrelated to linguistic structure. (1969) He sees perception and thought as being the same thing, but distinguishes between intuitive and intellectual thought:

The components of intuitive thought processes interact within a continuous field. Those of intellectual processes follow each other in linear succession. (1969: 234)

Arnhem's discussion concerns the level of the individual and his apprehension of reality and the function of language as a medium for thought. He does not focus on cultural differences, and mentions Whorf only to remark on the 'extraordinary perversion' of his point of view (1969: 237). Whorf, in turn, is only marginally concerned with the level of analysis where universal features of language may be discerned: he postulates certain kinds of classes of words and seems to suggest that they may be
found in all languages (1936: 65), for instance, but on the whole his concentration on the differences between languages and world-views precludes the possibility of looking further until underlying features shared by all languages may be found, which is a preoccupation of some present-day linguists.

Probably most students of language today hold a modified version of the Whorfian view, recognising that the interaction of words and things is a two-way process. At the level of the individual, words serve to generalise and also to narrow meaning, so that a speaker's intention is crystalised into a form which is picked up by the hearer, and expanded again by virtue of the shared and the unique associations of the speaker's words. At the level of society, each language provides a different way of structuring experience, but it also seems likely that the nature of differing experiences exerts some influence on the structure of language.

Most linguists have until the present day tended to isolate language as a focus of study from the context in which it occurs, and to ignore those aspects of language use which, while not being strictly linguistic, are still vital to any speaker. Hymes points out the necessity for a speaker of any language to know when, to whom, and in what manner to speak in order to be fully in communication with other members of his society (1967: 1971). The 'pure' linguist is concerned simply with the code, not with the message, setting, or participants, all of which influence the code itself, and the choice of a particular code from among several possibilities. The anthropologist, whose concern is with man as a complete and social being, is perhaps better able than many linguists to see the necessary interrelationships of these factors,
though neither he nor the linguist has at present the formal means to analyse or even to describe them (see Hymes, 1967: 8-9). It seems that linguists must extend their view of language and that anthropologists must make use of the skills of the linguist and of their own discipline to devise a systematic approach to language in its cultural context.

My goal at the initial stage of reading and research for this thesis was to show as systematically as possible, using material obtained in the field, the interrelationship of cultural factors with purely linguistic ones. I recorded on tape clergy from several denominations delivering sermons and in informal conversations, and recorded in notes as much information as possible about the settings in which the speech acts occurred, the educational and social backgrounds of the speakers, and what I perceived as their personalities and their feelings about their roles and their sermons. I analysed samples of the recorded speech using perceptual criteria, chiefly intonation and stress. My assumption was that differences would be apparent between the patterns observed in sermons and conversation in each individual's case, and between the patterns in the sermons of different clergy.

My concern was thus with linguistic performance: my aim was not to produce an analysis of the English language, but of actual speech events involving individuals whose knowledge of English is a part of their competence, but who also when they speak show their competence in modifying their speech according to the physical setting, the expectations of the listeners, and their conceptions of their roles. I was assuming also that their performance would be modified by their individual experiences and temperaments, which are also outside the concern
of most linguists.

The criteria I chose in the analysis of the recorded speech of my subjects were intonation and stress. These are perceptual rather than acoustic criteria, since while they are meaningful, they consist of complex physical signals which cannot easily be distinguished from non-meaningful ones by acoustic analysis, and cannot be recorded electronically as single features:

As perceived by the ear, speech intonation forms a structural unity of melody, rhythm and tempo, having some or other communicative (linguistic) significance. The aspect of intonation which is perceived is still not clear, although it is precisely the aspect which is directly perceived that has communicative significance... (Artemov, 1962: 404)

Stress is usually correlated with loudness, and

is felt as a simple effort by the speaker, although it involves a complex activity of various - not too well differentiated - nerve centres, muscle groups, and speech organs. The latter fact accounts for the many-facted acoustic picture resulting from the stress. (Nyqvist, 1962: 710)

Some phoneticians working with intonation patterns have spoken of two basic patterns in English, as, for example, Daniel Jones: "Most sense groups in English are said with one of two fundamental 'tunes' or with other 'tunes' which are formed by modifying the fundamental tunes according to definite principles" (1936: 258) (the tunes he identifies are those with end-rising or end-falling intonations), and others such as Pike identify a number of basic patterns (Pike, 1945). Other speech features which I considered less systematically were pace and content.

The factors I discussed as having some possible bearing on the
patterns I observed were the denominational affiliation of the speaker; such features of personality as flexibility or inflexibility and confidence in preaching role; social class and family background; and church architecture.

Patterns emerged, but I found, as I should probably have foreseen, that the correlations I wished to demonstrate were at best tenuous and impressionistic and often based on purely subjective reactions. If my method of gathering material had not been totally uncontrolled: if, for instance, I had limited my investigation to clergy of one denomination, and had used carefully prepared questionnaires in eliciting information about background, and opinions, it would perhaps have been possible to draw one or two general conclusions. However, tidying up the methodology would still not have allowed me to produce the systematic analysis I should like. After reviewing some of the work that has been done in linguistic analysis in several areas by people whose theoretical orientations vary considerably, it becomes apparent that I could have performed any one of a number of different types of analysis, if I had been able to acquire the necessary skills, but I still should not have been able to do the kind of analysis I had originally intended, since no way of formalising the relationships I wished to describe has been devised. The attempt to discover why my practical problem existed led to its formulation in theoretical terms.

I have chosen nine from perhaps twice that number of possible approaches to linguistic analysis, and in Chapter 3 will consider them in the light of the dichotomy some linguists and anthropologists perceive between competence and performance. By considering these approaches,
bearing in mind the question whether their aims and methods may be regarded as being directed towards competence or performance, I will develop my thesis that none of these approaches offers anything approximating a theory of performance, and suggest further that such a theory would provide a framework within which my practical problem would be solved.
The terms 'competence' and 'performance' were developed in their technical linguistic sense by Chomsky: he speaks of a fundamental distinction between competence (the speaker-hearer's knowledge of his language) and performance (the actual use of language in concrete situations) (1965: 4)

and further to the concept of competence:

Linguistic theory is concerned primarily with an ideal speaker-listener, in a completely homogeneous speech-community, who knows its language perfectly and is unaffected by such grammatically irrelevant conditions as memory limitations, distractions, shifts of attention and interest, and errors (random or characteristic) in applying his knowledge of the language in actual performance...

To study actual linguistic performance we must consider a variety of factors, of which the underlying competence of the speaker-hearer is only one. (1965: 3-4)

Here competence, an abstraction from observable speech, is designated as the subject-matter of linguistics, and those neuro-physiological and, by implication, sociological factors which affect speech but have no relevance for grammar, are relegated to the realm of performance.

Initially Chomsky conceived of grammar simply as an "abstract characterization" (1959: 576) of a speaker's knowledge, and thus made no stronger claim for his grammars than that they were models of a speaker's competence. Later, in Language and Mind, he speaks of an "innate property" of the mind (1968: 76) which may be characterised as
"fundamental mechanisms and principles" (1968: 66) limiting the range of possibilities for kinds of grammatical rules. It has been suggested (Mary White, private communication) that the postulation of this kind of innate property is a claim for the psychological reality of competence: this would be a valid criticism if it were the grammar which was supposed to be innate, but I think that Chomsky is only claiming a predisposition towards a competence which may be characterised by certain kinds of rules. I do not think that Chomsky would have chosen the word 'competence' if he had not intended from the beginning to stress the idea that knowledge about language exists in people's minds in reality (whether consciously or unconsciously). A dictionary definition of the word is "sufficiency of qualification; capacity to deal adequately with a subject" (O.E.D. v. II: 719). This indicates a capability or attribute which is meaningless apart from the people who possess it: Saussure's 'langue' (see below, page 12) lacks this strong human identification, unless the word is taken in its literal, physical sense. It is the psycholinguists who have insisted on transferring the notion of psychological reality from competence itself to the transformational-generative grammars supposed to represent it.

Confusion does arise, as White points out (private communication) in Chomsky's use of his term 'performance'. Here a dictionary definition is: "Something performed or done; an action, act, deed, operation" (O.E.D. v. VII: 689), and Chomsky uses it both in that sense, as consisting of all acts of speech (1965: 4), and also, at times, as including the mechanisms of production and recognition of speech (1965: 9, 140). Chomsky may have inherited this ambiguity from Saussure (see
the quotation in the next paragraph), but Saussure made the duality explicit.

A distinction similar to that between competence and performance had been made fifty years earlier by de Saussure:

In separating language (langue) from speaking (parole) we are at the same time separating:
(1) What is social from what is individual; and
(2) What is essential from what is accessory and more or less accidental.
Language is not a function of the speaker; it is a product that is passively assimilated by the individual. It never requires premeditation, and reflection enters in only for the purpose of classification... Speaking, on the contrary, is an individual act. It is wilful and intellectual. Within the act we should distinguish between: (1) the combinations by which the speaker uses the language code for expressing his own thought; and (2) the psychophysical mechanism that allows him to exteriorize those combinations. (1950: 14)

Following the example of de Saussure, there has been a tendency among general linguists to categorise those aspects of language which may be treated systematically as being 'langue', or as their subject matter, and to relegate whatever is left to the status of 'parole' and to consider it outside the scope of linguistic inquiry. Obviously speech provides the only data available to the linguist and is to that extent inseparable from language, but the choice to concentrate attention on those factors which are amenable to formal analysis, and to reject those which are not, is easily defensible on practical grounds, and has led to immense theoretical advances. As students of language discover that more and more of what was formerly considered unordered is in fact patterned, as for example Labov in his investigation of the production of certain phones among members of different social classes in New York (Labov, 1964), it may seem that eventually a point will be
reached at which everything may be brought into the category of competence, assuming that a basic difference between competence and performance is in the possibility of competence's being formalised as a system of rules, whereas performance may not (see Pike's model, below, p. 69). However, in Chomsky's view the difference between competence and performance lies elsewhere: commenting on the use of transformational rules to account for stylistic reordering in the sentences of a language, he says:

In general, the rules of stylistic reordering are very different from grammatical transformations, which are much more deeply embedded in the grammatical system. It might, in fact, be argued that the former are not so much rules of grammar as rules of performance. (1965: 127)

Arguing similarly, that rules of performance are different from rules of competence, Keesing suggests that "in behaviour we find only statistical regularities" (1971: 30), which are of a different order from the codes and rules postulated by grammarians as models of linguistic competence. To predict what an ideal speaker-hearer will consider to be grammatical is a different kind of endeavour from attempting to predict what an actual speaker-hearer will say, or how he will say it, in an actual situation. The generative grammarian's rules predict what his own linguistic intuition tells him is grammatical. He may test his rules by asking another speaker if a certain sentence is grammatical, and if his informant disagrees with him, the grammarian can feel justified in discounting this evidence on the basis of his informant's having a different dialect, and therefore a different competence, from his own. The student hoping to predict what someone will actually say must have knowledge of the speaker's social and psychological and physical
situation, among other things, in addition to insight into the nature of his linguistic competence.

Chomsky acknowledges his indebtedness to Saussure, but extends the concept of 'langue' to that of 'competence' as he says, by returning "to the Humboldtian conception of underlying competence as a system of generative processes" (1965: 4). Saussure envisioned 'langue' as a cumulation of knowledge, with no generative capacity. Competence may be represented by a finite set of rules, which will generate the theoretically possible infinity of well-formed sentences in any language. There are many grammatical sentences of English which have never been spoken, either for such reasons as that they are too long to be spoken in one person's lifetime, or else because they refer to improbable events, as, for example, the sentence "Seventy-three leopards breakfasted on Crunchy Granola for a period of a week before it was discovered that the cereal was inducing chicken-pox in canaries". Such sentences can be recognised as grammatical, and the transformational-generative grammarian's rules must account for them, while not allowing any ungrammatical sentences. The task of the transformational-generative grammarian is here theoretically greater than that of the descriptive linguist, whose aim is to account only for a finite corpus of observed utterances.

The competence-performance distinction is also now used by some anthropologists. Hymes, in article "On linguistic theory, communicative competence, and the education of disadvantaged children", (1971) speaks of a "narrow theory", as put forward by Chomsky, where "linguistic competence is understood as being exactly concerned with an idealized knowledge of language structure-semantics, syntax, phonology" and "linguistic
performance is understood as being concerned with the modifications introduced by the processes that have often been termed encoding and decoding", (1971: 52) as opposed to a "broad theory", which would include competency for use, or communicative competence, since the ability to produce an infinity of well-formed sentences would be useless without the complementary knowledge of when, to whom, and in what manner to produce them. At the same time as a child is internalising a system of rules for producing grammatical sentences, he is gaining knowledge about the social uses of speaking: "Competency for use is part of the same developmental matrix as competency for grammar" (1971: 55). Hymes suggests that performance (linguistic and communicative) may be accounted for more adequately by extending the theory of linguistic competence to include communicative competence. He is concerned with the competences of actual individuals, which must be different from one another in some respects, which is somewhat removed from Chomsky's concern with the idealised competence shared in some sense by all native speakers of a language or dialect. That is, Chomsky is concerned with the features shared by all individual competences, whereas Hymes is concerned also with the features which vary.

Hymes' emphasis here is different from Chomsky's in several respects: Chomsky's focus is almost exclusively on competence, and he occasionally throws out a stray observation on performance, whereas Hymes is focussing here on performance and on the non-linguistic factors which operate in it. Since Hymes' article is addressed to the problems some children have in communicating adequately, his concern is in part with language acquisition, which is taken for granted by Chomsky in his
idealised version of linguistic competence. Hymes suggests, and no doubt Chomsky would agree, although it is irrelevant to his theory, that linguistic competence alone is useless and anomalous:

Someone who went about producing any and every sentence without concern for anything else might be quickly institutionalised. (Hymes, 1971: 55)

Chomsky has, in fact, suggested that the concept of competence needs to be developed because of "the enormous disparity between knowledge and experience" in learning and behaviour in general (1968: 68). Here Chomsky's emphasis on competence rather than performance leads him to speak of

the generative grammar that expresses the linguistic competence of the native speaker and the meager and degenerate data on the basis of which he has constructed this grammar for himself. (1968: 68)

He sees linguistic performance as 'meager and degenerate' by comparison with competence, whereas Hymes is concerned with those children whose competence might be characterised by those terms.

The anthropologist Keesing takes the concept of competence further still, and speaks of an inclusive cultural competence. He is concerned with the discovery of cultural codes and their interrelationships: "Code variability and what it communicates are part of the code" (1971: 82). Keesing's code, as one might expect of a code underlying the whole of culture, is evidently to be vastly more complex than the purely linguistic code transformational-generative grammarians are formulating. He further says:

Linguistic competence can be seen as one element of 'cultural competence'. To those who would argue (of speaking and other social behaviours) that we should concentrate on observable behaviour, and not
postulate slippery and metaphysical sounding mental
codes as lying behind acts, the evidence from
language is devastating. (1971: 63)

He cites Chomsky's review of Skinner's Verbal Behavior in support of his
view: the kinds of rule postulated by Chomsky account neatly and
explicitly for the facts of language, and language is after all a part
of culture, so that it seems reasonable that similar kinds of rules
might be found to account for culture as a whole. These rules, when
formulated, would include grammatical rules as one part, and would re-
represent cultural competence, i.e. what a member of a culture knows in
order to behave in an acceptable way.

The similarities of human language to and its differences from
various kinds of animal communication have led to the assumption that it
was largely the development of language that led to the survival and
eventual dominance of man as a species. The linguist Hockett, for in-
stance, speaks of

the adaptation or adaptations which changed prehumans
into humans - first, and quite early, the genetic
changes which were permissive for cultural transmission,
and later those which were permissive for language.
(1958: 583)

Mattingly gives acoustic evidence for the link previously hypothesised
between speech cues in man and "sign stimuli" in other animals (1972).
Whereas Hockett suggests a gradual change from non-linguistic vocal
cries to the productivity, duality and arbitrariness of human languages
(1958: 582), Mattingly provides further support for the language:speech
dichotomy by suggesting that man had already a semantic capacity, or an
ability to form concepts, quite separate originally from the system of
speech cues, and that grammar evolved as a mechanism for mapping the
infinity of possible semantic representations onto the very small number of phonetic features each language makes use of. This proposal concerning the origin of competence and performance supports the dichotomy commonly drawn between them by giving a conceptual convenience a kind of physical reality. The place given to the semantic system by Mattingly may have significance for those generative grammarians who are attempting to fit semantics into or 'above' syntax in their grammars (see Chapter 3, Part 1, below)

The current usage of the terms 'competence' and 'performance' in linguistic and anthropological theory provides a framework within which to review and assess those approaches to linguistic analysis which seem to have most bearing on my empirical problem of performance style. Hymes, in his article "Linguistics: The Field" in the International Encyclopedia of the Social Sciences (1968, v. 9), lists six current models of language structure, of which I shall consider three: the Trager-Smith-Joos model, which I have subdivided in order to discuss kinesic and proxemic studies separately, the transformational-generative school, and the tagmemic model. I include a very brief consideration of his fifth model, that of the Prage School, in Chapter 3, Part 4. Of the subdisciplines he lists I shall consider psycholinguistics, phonetics, and sociolinguistics, as being most relevant to my problem. In addition I shall discuss Levi-Strauss' theoretical approach and also componental analysis, since I stress the necessity for the inclusion of semantic and cultural factors in the analysis of linguistic performance. However, I consider matters of 'cultural competence' only peripherally, concentrating on language as a central theme. The boundaries between some of
these approaches are arbitrary, although they mostly coincide with those
drawn by Hymes. My discussion of each approach is not exhaustive, but
related to its consideration within the competence:performance framework
outlined in this chapter.
Chapter 3. Contemporary Approaches to the Analysis of Language

In this chapter I shall discuss the aims and techniques of nine current approaches to the analysis of language, chiefly, but also to the analysis of culture where methods from linguistics are used. Most of these approaches are not concerned explicitly with the competence: performance distinction, but I consider them in the light of this distinction and suggest that each has a partial contribution to make to a theory of competence and performance.

Four approaches are concerned mainly with competence. Transformational-generative grammar is explicitly concerned with linguistic competence, and a particularly fruitful innovation is the postulation (or discovery) of deep structure. Initially transformational-generative grammar avoided consideration of the problem of semantics, but some linguists using this model are now working on semantics at the level of deep structure. In anthropology, componential analysts have been concerned with semantics for nearly twenty years, and are involved in characterising a part of cultural competence closely related to linguistic competence. Componential analysts, however, are still working at the level of surface structure. Lévi-Strauss, although not a linguist, contributes to a theory of competence and performance with his work on the deep structure of cognitive processes underlying cultural competence. This seems to parallel the approach of the transformational-generative
grammarians to linguistic competence, although Lévi-Strauss does not produce explicit, formal rules for one area of competence, but is working at discovering the cognitive codes which link different areas of competence. We may feel that, for example, myth and social structure are related, and Lévi-Strauss is attempting to find and describe the links.

The fourth approach to competence is that of the psycholinguists, who are trying to find out what linguistic competence 'really' is, often using a transformational-generative model of competence as a starting point for their tests.

The remaining five approaches to the analysis of language start out by focusing on performance, and work from there into competence. The Trager-Smith-Joos model is concerned strictly with linguistic performance and competence. Kinesic and proxemic studies are extensions of the descriptive method of the Trager-Smith-Joos model from linguistic to non-linguistic communication, and so are involved in a part of cultural performance and competence which is different from, but connected to, purely linguistic and semantic competence. Phoneticians study performance very closely, and their work suggests yet another kind of competence underlying the production of speech than those kinds previously mentioned. The tagmemic model of Pike is a variant of descriptive linguistics, and contributes to a theory of competence and performance in a negative way, by suggesting what a theory of performance may not be like. The final approach to be discussed, that of the sociolinguists, is the approach where performance is perhaps seen most clearly as, and also demonstrated to be, a whole, with linguistic performance as only one aspect of an integrated unity.
Part 1. Transformational-Generative Grammar

Transformational-generative grammarians are concerned with linguistic competence, as indicated in the preceding chapter, defining performance as beyond the bounds of legitimate linguistic enquiry: these are the linguists who developed these terms and who chiefly use this dichotomy in thinking about language and speech.

Chomsky and his followers start out from the analysis of syntax, seeing syntax as the crucial aspect of language systems, and work from syntax into phonology. Semantics was originally considered by Chomsky to be at least partially subordinate to syntax, but linguists working in generative semantics now give semantics priority over syntax in their analyses (see McCawley, 1970; Fillmore, 1968; Chafe, 1970). The Chomskyan direction of approach to the study of language is the opposite of that taken by descriptive linguists of the Bloomfieldian school, who start out from the analysis of sound systems, working 'upwards' through the levels of phonology and morphology and syntax in turn.

Chomsky's theoretical stance has altered in several ways between the publication of Syntactic Structures in 1957 and Language and Mind in 1968, but his basic claims are still the same. He stresses the importance of combining explicitness with economy in a grammar. He emphasises the generative capacity of competence, which is to say that a speaker-hearer can produce and understand utterances he has not previously heard. This means that a grammar must be capable of generating all the well-
formed sentences which are possible in a natural language, whose lexicon (or inventory of words) is presumed to be finite. Here the static nature of Chomsky's model of competence is evident, since although at any one instant of time a lexicon is finite, actually words are being coined and discarded continuously. Chomsky also claims importance for the intuitions both of speakers and of linguists, so that a grammar should account for the relatedness of sentence types felt intuitively to be related by speakers, as, for example, the active and passive versions of sentences in English.

The rules offered by the transformational-generative grammarian are to be regarded as a model of the competence of the speaker-hearer of the language:

A generative grammar is not a model for a speaker or a hearer. It attempts to characterize in the most neutral possible terms the knowledge of the language that provides the basis for actual use of language by a speaker-hearer. (Chomsky, 1956: 9)

Chomsky does not presume that his rules are the mechanism by which a speaker actually produces grammatical sentences, but rather that the rules do provide a description of or an explanation for linguistic facts which had hitherto been unexplained systematically, and as such perform on paper a task similar to that performed unconsciously in the mind when a speaker produces a set of grammatical sentences. All aspects of performance are necessarily neglected: Chomsky is concerned simply to characterize linguistic competence, and his success in this area justifies this division. However, as Chomsky points out (1964: 114), no complete generative grammar has yet been written for any language, and there are differences between individual transformational-generative
linguists as to various aspects of the theory, in particular, as to how and where semantics are to be mapped into the system of rules.

A schematic representation of a transformational-generative model of language is offered by Keesing (1971: 65), and is shown in Figure 1. He points out that the tripartite division of rules into semantic, syntactic and phonological components is not as clear-cut as the diagram implies, but it does represent the structure envisioned by most transformational linguists.

Many transformational-generative grammars consist firstly of a set of "phrase structure rules", or rewrite rules, whereby a sentence is built up from the single symbol $S$ into a complete string of symbols representing all the syntactic information required to express the meaning of the sentence. It is the phrase structure rules which give such grammars their generative capacity, since the symbol $S$ can appear on the right of any rule, allowing recursion, and thus an infinity of sentences.

The string derived from the phrase structure rules represents the 'deep structure' of the sentence, with elements in their grammatical order, and it must pass through the transformational component which can modify the deep structure in order to alter the meaning of a sentence, either slightly, as by the passive transformation, or radically, as by the negative transformation. The output from the transformation rules is then worked on by phonological rules, which turn the abstract patterns into spoken words.

Phrase structure rules allow one symbol at a time to be rewritten but transformational rules operate on whole strings of symbols and
FIGURE 1
TRANSFORMATIONAL-GENERATIVE MODEL OF LANGUAGE

PATTERNS OF MEANING
"INNER FACE"

SEMANTICS

DEEP STRUCTURE

SYNTAX

SURFACE STRUCTURE

PHONOLOGY

"OUTER FACE"

PATTERNS OF SOUND
transpose and delete symbols. A transformational-generative grammar shows in a formal way things we perceive intuitively, as native speakers, to be related, as in the case of active and passive sentences. It also provides a formal explanation for the different meanings possible in the interpretation of an ambiguous sentence, such as "John looked over the book", by assigning a different phrase marker to each meaning, showing that the surface structure represents two different deep structures, as shown in Figure 2.

At least some diachronic factors may also be dealt with neatly by transformational analysis: historical sound changes can be accounted for by postulating the addition or deletion of a rule in the phonological component, as for example in vowel-shortening in Old English:

In Old English vowels were shortened before three or more consonants (for example, *gōdspell* → *godspell*, *brūnflæs* → *brūnflæs*) and in the third syllable from the end provided they were followed by two consonants (for example, *blædzian* → *blædzian*). (Kiparsky, 1968: 180)

(Of course, this offers no explanation as to why the change occurred, but simply describes the change explicitly and parsimoniously).

Similarly, a generative approach to stylistics allows judgments which were originally impressionistic to be accounted for formally: metaphor may be accounted for at the level of deep structure by, for example, the addition of a rule which allows adjectives like 'sad' to be used with inanimate nouns such as 'pencils', while leaving the rest of the rules as for Standard English (Thorne, 1970: 195).

While it is not necessary to the transformationalist that his 1. Chomsky would probably not approve of this use of transformations to account for stylistic variation.
FIGURE 2
TWO DERIVATIONS OF AN AMBIGUOUS SENTENCE

S
  NP       VP
    N        V
      part NP
            the book
          det N
        over
      John looked

S
  NP       VP
    N        V
      NP
            the book
          det N
        over
      John looked

model correspond to anything a naive speaker would formulate as rules of his language (and since the workings of the process of encoding and decoding language must take place largely in the unconscious mind, it is very unlikely that they should do so), the transformationalist does rely to a considerable extent on his own intuition as a native speaker in arriving at rules, or choosing between two sets of equally elegant rules. Apart from the formal adequacy of a transformational-generative grammar, it is desirable that it be "reasonable (intuitively satisfactory)", and another way in which it will do so is if it will "incorporate simple facts as simple rules, if only so that when those facts change, the rules may be changed in a simple way". (Watts, 1967: 7)

Watts makes these remarks as a preface to his transformational grammar of Nevada cattlebrands, which he treats as a language. His grammar describes the system neatly. The fact that the transformational model may be applied satisfactorily elsewhere than in a natural language suggests it may be a representation of wider human cognitive processes.

Transformational theory is changing very fast, and some current controversy is in the area of semantics, which was considered outside the bounds of linguistics in structural linguistics and in Chomsky's earlier work. One school of thought holds that there is a base component which generates deep syntactic structure, on to which are mapped semantic representations upon which transformations and phonological rules then operate (e.g. Katz and Fodor, 1963). Another theory holds that the semantic structure of a sentence is specified first, and then a syntactic shape is given to it (e.g. McCawley, 1968). The arguments put forward by the proponents of these theories are complex and abstract,
and as a by-product of these considerations of the place of semantics in a grammar, 'deep structure' has tended to become even 'deeper', so that the surface sentence "Floyd broke the glass" is considered (or was considered in 1963) by Lakoff and Ross to consist of no less than eight sentences. The form of this underlying structure may be indicated by the quasi-paraphrase: "I declare to you that it PAST that it happen that Floyd do cause it to come about that it BE the glass broken."

(Bach and Harms, 1968: viii) These theories are very far removed from any consideration of actual speech, but it is by concentrating purely on competence that transformational-generative grammar has produced strong explanatory devices for many linguistic facts, and brought about changes in the direction of linguistic investigation which seem likely to bring linguists closer to understanding the mechanism by which language is produced. The extreme complexity which is being uncovered leads at least some transformational-generative grammarians to suppose that human beings must be endowed genetically with a capacity for language acquisition, or predisposition towards the formation of certain kinds of grammatical rules into which the particular rules of any language may be fitted as a child learns to understand language and to speak. Therefore, a new search for linguistic universals is being undertaken, in the hope of discovering how this innate capacity for language is constituted (Chomsky, 1968), and thereby, we presume, universal aspects of linguistic competence.
Part 2. Componential Analysis

While practitioners of componential analysis, so far as I know, do not talk of their work in terms of competence and performance, their aim seems to me to be to characterise a part of 'cultural competence' which relates to linguistic competence since their concern is with semantics.

Componential analysts choose a semantic domain, typically kinship terminology but alternatively such domains as names of plants or diseases, and by selecting two or more semantic components shared by the terms under consideration, arrange the terms in a pattern. A well-known example is the taxonomy used as a simple illustration by Frake, (see Figure 3) showing an analysis of the American domain 'something to eat', showing three sub-divisions of this category, and further sub-divisions in the bottom line. (Frake, 1962: 30)

Frake describes a procedure by which the anthropologist may elicit the required information, hopefully discovering categories or features which correspond to the informant's knowledge of the domain. An important aspect of componential analysis is the attempt made to discover the categorisation used by natives sharing the culture.

Cognitive anthropology entails an ethnographic technique which describes cultures from the inside out rather than from the outside in. Categories of description are initially derived from relevant features in a culture rather than from the lexicon of anthropology. (Tyler, 1969: 20)

Another kind of componential analysis is the paradigm, where
FIGURE 3

A TAXONOMY

<table>
<thead>
<tr>
<th>SOMETHING TO EAT</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>SANDWICH</td>
<td>PIE</td>
<td>ICE-CREAM BAR</td>
<td></td>
</tr>
<tr>
<td>HAMBURGER</td>
<td>HAM</td>
<td>APPLE</td>
<td>CHERRY</td>
</tr>
<tr>
<td>SANDWICH</td>
<td>PIE</td>
<td>PIE</td>
<td>PIE</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>ESKIMO PIE</td>
</tr>
</tbody>
</table>
two components intersect; in a taxonomy components do not intersect, but lower terms are "kinds of" upper terms. Tyler gives as an example a paradigm of features for "horse" and "swine", using sex and maturity as the relevant dimensions, (1969: 10), as shown in Figure 4. It is evident from this example that a paradigm will not necessarily be complete. That is, there may be areas of semantic space that are not used, represented by blank spaces in Tyler's paradigm above.

A third kind of semantic arrangement described by Tyler is a tree arrangement, where features do not intersect (as in a paradigm) and items at lower levels are not necessarily kinds of items at higher levels (as in a taxonomy) (1969: 10-11). A simplified example of this kind of tree is shown in Figure 5.

Componential analysis, as presented by Goodenough in 1956, was originally an extension of the methods of descriptive linguistics into the realm of semantics. Goodenough speaks of the "semantic analyst" who "aims to find the conceptual units out of which the meaning of linguistic utterances are built", as pursuing a task analogous to that of the linguist seeking to determine the phonemes of a language. (Goodenough, 1956: 197). Like the descriptive linguist, he was concerned with an idealised version of the culture, so that the analysis produced would be of a version of cultural competence: this was recognized by Tyler:

Each individual member (of a society) may have a unique, unitary model of his culture, but it is not necessarily cognizant of all the unique, unitary models held by other members of his culture. He will be aware of and use some, but it is only the anthropologist who completely transcends these particular models and constructs a single, unitary model. This cognitive organization exists solely in the mind of the anthropologist. Yet, to the extent that it will generate conceptual models
## Figure 4
A Paradigm

<table>
<thead>
<tr>
<th>NATURE</th>
<th>MALE</th>
<th>FEMALE</th>
<th>NEUTER</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADULT</td>
<td>STALLION</td>
<td>NARE</td>
<td>GELDING</td>
</tr>
<tr>
<td></td>
<td>30AR</td>
<td>SOW</td>
<td></td>
</tr>
<tr>
<td>ADOLESCENT</td>
<td>FILLY</td>
<td></td>
<td>BARROW</td>
</tr>
<tr>
<td></td>
<td>GELT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHILD</td>
<td>COLT</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SHOAT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BABY</td>
<td>FOAL</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PIGLET</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Figure 5
A Tree

FLOWERS SPURRED

FLOWERS REGULAR

+ DELPHINIUM

- AQUILEGIA

+ RANUNCULUS

- INVOLUCRE

+ ANEMONE

- CLEMATIS
used by the people of a particular culture, it is a model of their cognitive systems. (1969: 5)

Tyler is speaking here of a complete ethnology constructed according to the methods used in cognitive anthropology (such an ethnology does not exist for reasons to be discussed later on), but this is an expression of the theoretical position apparently held by at least some componential analysts. It has been suggested that Tyler is here describing ethnological rather than cultural competence: it is possible that he would consider the two to be identical, as he insists on the necessity of an epic approach to ethnology (1969: 20).

Tyler's awareness of the abstract nature of the model sought contrasts with the stress laid on 'psychological validity' of componential analyses, as for example by Wallace (1965), perhaps in reaction to such critics as Burling (1964), who pointed out the very large number of possible solutions in any semantic domain, and the formal difficulty of selecting any one as being better than the others. A similar problem is faced by transformational-generative grammarians, who usually lay no claims to 'psychological validity' for their grammars, but have relied on their linguistic intuitions when choice between alternative models was impossible on formal grounds.

However, Wallace says that originally "the aim of componential analysis was to discover the intensional meaning of terms for their native users" (1965: 229), and that unless this aim is acknowledged "the only cognitive process considered is that of the analyst himself". He goes on to say that

the process by which the speaker relates taxonomic information to nomenclature is latent or perhaps
unconscious: i.e. he cannot give a clear and correct
verbal statement of his own rules of semantic procedure
(although he can give valuable clues on proper inquiry),
and the rules must therefore be inferred and their validity —
their 'psychological validity' — tested by techniques of
a sort more commonly employed by psychologists than anthrop-
ologists. (1965: 231)

Wallace's experience in the analysis of cultural competence is evidently
parallel to that of the linguist whose informants will not produce by
themselves anything like his analysis. He suggests a method for testing
the psychological validity of alternative analyses, using the example
of Trukese, but admits that:

Failure to respond correctly may imply that the concept
is psychologically unreal, or that the translation into
Trukese has been clumsy, or that the informant does not
understand and accept the task; while a successful
response may imply either that the concept has been for
some time psychologically real, or that the informant
has just learnt it from the ethnographer's question.
(1965: 243)

And so he modifies his method in such a way as to lessen the likelihood
of these eventualities, and also of discovering whether or not the con-
cepts are held. Keesing comments on the problem of psychological
validity, pointing out that, among things,

a cultural description is ordered in a single linear
sequence (successive pages). This raises problems of
internal arrangement that probably render a written ethn-
ography markedly different in basic structure than the
cognitive organization of cultural knowledge... There
may well be aspects of cultural coding that lie quite
outside the kinds of ordering we can describe with the
mathematics and logics Western man has formalized...
[and] from what linguists have told us about uncon-
scious grammatical rules and categories, there is no
reason to assume that cognitively crucial units of
cultural structure are labeled, conscious, or verbal...
Folk categories should, in this view, be among the
outputs of the 'black box' for which the [cultural]
thory accounts; but folk sociology, like folk grammar,
is probably a limited surface layer of the cultural
whole. Even the intuitions of native actors in test situations can be invoked only on certain levels of the description, as in linguistics. (1970: 444)

Keasing's mention of 'a surface level of the cultural whole' draws attention to the fact that componential analysts have been concerned with the cultural equivalent of the transformational-generative grammarians' 'surface structure'; that is, they have been looking for those aspects of cultural competence which are directly observable in the data. Since syntax is analysable satisfactorily when the assumption is made that there is ordering which is not directly observable, but whose postulation gives acceptable explanations for surface structure, it seems likely that 'deep structure' may be a useful concept in the analysis of cultural competence.

D'Andrade raised the question of what it is that is being analysed in a componential analysis. He hypothesised that if the "correlations and factor structure [demonstrated by a componential analysis] are a result of meaning similarity, rather than the covariation of different responses on the part of the individuals rated, then it should be possible to reproduce the results of the factor analysis without ever involving the outside world." (1965: 222). He devised a test to discover if a paradigm of personality features could be produced by asking people to place pairs of words on a scale of similarity to one another, which would be similar to one which had been produced by psychologists as a result of study of interpersonal behaviour. The results were in fact very similar, and as he says,

Such results throw open the question of whether many other studies that have reported in various forms
correlations between two or more linguistic labels have been reporting about relations between real world events, or about how similar in meaning the labels are, or some complex interaction of meanings and external events.

(1965: 228)

This neat demonstration of the confusion underlying some psychological methods is a further reason for componential analysts to seek other kinds of justification than 'psychological validity': since componential analysts are concerned with meanings of terms, that is, with how people structure their perceptions, and not with whatever it is that is being structured, they need not fall into the psychologist's confusion. However, this does not mean that the interrelationship of meanings and events is not a worthwhile area for study: as D'Andrade uses the words 'meanings' and 'events', he seems to be talking about the opposition between events in the 'real world' as opposed to 'mental acts' or meanings. By extension, his two words may perhaps be taken as synonyms for competence and performance, in that events, like performance, are directly perceived through the senses. They have meaning on account of, or are structured by, the spectator/actor's competence. In this reading of D'Andrade's final sentence, the interdependence of competence and performance is evident: events are inexplicable without reference to their meanings, and so a theory of performance must include a theory of competence. Such a theory of performance will provide an explanation for 'the complex interaction of meanings and external events'.

To return to the form of componential analyses, it seems that formalisation has taken place progressively, which has not been the case in transformational-generative grammar, which was formalised from the beginning. Goodenough in the article previously mentioned says:
The properties of a semantic system are the same as those of a paradigm in traditional linguistic usage. In each case the significata of all of the lexemes or constructions are parts of a single conceptual universe— that of kinship in the present instance, that signified by the root or base form in a traditional paradigm.

(1956: 209)

(He is here likening a semantic domain in culture to a single root in language.) By the use of the term 'paradigm' he is drawing an analogy between the terms comprising a semantic domain and those words in a sentence which have a paradigmatic relationship to each other, i.e., may be substituted for one another. Linguists use the term 'paradigmatic' to distinguish that relationship of substitutability from a 'syntagmatic' relationship, which is the relationship holding between the words combined together to make a sentence. Goodenough does not point out here that no mechanism capable of combining his semantic paradigms into a syntagma has yet been devised. It seems to be assumed by at least some componential analysts that a large enough collection of disparate analyses of domains will constitute an ethnography, but some means of making formal connections between these analyses would surely be desirable. Certainly each domain is intelligible independently, and it is probably necessary that each domain be analysed initially alone, but it is also more than likely that in the culture as a whole there is cross-referencing between domains, and that the same kinds of ordering may be perceived in separate domains, pointing to linkages which should be made explicit.

Keesing, on the basis of his analyses of several Kwaio social categories, shows how flow charts (decision models) can convert the 'output' from one analysis into the 'input' to another, and feed the
outsuts of a number of different diagrams into a single generalised
diagram, but also points to the extreme complexity of problems of cross-
referencing and ordering of domains (Keesing, 1971a). His suggestions
would give the componential analysis model a generative capacity simi-
lar to that of the transformational-generative grammar, so that an
ethnography of this kind, if it is capable of construction, will generate
(idealised) behaviour as a grammar generates grammatical sentences.
('Generate' is used here in Chomsky's sense:

When we speak of a grammar generating a sentence with
a certain structural description, we mean simply that
the grammar assigns this structural description to the
sentence. (Chomsky, 1965: 9))

Goodenough uses 'paradigm' to refer to several ways of ordering
terms. Tyler, as previously quoted, defines the word more restrictedly,
using it to refer only to one kind of analysis. Werner and Fenton (1970)
define paradigms, taxonomies and other semantic relationships formally,
stating the logical properties of these relationships: this resembles
the formalisation characteristic of most transformational approaches to
linguistics, and the application of these formal methods may produce
similar insights into cultural domains.

In conclusion, it seems that componential analysts are concerned
with that part of cultural competence which involves the ways in which
the meanings of words relate to each other to form a network of concepts
knitting the culture together. In other words, their interest is in
structure, as an abstraction from the actual lexemes which form their
data. Componential analysis in its present form is not able to cover all
the semantic possibilities for a culture, since its paradigms include
only referential meanings, ignoring connotations: for example, an analysis of American (or English) kinship terms will fix 'father' in relation to 'mother', 'son', and so on, but will not have anything to say about the relationship between 'father', 'dad', 'pop', 'pa', 'the old man', etc. Another limitation of the componential analysis approach is its applicability to single words only: sentences in a language convey meanings which are something other than the sum of the meanings of the individual words, although I have no idea how those kinds of meanings might be diagrammed. As Goodenough points out, componential analysis is an extension of the methods of descriptive linguistics into semantics, and like descriptive linguistics the regularities it works with are those which are observable in the data. The complexities of surface structure point to the likelihood of patterning at a deeper level, which componential analysis does not yet reach.
Lévi-Strauss, on the other hand, is attempting to unravel the structure underlying human cognition, so that his exploration of cultural competence (though he, like the componential analysts, does not speak in these terms) is at the level of deep structure. He does not hesitate to postulate structures which are not immediately obvious in his data, and his justifications for those structures, like the justifications of the transformational-generative grammarians, do not convince everyone.

Lévi-Strauss' approach to anthropology derives to some extent from particular aspects of linguistic theory and from his preoccupation with philosophy, music, and geology: it is a very different approach from that of most English and North American anthropologists and his theory, methods and conclusions have been misunderstood sometimes. In Leach's words:

The outstanding characteristic of his writing, whether in French or in English, is that it is difficult to understand; his sociological theories combine baffling complexity with overwhelming erudition. Some readers even suspect that they are being treated to a confidence trick. Even now, despite his immense prestige, the critics among his professional colleagues still greatly outnumber the disciples. Yet his academic importance is unquestioned. (1970: 3)

Leach goes on to say that it is Lévi-Strauss' "method that is interesting rather than the practical consequences of the use to which it has been put" (1970: 3), but I think the theory is at least as interesting as the method: I do not know if the consequences of his work are
practical, but they are vastly more thought-provoking, not least in their implications for a theory of human cognition, than much descriptive ethnographic work.

Lévi-Strauss' theoretical stance derives in part from the Prague School of structural linguists. Jakobson, following in the steps of Saussure and Troubetskoi proposed a system of binary distinctive features in phonology, using features from both articulatory and acoustic phonetics (see, for example, Jakobson, 1965). Articulatory features are such things as voicing and nasality, where a phoneme is in the nature of things either voiced or not, nasal or not, because of the way our articulatory mechanism works. Acoustic features are more obscure to the non-linguist, involving distinctions which are not apparent to the human ear, but which are observable in sound spectrograms. Such features are the compact/diffuse opposition, involving one central acoustic formant as opposed to one or more non-central formants. The phonemes of a language are set out in a matrix and given plus or minus values for an average of twelve binary features, which are sufficient to distinguish each phoneme from all the others, and provides a convenient way of handling phonological problems: consonants and vowels are described using the same set of features whereas in articulatory terms they are rather arbitrarily separated. The choice of features, while being apparently arbitrary, is justifiable within any language as allowing the grouping of natural classes of phonemes, as, for example, in English the phonologist would consider /p, t, k/ a natural class, since these phonemes are often subject to the same kinds of alternation or restriction of environment. Using Jakobson's features /p, t, k/ would be
characterised as those consonants which are [- voice] and [- continuant] and [- strident].

Distinctive features may be considered to be universal, in the rather specialised sense that all languages may be represented using some of these features, not that all features are found in all languages. Transformational-generative grammarians have made extensive use of binary features in phonology, and to a lesser extent in preliminary work in semantics. Lévi-Strauss assumes that at least a part of the functioning of the human mind can be represented in terms of binary oppositions: in an interview, where he is talking about his myth analysis, he says,

I generalize...about certain properties of mythic thought—for example, about the fact that this type of thinking proceeds by means of chains of binary oppositions. But I do not prejudge the localized and particular content of these binary oppositions themselves. (Skoun, 1972: 76)

and "The human brain has certain formal properties resulting from its structure and its organization". He is saying here that his interest is in structure rather than in any particular content, and that he is looking for universals at the level of structure, on the assumption that there are certain innate predispositions in human modes of cognition, which implies universal patterns of cognitive competence.

An example of Lévi-Strauss' analysis of myth is to be found in "The structural study of myth". Here he shows how he starts out from a linguistic basis, and makes these claims:

(1) If there is a meaning to be found in mythology, it cannot reside in the isolated elements which enter into the composition of a myth, but only in the way those elements are combined.
(2) Although myth belongs to the same category as language, being, as a matter of fact, only part of it, language in myth exhibits specific properties.
(3) Those properties are only to be found above the ordinary linguistic level, that is, they exhibit more complex features than those which are to be found in any other kind of linguistic expression. If the above three points are granted at least as a working hypothesis, two consequences will follow:

(1) Myth, like the art of language, is made up of constituent units.

(2) These constituent units presuppose the constituent units present in language when analyzed on other levels—namely, phonemes, morphemes, and sememes—but they, nevertheless, differ from the latter in the same way as the latter differ among themselves. They belong to a higher and more complex order. (Lévi-Strauss, 1963: 206-7)

He goes on to describe his technique, using the myth of Oedipus as an example; he says that he picks out 'relations' and arranges them three-dimensionally, so that a pattern of oppositions emerges which may be charted. This does not give anyone hoping to perform a similar analysis any very helpful clues as to how the 'relations' may be identified in the first place. Of course, there is no reason why it should: as Chomsky has pointed out (1957: 51-53), linguists in this century have often aimed at presenting an explicit procedure by which an analysis may be reached, and this is an aim which is not shared by any other science. It should be enough to provide a reasonable theory, without trying to account for the process whereby it was reached. Leach's question (and answer) are not to the point and would be more readily seen to imply an unjustified expectation if applied in appropriate terms to Newton or Einstein:

What will doubtless puzzle the novice—more particularly when he comes to Mythologicae II is how on earth Lévi-Strauss comes upon his basic oppositions in the first place. How could it ever occur to anyone that an opposition between roast pork and boiled cabbage might reflect a fundamental characteristic of human thinking, or that honey and tobacco (of all things) might come to have a significance as fundamental as that which
approaches rain and drought? The answer, I think, is...
(Leach, 1970: 91-92)

Lévi-Strauss does not make any great claims as far as the results of his work are concerned:

As large as it may appear, considering the time I spent on it and the size of the four volumes [the Mythologiques], what I set out to do remains extraordinarily limited. In sum, I tried to describe a certain language—that of the mythology of the Americas—and to bring out some of its syntactical and grammatical characteristics. I say some characteristics because there is still a great deal to do, even in this single field... (Akoun, 1970: 76)

It is his theoretical position, his assumption of underlying codes, that is the most important aspect of his work. His concern is with the structure underlying actual behaviour: in this case his data are several versions of myths, and by superimposing them one on another he arrives at what he claims to be basic oppositions which are the result of human cognitive faculties. If his concern may be considered to be with 'cognitive competence' of a universal kind, the relationship of this cognitive competence to cultural competence would be similar to that between the innate linguistic predispositions Chomsky postulates and linguistic competence. In fact, the innate linguistic predispositions would be a part of general cognitive competence, which would limit the possibilities for variations at a deep level of cultures as well as of languages.
Psycholinguistics can be described as the search for ways of characterizing certain intellectual abilities of human beings in order to account for the extraordinary facts of language and the use of language by human beings. The chief ideas in psycholinguistics come from modern linguistic theory... (Deese, 1970: iii)

Psycholinguists then, are interested in finding a model of language production, and have been concentrating on testing the models of processes put forward by transformational-generative grammarians in order to find out if they have any "psychological reality".

Bever reviews some of the evidence gathered by experimenters who were trying to find out if the perceptual complexity of a sentence is proportional to the number of transformations included in a grammatical description of that sentence. This would mean, for example, that the passive construction would be harder to understand than the active version of the same sentence, since one more transformation is required to convert an active into a passive sentence. He concludes that there is no direct correlation between grammatical rules and perceptual operations (Bever, 1970: 287), which is not surprising, since the rules are intended merely to be a model of competence. It seems very optimistic to suppose that the unilineal sequential ordering of a transformational grammar should correspond to any part of the operation of such a complex mechanism as the human mind.

Experiments designed to test the reality of the structures, as opposed to actual rules, postulated by linguists have been more
successful. Linguists agree, for instance, that in the sentence "Because it rained yesterday the picnic will be cancelled" there are two major constituents, the first of which ends after "yesterday". Psycholinguists found that when a click was produced in either "yesterday" or "the" it was said by subjects to have occurred between the words, apparently showing that the major constituents resist interruption. (Bever, 1970: 239) On the basis of these and related experiments Bever concludes that sentences are understood and memorized in the form of their syntactic structures: useful confirmation of something perhaps taken for granted by most linguists.

The work which has been done by psycholinguists on language acquisition using the transformational model for syntax shows the usefulness of that model in characterising linguistic process, and provides further justification for it. For instance, Klima and Bellugi-Klima show how a child's linguistic competence can be described as a simpler version of an adult grammar (Klima and Bellugi-Klima, 1966). They show how in the speech of three children, rules of increasing complexity for negation and interrogatives, progressively becoming closer to adult rules, can describe the children's output. Of course, this representation of children's grammar tells us nothing about their perceptual or productive mechanisms.

Bever argues that language acquisition can be described in terms of perceptual strategies which are independent of grammar, on the basis of several studies of children's responses to sentences of varying complexity. He suggests that the predisposition towards certain strategies may be innate in the same way as grammatical capacity may be.
(1970: 311-312). He goes on to show how some systems of adult language structure and behaviour are determined by perception: It seems that at least some aspects of linguistic perception are based on "cognitive universals", so that, for instance, the sequence:

a) he went to the newspaper is in deep (whose occurrence is relatively unlikely) is harder to recognise than:

b) then go ahead and do it if possible

The reason for this difficulty is one which applies also to visual perception: "A stimulus may not be perceived as simultaneously having two positions on the same classificatory dimension" (Bever, 1970: 334).

Sequence a) simultaneously forms two sentences:

he went to the newspaper

the newspaper is in deep

so the underlined portion has a double function. There is a general cognitive restriction that results in psychological complexity whenever such double functions appear.

As a visual example consider the representation of the two squares on page 50 when they are adjacent. The line labelled 'y' is simultaneously shared by the right and left squares. As a result, Fig. 6 is generally perceived as a divided rectangle rather than as two adjacent squares. Often such double functions in vision can produce 'impossible' figures from the combination of two possible figures, such as Fig. 7. (Bever, 1970: 335-336) (The numbering of the figures has been altered to correspond to the numbering in this chapter)

Bever's 'cognitive universals' may relate to Lévi-Strauss' (see page 46 above), though he does not say whether his data have been tested cross-culturally. In any case, he is making the same kind of claim as Keesing and Lévi-Strauss for the necessity of a deeper level
FIGURE 6
FIGURE MOST EASILY SEEN AS A RECTANGLE

Figure most easily seen as a rectangle with one division at "Y", rather than two squares joined at "Y".

FIGURE 7
FIGURE THAT IS "IMPOSSIBLE"

Figure that is 'impossible' because of two- and three-dimensional projections at the point "Y".
of analysis than the descriptive. There may be a link between Bever's proposals and those of Arnheim, whose concern is with the use of visual imagery in cognitive processes. Arnheim sees a deeper rift than Bever between visual and linguistic thinking, perhaps because he is not looking for universals in cognition. (Arnheim does find universals in visual imagery (1969: 274, 282) but does not look further for links between visual images and linguistic processes.)

Bever makes it clear that the notion commonly held by psycholinguists that transformational grammar may be related to actual speech production and perception is unrealistic. Grammars are based largely on linguists' intuitions, whatever those may be, and are in as much need of psychological explanation as any other sort of linguistic behaviour. It may be for instance that transformations are relevant only to intuitions (they are not directly involved in sentence perception, and may not be relevant to speech production) (Bever, 1970: 345)

Thus it seems that some psycholinguists have been trying to use a model of linguistic competence to account for performance, in the sense of production and recognition, and have been unsuccessful. Bever's suppositions give support to the idea that perhaps psycholinguists will make greater advances towards a theory of performance by regarding competence as something to be accounted for within the overall theory, to return to the suggestion made during my discussion of componential analysis (see page 38 above) that a theory of performance must include a theory of competence.
I have taken Hymes' label (1963: 356) for one modern descriptive linguistic approach, incorporating the names of three of its chief exponents. These are the linguists who, following the work of Boas and Bloomfield, made linguistics into a science. American descriptive linguistics was to a large extent shaped by the interest of its practitioners in North American Indian languages, with the necessity for recording accurately and analysing previously unwritten languages with unfamiliar sound systems, and with the recognition of the autonomy (relativity) of each individual language, which requires analysis in its own terms rather than in the terms of a preconceived grammatical framework.

These linguists are concerned with performance, in the sense of actual utterances, (although they would probably not use that term) and therefore with regularities which are directly observable in the data.

After Bloomfield's *Language*, published in 1923, the most complete exposition of the descriptive linguistic method is Zellig Harris' *Structural Linguistics*, published in 1951, and here the emphasis on what Chomsky (a student of Harris') calls 'discovery procedures' is clearly evident. The book is intended to give as detailed account as possible of the structuralist approach to analysis of a corpus of material, obtained by whatever method in the field. The procedure described consists of exhaustive analysis at the phonemic and morphemic levels. Trager and Smith, in their analysis of English structure using their adaptation...
of the descriptive method, (Trager and Smith, 1957) outline the method as follows:

The presentation of the structure of a language should begin, in theory, with a complete statement of the prelinguistic [such phenomena as "breathation, voice set, voice quality, body set, and motion quality" (Trager, 1958: 275)] data... This should be followed by an account of the observed phonetic behavior, and then should come the analysis of the phonetic behavior into the phonemic structure, completing the phonology. The next step is to present the recurring entities—composed of one or more phonemes—that constitute the morpheme list, and go on to their analysis into the morphemic structure. In that process the division into morphology and syntax is made. After the syntax one may go on from the microlinguistics (linguistics proper—phonology and morphemics) to metalinguistic analysis. (Trager and Smith, 1957: 8)

Later they explain that "syntax, as yet only begun ... is necessarily treated sketchily" (1957: 8). Here the limitations and strengths of the descriptive method are apparent: no mention is made of semantics (although more recently descriptive linguists are working in the field of semology, an approach to semantic analysis), little attention is given to syntax, and the field of linguistics is narrowed to the detailed consideration of phonology and morphemics. This narrowing of focus allowed great advances to be made, to the point where further advances in the descriptive vein seemed unlikely, impelling Chomsky, following a lead of Harris', to turn his attention wholly to syntax and to evolve the transformational model, which in turn has recently led such linguists as Lakoff and Fillmore into the exploration of formal semantics. Meaning plays no part in Trager and Smith's analyses (nor did it in the work of the early transformational-generative linguists). In their brief discussion of syntax, Trager and Smith say:

It is emphasized that all this is done without the use of 'meaning': it is formal analysis of formal units. In
fact, it becomes evident that any real approach to meaning must be based upon the existence of such an objective syntax, rather than the other way round. (1957: 63)

Trager and Smith's statement concerning the applicability of their analysis is illuminating:

It must be recalled... that language is a societal phenomenon. The language of one speaker—an idiolect—is therefore necessarily and by definition incomplete; since at least two speakers (one of whom may be imaginary) are involved in every normal communicational situation. All linguistic description is based on observation of more than one speaker. The extent of validity varies in different languages: for English it is found that the analysis to be presented holds for as much of the system as any one includes, and for all the systems of all the patterns of idiolects—dialects that we have observed. By extrapolation it is stated to be the analysis for the total pattern of all the dialects. (1957: 9)

It is clear that Trager and Smith's subject matter, at least here, is the idealised version of the language which has traditionally been the linguist's material: they are working from the careful pronunciations necessary when phonemic oppositions are sought—the slurred speech where 'bottle' and 'buckle' are indistinguishable except from the context would be useless—and they discard hesitations, mispronunciations and syntactic errors as outside the bounds of their analysis.

An example of the application of the Trager-Smith-Joos model to something closer to performance is found in Bowman's "The minor and fragmentary sentences of a corpus of spoken English" (1966). Bowman recorded on tape informal conversation among members of her family in her sister's living room, under conditions which she judges to have
caused no distortion of normal speech. Her purpose was to analyse the minor and fragmentary sentences: a major sentence is one with both a subject and a predicate, and the residue were Bowman's material. She counted and classified these minor sentences, and one of her conclusions was that "popular notions that casual discourse consists almost entirely of minor sentences and fragments are disproved, as far as the casual discourse of this group of speakers is concerned", (1966: 63) since most of the sentences in the corpus were major ones. This may be partly the result of Bowman's counting, since she says earlier, "The question arises as to whether to call a fragment every little hesitation that occurs in the delivery of a major or minor sentence. If all there were counted, it would make the number of fragments quite high, and..., in the view of the writer, unfairly overload the count of fragments" (1966: 32). This conveys her concern as being still chiefly towards an idealisation of her subjects' language: if linguistic performance were the object of her study then everything they said would be valuable. As a descriptive linguist, she was, of course, concerned only with the grammatical structure of the corpus, not with what the people were saying or why they said it, but as an analysis of how they said it, it is a beautiful example of the descriptive approach to something just slightly removed from performance.

Trager, Smith and others have explored performance still further in the area of paralanguage, which includes those aspects of speech which are not part of language, or of competence linguistically defined. These are voice qualities, such as pitch range, rhythm control, and resonance, and vocalizations, such as laughing, belching, pausing,
and inhaling; these are factors which are not included in a descriptive or transformational grammar, but which play a part whose importance in communication is not yet fully understood. The First Five Minutes by Pittenger, Hockett and Daneby (1960) is probably the only detailed published presentation of data in the area of paralanguage, and is an attempt, by means of minute scrutiny using both linguistic and psychiatric methods of analysis of a recording of the first five minutes of a first interview between a psychiatrist and a patient to find out:

What does each participant say? Why does he say it? How does he say it? What impact does it have on the other participant? When and how is new material brought into the picture, and by whom? What's being communicated out of awareness? How does the orientation of each participant change as the transactions continue? and why? and how do we know? and does the other participant know? and if he does, by virtue of what evidence? (1960: 218)

In sum, an attempt is being made to discover how a specific two-person encounter is structured, in the assumption that whatever is uncovered will have wider application in other situations where people are communicating. The data is transcribed at the levels of phonemics, paralanguage, and conventional orthography, and discussed in linguistic and psychiatric terms: the authors claim to have made no findings on the basis of their data, other than confirmation of their assumption that in human communication the complexity, no matter how incredible, is not random, but patterned... (1960: 210) It was not possible to correlate any specific linguistic or paralinguistic phenomenon with any of the mental states perceived by the psychiatrist, but

We are impelled by our experience in the present project to propose that a state of a person is not, after all, something hidden inside, insusceptible to direct
observation. Rather, it is some contour or pattern of the person's totality of communicative behavior. The linguist has names and symbols for individual items; the psychiatrist has names for the whole Gestalt. (1960: 222)

It has been estimated that paralinguistic study involves spending time in the ratio of about 1600:1, which is perhaps one reason why further work in this area has not been published. Pittenger et al.'s discovery of a degree of patterning in performance which had hitherto been unnoticed is an indication of the complexity a theory of performance must account for.
Part 6. Kinesic and Proxemic Studies

Kinesic and proxemic studies are extensions of linguistic and paralinguistic methods to non-vocal behaviour, kinesics being the study of human body motion and proxemics the study of the human use of space in communication. Since these studies are not specifically linguistic they may not seem to have any direct relationship to my argument, but since my purpose is to place the study of linguistic competence and performance in a wider perspective than the purely verbal one usually held by linguists, the brief consideration of the aims and methods of non-vocal communication, particularly in its relation to speech and language, may be justified.

Birdwhistell's work in establishing kinesics as a serious anthropological study is based on the use of slow-motion film of interaction. He has devised an extremely detailed system for transcribing body movements, breaking down movements into units comparable to those isolated in linguistics by the Trager-Smith method, so that he speaks of 'kines', and 'kinemorphs'. A 'kine' is, roughly, a single movement of a part of the body, such as a lowering of an eyelid, but it "is not a point or position of articulatory activity; it is a range which the unsophisticated informant reports as 'the same'" (Birdwhistell, 1970: 194), and kines will vary from one culture to another, where movements in any area may be discriminated to a greater or lesser extent. A kinemorph is "an assemblage" of movements (kines) in one of the eight areas which Birdwhistell finds the body may be conveniently divided
into the description of movements of Americans: the kinesmorph is abstracted through the analysis of a moving picture into kines, then kine assemblages, to discover those which form unitary complexes (1970: 195). Birdwhistell remarks that he has not found anything comparable to a linguistic syntactic structure which may be abstracted from the study of kines and kinesmorphs, and suggests that meaningful segmentation and binding together of kinesic construction sequences is handled, in all likelihood, parakinesically...through the medium of stance. Stance is a term designed to cover a pattern of total body behaviour which is sustained through time, within which one or a series of constructions takes place and which contrasts with a different stance. Stance subsumes position (p), (which is a statement of the relative position of all the body parts in space), locotion (l), (the movement of the body through space), and velocity--(v), which covers sustained velocity of movement of the total body. (1970: 200)

Birdwhistell's particular interest from the point of view of my argument is his insistence on the interdependence of vocal and other body movements in human speech. He shows that linguistic performance is inseparable in a physical sense from the rest of performance:

Although he cannot tell you exactly how it is done, any normal American informant will tell you that you have given quite a different message when you say, "She is a nice girl" and "She is a nice girl?" The difference between those two sentences takes place in about 3 to 5 milliseconds. The way in which the terminal pitch of the two sentences is handled makes the first what we might call a declarative statement. The more acute observers will note that when one speaks, he is not simply presenting data which linguists term phonetics or phonemics or morphology or simple syntax. When these linguistic particles are put together in a communicational frame, in actual speech one does a series of things with one's body. In speaking these sentences, I do not have very much choice about which movements I make. Each of these sentences, within its context, requires a very special set of movements. To review, "She is a nice
"girl" is marked by a set of hand movements which take place over the Sh., the nice, and the girl. In this example I mark the sentence by lowering my head. I can just as easily do this with my eyelids, with my hand, or even with my entire body. These kinesic markers, as we have termed them, can be seen, too, in the contrast sentence "She's a nice girl" in which I cross-reference with the markers just as I can with drawl in my voice over the "she's", the "nice", and the "girl". I could vary this but, essentially, the "sweep" marker over the "nice" indicates that I am not totally enthusiastic about the young lady. Comparably, the example, "She is a nice girl"/// contains a series in which I may knit my brow over "nice" and make a slight lateral and upward movement over "girl". Obviously this does not exhaust the possibilities. In actual practice, I can vary this in a number of ways - the meaning varying in a consistent manner with each significant vocalic or kinesic shift. (1970: 17)

(/// and # are juncture symbols, marking utterances ending with rising and falling pitch, respectively. < marks primary stress, and ^ secondary stress. () signifies drawl.)

We learn to perform and interpret these movements as unconsciously as we learn the articulatory movements of the vocal tract, and the fact that it is almost impossible to speak without making the appropriate movements is an indication of their integration with vocalization. Being accustomed to write, and to convey sufficient information by means of representations of words alone, along with some punctuation in place of bodily movements and suprasegmental phones (such things as vocal stress and intonation), we perhaps lose sight of the considerable amount of information we cannot help conveying by those aspects of performance not included in ordinary orthography. Reading (when the writing is legible) is perhaps 'easier' than listening at least to some human voices; intonation patterns and body movements are to some extent redundant in
terms of the information conveyed, but make it easier to understand speech which is indistinct. Movements, tone of voice, and so on are not redundant when the message they convey is different from that conveyed by the words they accompany. When we read aloud we supply intonation patterns and body movements similar to those of spontaneous speech, but almost always perceptibly different in some way that is hard to specify: there is perhaps a convention that reading aloud should be more monotonous than speech (except for elocation teachers), maybe because the words, being originally written rather than spoken, are designed to speak for themselves more clearly than spontaneous spoken ones. Actors presumably have a degree of control over these aspects of performance which allows them to appear to be behaving naturally when in fact they are not: competence for acting thus impinges in an interesting way on linguistic competence. (The connections between competences are still more elusive in those experimental dramas where the dialogue is improvised, in order to produce the ultimate degree of naturalness).

Proxemics, as pursued by Edward Hall, relates less closely to linguistics, but grew out of Hall's concern with "culture as communication" (Hall, 1959: 13), and he acknowledges his indebtedness to the linguist Trager, who helped him to work out a set of concepts with which to analyse culture as a communication system. In "The Hidden Dimension" (1966) he considers the ways in which members of different cultures differ in their (learnt but unconscious) requirements in personal and social space. His method is, perhaps necessarily, less rigorous and detailed than Birdwhistell's: he developed a notation for the capture
of proxemic observations (Hall, 1963), which, so far as I know, has not been used in any published work, and he uses the more traditional anthropological method of recording his observations in the form of stories.

He shows how use of space conveys different meanings in different cultures: to choose an example at random out of very many in his books:

One of my earliest discoveries in the field of inter-cultural communication was that the position of the bodies of people in conversation varies with the culture. Even so, it used to puzzle me that a special Arab friend seemed unable to walk and talk at the same time. After years in the United States, he could not bring himself to stroll along, facing forward while talking. Our progress would be arrested while he edged ahead, cutting slightly in front of me and turning sideways so we could see each other. Once in this position, he would stop. His behaviour was explained when I learned that for the Arabs to view the other person peripherally is regarded as impolite, and to sit or stand back-to-back is considered very rude. You must be involved when interacting with Arabs who are friends. (1966:160)

Kinesic and proxemic studies demonstrate a degree of patterning of non-vocal behaviour comparable to that of language, and that information is conveyed in many more ways than by speech alone. They are concerned with cultural performance, and are discovering some aspects of cultural competence: a person who does not move appropriately or allow his neighbour the required amount of personal space for whatever interaction is taking place, has not internalized the cultural competence (or is manipulating his neighbour cunningly: a violation of the code is as informative as its correct use). As extensions of the methods of descriptive linguistics, kinesics and proxemics are, and perhaps must
remain until further understood, concerned only with surface structure; as explorations of cultural competence they might advance by postulating deep structures, on the supposition that the complexities of verbal language are not unique in human cognitive processes.
Phonetics

Phonicians, like linguists using the Trager-Smith-Joos model, work from performance to competence. In so far as they are experimenting and speculating on the production and perception of speech (e.g. Ladefoged, 1967), their concern may be said to be with a part of linguistic competence, since they are characterizing what the speaker-hearer 'knows' in order to speak and understand as far as articulation and perception are concerned. This is something the speaker-hearer needs to know in addition to his grammatical competence, although it is not mentioned, so far as I can discover, in any transformationalist's discussion of competence. Chomsky, in fact, defining competence in purely linguistic terms, says that phonetics is part of the study of performance (Chomsky, 1965: 10). Here the ambiguity, referred to on page 11 above, in Chomsky's use of 'performance' is confusing. He does not wish linguistic competence to be in any way involved in the neuro-physiological production of speech, and so consigns production to performance, previously defined as acts of speech. Chomsky's view of performance is apparently shared by the psychologist David McNeill, who says:

A grammar is not a recipe for producing sentences.
That recipe is given by a theory of performance. Indeed, the problem for a theory of performance is to explain just how the information represented by a grammar is realized in actual acts of speaking and hearing. (McNeill, 1970: 1140)

McNeill is implying, as does Chomsky, that all that is required in the
way of competence is grammatical competence.

A different representation of the relationship of the production of speech to competence is made by the phonetician Philip Lieberman, who speaks of an "interpretive component" of speech production, which comes into operation when a speaker 'decides', for instance, that since he is speaking to his wife, who knows his dialect, he need not speak particularly distinctly.

To the extent that aspects of the total linguistic competence of the talker or the listener are involved, this interpretive component is part of the grammar. Obviously, the effects of inebriation or of marbles in the mouth on the production or perception of speech are linguistically unpredictable. The linguistically predictable aspects of the interpretive component, which we shall term the "production" component, should be considered as part of the grammar since they are part of the human linguistic competence. (Lieberman, 1967: 166)

He is saying here that linguistic competence must include competence for production of speech, and that if competence is to be represented by a grammar, then the grammar must include the production component. In his model production is not a part of performance.

He offers the diagram of a grammar, shown in Figure 8, where everything down to and including the production component is in the area of competence.

The output of the phonologic component feeds into the production component. The production component represents the ability of a person to bring his total knowledge of the grammar, the social context, the message set, etc., to bear either on simplifying the articulatory control problem in the production of speech or on 'decoding' the acoustic signal. The listener's perceptual recognition routine may involve a process of hypothesis formation in which semantic factors, the derived constituent structure, and a
FIGURE 8
BLOCK DIAGRAM OF A GRAMMAR

SEMANTIC INTERPRETATION
专题 RUES
DEEP PHRASE MARKER
SYNTACTIC
RULES

DERIVED PHRASE MARKER

PHONETIC OUTPUT

PHONOLOGIC
RULES

PRODUCTION COMPONENT

ARTICULATORY CHANNEL

AUDITORY CHANNEL

OTHER INPUTS

ACOUSTIC SPEECH SIGNAL
knowledge of the articulatory constraints of speech production are all considered. (Lieberman, 1967: 167)

This representation gives the phonetician's work of abstraction of underlying structures the same theoretical value as the grammarian's, which is reasonable as long as the phonetician is concerned, like the grammarian, with the competence underlying performance, and not with individual variations in performance.

Phoneticians do not necessarily consider themselves to be concerned with competence, or with any kind of abstraction. Hendrick Hol, for example, says:

One of the topics of phonetics, if not its main topic, is the study of the mechanism of speech and hearing... The mechanism of speech and hearing in man is based on the fact that a speaker is able to produce articulatory cues the acoustic translations of which can be detected as acoustic cues by the nervous system of the listener. The latter is conditioned to detecting these acoustic cues. The task of the phonetician is to discover and study the cues mentioned above; he should not allow himself to be carried away by the strong tendency of the linguist to bundle these cues for the purposes of writing or of phonemic abstraction. (Hol, 1971: 149)

But if his aim is, as he says, to produce a model of the mechanism of speech and hearing, then he will produce an abstraction, whether it corresponds to that of other linguists or not. It may be illusory to suppose that by avoiding talking in terms of phonemes, and by attempting to follow closely the acoustic correlates of speech, the mechanisms of speech and hearing may be understood.
Part 6. Tagmemic Model

Pike’s tagmemic model of language structure is another development of descriptive linguistics, and so is concerned with competence, arrived at by describing performance.

Pike’s work in phonology and morphology led him to describe speech as being "like an onion, with successive layers of form accompanied by concomitant layers of meaning, built upon one another." (Pike, 1945: 170) The inner layers of structure are phonetics, phonology, morphology and syntax, succeeded by stress, rhythm and intonation, which are enclosed in types of utterance (song, speech, whisper, etc.), modifications of key, rate, etc., quality (harshness, resonance, etc.), with age and sex characteristic of the speaker as the outer layers. Pike identifies a crucial difference between linguistic items where 'systematic' contrasts may be identified (as among phonemes), and those where only 'gradient' differences are apparent (as in voice quality, where there are shades of harshness or resonance, but no limited number of contrastive degrees). His application of this notion to the concepts of "langue" and "parole" corresponds to the descriptive linguists' conception of the function of linguistics:

If linguistics is to classify only language structure, then it limits itself to describing only systematic contrasts; however, if some item previously considered to be gradient is suddenly proven to be systematic, it would immediately enter the linguistic field of investigation. The gradient items are usually excluded from linguistics as such, and limited to the field of speech. (Thus, one might perhaps use the term la langue as the systematic structure of language, and la parole as the...
as the gradient structure, or the systematic structure plus the gradient structure.) (1945: 120)

In his immense volume "Language in Relation to a Unified Theory of the Structure of Human Behaviour" (1967), Pike develops his tagmemic model of language structure and attempts to extend his method of linguistic analysis to the rest of behaviour:

Language is behaviour, i.e., a phase of human activity which must not be treated in essence as structurally divorced from the structure of non-verbal human activity. The activity of man constitutes a structural whole, in such a way that it cannot be subdivided into neat 'parts' or 'levels' or 'compartments' with language in a behavioural compartment insulated in character, content, and organization from other behaviour. Verbal and nonverbal activity is a unified whole, and theory and methodology should be organized or created to treat it as such. (1967: 26)

His project is ambitious, but based on an appealing assessment of the relationship between speech and the rest of behaviour. He uses the tagmemic model as an alternative to other kinds of syntactic analysis; he looked for a concept analogous to that of the phoneme in the study of sound systems, and gave the name 'tagmeme' to "the structural position [in a sentence] plus its manifesting class," (1967: 256)

Thus in schematic form an extremely simple tagmemic formula might be SaPV0 which is to be read as: a structure containing three tagmemes of which the first and third contain Nouns as a manifesting class, with the second manifested by the Verb class; while the functional tagmemic slots are respectively Subject, Predicate, and Object. (1967: 491)

This seems to be a generalisation of the concept of the paradigm. A sentence is envisioned as containing a series of slots of different kinds to be filled with appropriate items. I do not think that this model can account for syntactic regularities as neatly as the transfor-
national model. The transformationalists have demonstrated that by postulating deep structure, syntax may be explained more succinctly and apparently reasonably than is possible by working only with surface structures, as Pike does. The transformationalists' (and other linguists') conception of syntactic relationships as being of a different kind altogether from paradigmatic ones has been productive in their work on syntax, and suggests that it may be necessary to look for still other kinds of relationships in other behavioural areas: it may be too soon to be looking for a unified theory. This is not to deny Pike's claim that there is a unified structure underlying behaviour, but to doubt that the most careful descriptions of observable behaviour will ever disclose that structure.
Descriptive linguists have tended to assume, for convenience, that the language they describe is the product of a homogeneous speech community, or to relegate individual, class, or stylistic differences to the status of 'parole' or performance, and thus put them outside the bounds of proper linguistic study. Some sociologists, however, have realised that the study of language and speech can provide insight into the problems not only of multilingual communities (see, for example, Fishman, 1968, section 7) and societies where diglossia occurs (e.g. Ferguson, 1959), where language is obviously crucial, but also in examining, for instance, social stratification in New York (e.g. Labov, 1963) or the English class system (e.g. Bernstein, 1966).

Labov has shown, in a series of articles, how a phonological variable which operates out of the awareness of speakers correlates with socio-economic factors and speakers' assessment of situations on a scale of formality - casualness. In a summarising presentation he describes his method, which is, I am told, impeccable, and with respect to the variables (r) and (th) in New York speech, observes:

Although there is a great range in the absolute values of these variables as used by New Yorkers, there is great agreement in the pattern of stylistic variation. Almost eighty per cent of the respondents showed patterns of stylistic variation consistent with the status of /r/ as a prestige marker, and stops and affricates for /th/ as stigmatized forms. (1963: 242)

He goes on to demonstrate how closely associated the variables are with social stratification, in support of his hypothesis that "any groups of
New Yorkers that are ranked in a hierarchical scale by non-linguistic criteria will be ranked in the same order by their differential use of (r)." (1968: 245) He points out that:

once the social significance of a given linguistic variant has been determined, by methods such as those outlined above, this variable may then serve as an index to measure other forms of social behaviour: upward social aspirations, social mobility and insecurity, changes in social stratification and segregation. (1968: 250)

This kind of study broadens the scope of the ordinary linguistic approach by adding a new dimension of sociological variation which discloses patterning which had hitherto only been suspected, if considered at all. The linguist might consider Labov's concern here to be with performance, but the regularities he discovers may be said to represent a part of the competence of speakers and hearers: evidently his speakers have differing rules for producing (r) and (th), and there rules have an intimate connection with rules about social interaction, suggesting an interlocking linguistic and social competence.

Another kind of regularity is discerned by the English sociologist, Basil Bernstein, who describes verbal interaction in terms of 'restricted' and 'elaborated' codes. (1966) A restricted code is one in which both words and structure are highly predictable and ritualistic, and individual differences in speakers have to be signalled otherwise than verbally.

The code defines the form of the social relationship by restricting the verbal signalling of individual differences. Individuals mainly relate to each other through the social position or status they occupy. Societies differ in terms of the use made of this code and the conditions which elicit it. (1966: 128)
An elaborated code, where predictability is far lower, is used in social relationships where verbal explicitness allows far greater differentiation in meanings.

If a restricted code facilitates the construction and exchange of communalized symbols, then an elaborated code facilitates the verbal construction and exchange of individualized or personal symbols. An elaborated code, through its regulation, induces in its speakers a sensitivity to the implications of separateness and differences and points to the possibilities inherent in a complex conceptual hierarchy for the organization of experience. These codes are induced by the social relation, they express it, and regulate it. The ability to switch codes controls the ability to switch roles. (1966: 129)

Bernstein thinks that lower and working class children usually learn the restricted code, and that middle class children learn both, and that working class children are on this account deprived. Bernstein's notions have been criticized, for instance by Labov (1969) on the grounds that his methodology is poor: he paralyses his working class subjects into producing "restricted" verbal responses. Labov demonstrates how even a skilled black interviewer may fail to elicit significant verbal responses from a black child, and goes on to demonstrate, as have other linguists, that Black English is as fully evolved and elaborated as, though different grammatically from, Standard English (1969). However, though in the case of Black English "restricted code" may be a misleading appellation, there is no doubt that users of this code suffer restrictions in American society, and in their education especially, because they use it and their teachers do not, that is, the social valuation of their code restricts them, not the code itself.

William Bright says:
It is clear that the differences between Bernstein's restricted and elaborated codes are matters of language behaviour rather than of language structure: both codes draw on the same grammar, but the elaborated code, for instance, uses a higher percentage of subordinate clauses. (1966: 136)

In terms of competence and performance, he is claiming that use of one code or another has nothing to do with competence. It may have nothing to do with linguistic competence, but I think it is a part of 'social' competence, and that Labov's work shows another point at which linguistic and social competence intersect.

Linguists have usually been concerned simply with the codes, without consideration of the factors leading a speaker to 'choose' a particular code on a particular occasion, since that is a matter of performance. Now that Labov, for instance, has demonstrated the connection between particular codes and classes of people and occasions, performance is seen as being patterned in an extremely regular way. Linguistic performance, as Pike claimed earlier, is inseparable from the rest of performance, and it is seen to be explicable in terms of things which have no connection with linguistic competence. This is further confirmation of the idea that although competence of various kinds may be described separately, a theory of performance must account for a unified fabric of behaviour.
Chapter 4

Conclusion

We have seen that a theory of performance must include a theory of competence, or theories of competences, since performance is unintelligible without reference to competence. Chomsky suggests a model of linguistic competence, and Lieberman suggests a model of productive competence must be attached to it. Kinesic and proxemic studies and the work of Pittenger et al. suggest related communicative competences. Levi-Strauss and the componential analysts are working in the area of a cognitive competence beyond competence to use specific channels of communication. All of these competences, and probably others in areas not yet explored from a structuralist viewpoint, interlock to produce a larger system which might be called cultural (communicative) competence. A theory of performance must provide a model for the articulation of these communicative or cultural competences.

A theory of performance which accounts for linguistic performance as an inseparable element of human behaviour as a whole demonstrates the interrelationship of language and culture, while not corresponding to the Whorfian conception of that interrelationship.

The approaches discussed in chapter 3 contribute in various ways to the notion of a theory of performance. Of those approaches which are concerned purely with language, the Chomskyan contributes most, with its models of linguistic competence. However, Chomsky's model is limited since it makes no allowance for dialogue but sets up an idealised "speaker-hearer", and his competence is independent and unchanging,

75.
unlike those of the Prague School and of Hymes (see below). The Trager-Smith-Joos school has a static approach to the study of language, which is unproductive for theories of competence: these linguists collect and arrange data, but are content to preserve it rather than explain it. The collection and arrangement of data is of course valuable at the descriptive level, and by comparison with the Trager-Smith-Joos school Chomsky is very weak in this area. However, Trager-Smith-Joos methods need to be extended in order to achieve a unified method of collecting data on communicative or cultural behaviour. Pike understood this, although his model for behaviour is unsuccessful, lacking the Chomskyan conception of models of competence. The Prague School contributes the idea that performance includes competence and the two are interdependent (in their terms, "structure" and "function"), but seek the functions of any particular feature of structure in its various manifestations, connecting here with Lévi-Strauss. They further suggest that competence will be influenced by performance, since feedback in any communicative situation alters competence, a notion which is ignored by Chomsky. This suggestion indicates further complications for a theory of performance modelling the interlocking of models of competences. Psycholinguistics does not make any contribution to a theory of performance, choosing to take models of linguistic competence for models of production.

Studies in phonetics, specifically the work of Lieberman, suggest productive competence which is linked to linguistic competence, and show that Chomsky's relegation of all of phonetics to performance is wrong. Birdwhistell, Hall and Fittenger et al. suggest related communicative
competences, although the static Trager-Smith-Joos treatment they use is incapable of providing models of competence. Similarly, sociolinguistics has not yet produced a model of communicative competence, although Hymes perceives the need for one.

Lévi-Strauss suggests, and the componential analysts may also be seen as working towards, a cognitive competence which is visualised as being above linguistic and related communicative competences in a model where productive competence is at the lowest level.

Lévi-Strauss, like Chomsky, does not pay enough attention to the collection of data. I found that there is no framework at present within which to record and analyse data in such a way that it may be readily interpreted, though probably Pittenger and Birdwhistell came the closest to finding one, and some sociolinguists hope to evolve one. A theory of performance will provide a framework, but it will be inadequate for interpreting data until it is recognised that performance includes competence.
Bibliography


