This paper is strongly critical of the transformational approach to language, which, according to the author, "has presented an essentially incorrect view of the nature of language by treating it as a self-contained system, independent of its use as a medium of human communication." Four aspects of transformational theory found to follow from the "incorrect premise that language is a self-sufficient formal calculus" are discussed: (1) the rejection of the principles of association and generalization in favor of innate ideas; (2) the supposition that "deep structure" is not related in any knowable way to the perceived world; (3) the conclusion that a theory of competence based on an "ideal" speaker-hearer is the best foundation for an understanding of the language performance of real people; (4) the idea that linguistic theory cannot suggest a sound basis for language teaching. An alternate approach, pragmatics, defined as "the correspondence of linguistic forms to situational settings," is then presented. This approach, which stresses that language derives its value from its use alone, attempts to go beyond the sentence as an abstraction to the study of linguistic entities in a broader context. The implications of this approach for language teaching are briefly outlined. (FWB)
Linguistics and the Pragmatics of Communication

John W. Oller, Jr.
University of California at Los Angeles

Language like every other blessing derives its value from its use alone. Yet it is the ordinary use of language which transformational grammar largely ignores. Questions like "How is this sentence used? When is it appropriate? To what situations can it apply?" have been set aside in favor of questions like "How does this sentence relate to other sentences? What parts does it consist of? How do the parts interrelate?" Certainly these questions which concern the internal structure of language are important and must be asked, but they are far more meaningful when asked in the light of the preceding questions which have to do with how language relates to human experience. If we do not ask both kinds of questions we may fail to heed Esop's warning and we "may lose the substance by grasping at the shadow" of language.

It is my belief that transformational theory has presented an essentially incorrect view of the nature of language by treating it as a self-contained system, independent of its use as a medium of human communication. In spite of this, certain insights into structural aspects of language have been achieved. And this is good. As Santayana has said, "It is a great advantage for a system of philosophy to be substantially true." Just how substantial are many of the supposed truths of transformational theory is the disconcerting question that pushes to the fore in view of the fact that language derives its value from its use alone. If a theory ignores the substance of language, what more than the shadow can it grasp? And of what value to the language teacher is the shadow of language when it is the substance that he must impart to his students?
The fact that transformational theory does attempt to treat sentences apart from their use is well established. As Schwarcz has observed, "With a very few exceptions, linguists [particularly transformationalists] have basically ignored the fundamental fact [that] language [is] a tool for communicating something to somebody" [his italics] (1969: 26). This point has been advanced on several occasions and has not been denied by transformationalists. In fact, in response to earlier criticisms of Reichling (1961) and Uhlenbeck (1963), Chomsky (1966b: 2-3) has argued that the transformational approach is quite correct—particularly in its assumption that language is a self-contained system, the communicative use of which is only incidental.

It seems sensible to say that it will be difficult to reason from a false premise to true conclusions, we would rather expect a false premise to lead to false conclusions. I would like to discuss four of the deductions of transformational linguistics which follow logically from the incorrect premise that language is a self-sufficient formal calculus, the informative use of which is derivative and subsidiary.

(1) The first of these erroneous conclusions is the rejection of the psychological principles of association and generalization in favor of innate ideas. It has been argued that in view of recent developments in linguistic theory, it is clearly impossible for a child to learn a language on the basis of the principles proposed by psychologists.

(2) The second incorrect supposition to be considered is that "deep structure" is not related in any knowable way to the perceived world. Though it is not very clearly defined, "deep structure" has to do with certain grammatical relations in sentences which speakers are assumed to tacitly recognize in understanding those sentences.

(3) The third false conclusion is that a theory of competence—in the form of a transformational grammar based on an "ideal" speaker-hearer—is the best foundation for an understanding of the language
performance of real people. It has been suggested that a theory of the capacity to use language is somehow prior to and independent of study of the language behavior which actually occurs.

(4) The fourth point is that linguistic theory cannot now, nor is it likely in the future to be able to, suggest a sound basis for language teaching. With respect to this point, I will suggest an alternative approach based on the concept of pragmatics which I will define later.

Now let us consider the first incorrect conclusion—the rejection of the psychological principles of association and generalization in favor of innate ideas. In his Beckman lectures (1968), Chomsky suggests that the great bulk of psychological theory is misguided in the basis it proposes for learning. He says, "No one has succeeded in showing why the highly specific empiricist assumptions about how knowledge is acquired should be taken seriously" (1968: 53). Earlier he argued, "It seems to me impossible to accept the view that linguistic behavior is slowly acquired by reinforcement, association, and generalization..." (1966a: 43). As an alternative to these principles Chomsky has proposed the concept of "innate ideas". The latter are defined as inherited knowledge of the structure of natural languages. It is assumed that a child is born with knowledge of language which is merely triggered and set in action by external stimulation. Following this line of reasoning, Katz and Postal (1964), and Katz (1966) have attempted to prove that a child cannot learn a language by associating words and word sequences with elements of experience by generalization. They claim that the phonetic form of the utterances to which the child is exposed is too "impoverished" to enable the child through association and generalization to acquire the capacity to understand and produce sentences. This line of thought leads Katz to the conclusion that children must be born with an intrinsic knowledge of the structure of language—innate ideas (though no-one yet has proposed precisely what form these ideas might take).

The conclusion that innate ideas are necessary rests on the false
assumption that the phonetic form of utterances is the only information on which the child may base generalizations. This assumption in turn stems from the false premise that language is a self-contained system. When language use is taken into account, the phonetic form of utterances is obviously not the only information available to the child. The utterances which he observes occur in contexts which are rich in situational information. Words and sentences are observed to relate to persons, events, objects, and relations in a systematic and recurrent fashion. Katz's proof is inconsequential—it is based ultimately on the demonstrably false premise that language exists independent of its use.

Similarly, Chomsky's statement that "empiricist theories about language acquisition are refutable wherever they are clear..." (1965: 54) apart from the incorrect premise that language is self-contained is without support. In fact, it seems extremely probable that the very principles which transformational theory rejects will constitute the essential ingredients of the innate capacity that the child brings to the learning situation. Cognitive psychologists have long recognized the importance of man's ability to categorize the elements of his experience. This capacity is reflected in the principle of generalization and is a process involved in practically every aspect of human cognition (Bruner, Goodnow, and Austin, 1956, and Hunt, 1962). That this sort of induction will continue to defy formalization in the future is improbable. The fact that similar patterns are to the extent of their similarity substitutable one for the other is also a likely candidate for a basic innate principle. In addition to these, there is the complex sensory apparatus and the abstract memory space that the child inherits. Each of these notions has been challenged by transformationalists (Chomsky, 1965, 1968), yet it appears that the arguments against them are based entirely on a misconception concerning the nature of language. The child learning a language does not acquire a self-sufficient calculus, but a medium of communication which is related in knowable ways to his environmental experience.

The second point which I wish to discuss is the suggestion that
"deep structure" is not related to sensory data in any way discoverable by the principles of generalization and association. In considering this point, the first question we must answer is, "What is meant by 'deep structure'?" Among the leading transformationalists, there seems to be little agreement. In one of his most recent papers, Chomsky (1969) has challenged the definitions of "deep structure" suggested by Lakoff (1968), McCawley (1968), and Fillmore (1968). Chomsky gives a general idea of what he means by the term as follows, "...A system of propositions expressing the meaning of a sentence is produced in the mind as the sentence is realized as a physical signal, the two being related by...grammatical transformations....We can distinguish the surface structure of the sentence, the organization into categories and phrases that is directly associated with the physical signal, from the underlying deep structure, also a system of categories and phrases with a more abstract character" (1968: 25). As an example, he suggests the sentence "A wise man is honest", which in terms of surface structure is analyzed into a subject, consisting of the phrase "a wise man" and a predicate made up of the sequence "is honest". The deep structure, according to Chomsky however, consists of two propositions, "A man is wise"; and "A man is honest", which though not asserted are "interrelated in such a way as to express the meaning of the sentence "A wise man is honest"" (1968: 25).

Notice that if we take "A man is wise" and "A man is honest" in their most obvious senses, their combined meanings are quite different from the assertion "A wise man is honest". There is nothing in the supposed deep structure propositions to indicate that the sentence "A wise man is honest" means that to be wise one must be honest, or that wisdom requires honesty. Moreover, if we relate the sentence "A wise man is honest" to men and the characteristics of men in the real world, the sentence can be understood easily without appeal to the so-called deep structure propositions. We may relate the surface structure directly to the objects and qualities talked about. We understand the sentence because we know, in some sense, what wise men are. This is a
different sort of thing than knowing the proposition "A man is wise". Wise men and propositions about wise men are of different logical types. We understand the predicate "is honest" because we know something about what it is to be honest. What we know is not the proposition, "A man is honest", rather it is a certain kind of behavior—namely, being honest. Here again there is a difference of logical type. This is the kind of difficulty encountered in the definition of deep structures in general.

Do we understand the sentence "Apple pie is delicious" on the basis of the abstract propositions "Pie is apple" and "Pie is delicious"? Or, do we understand it because we know what apple pie is, and what delicious things are like. Do we comprehend the sentence "Pedantic scholarship is a lot of baloney" because we know the abstract propositions "Scholarship is pedantic" and "Scholarship is a lot of baloney"? Or, do we understand it because we know what scholarship, pedantic scholarship, and a lot of baloney are.

If deep structures are defined as abstract propositions or underlying sentences, how are they understood if not in terms of extra-linguistic experience? To suggest that one sentence is understood in terms of another sentence, or other sentences, leads us either into an infinite regress, or against a blank wall. Ultimately we must end up with sentences which are either uninterpreted or are associated via transformational rules with sentences which are uninterpreted. In addition to being circular, we will have indulged in the unfortunate error of confusing sentences with meanings. This is akin to the error which leads to the semantic and logical paradoxes—it stems from a failure to keep the symbol separate from what it symbolizes. It has permeated current orthodoxy in linguistics through the premise that language is self-contained.

We come now to the third incorrect conclusion. It has been argued that the study of "competence", in particular, the competence of "an ideal speaker-listener, in a completely homogeneous speech community, who knows its language perfectly," etc. (Chomsky, 1965: 3), is the
primary object of linguistic theory. According to Chomsky, the competence of this ideal speaker is represented in a transformational generative grammar (1965: 4), and it is "difficult to imagine any other basis on which a theory of performance might develop" (1965: 15). This view is entirely consonant with the premise that language is self-contained. If language were a purely formal abstract calculus, not related in knowable ways to the speaker's knowledge of the world, then its chief characteristics would be discoverable only within the calculus itself. However, language like every other blessing derives its value from its use alone. Therefore, the primary source of information for a theory of language must be its use in communicative contexts. That is, a theory of competence will have to be based on what is observed in language use. If anything, knowledge about the performance of real speakers and hearers must precede a theory of competence. This is quite the opposite of what Chomsky is proposing when he suggests that the principal object of linguistic theory is an ideal speaker.

If we look back to the original distinction between competence and performance—namely, that competence is the speaker's capacity to use his language, while performance is his actual use of it—it is reasonable to expect that an adequate theory of competence will explain linguistic performance. Transformational theory, however, has failed in an important respect as a theory of language competence. It does not account for the speaker's ability to use his language in communicating information. The fact that a person can perceive a situation and report it in an appropriate sentence, for example, the woman who says, "My girdle is killing me", and the simultaneous fact that someone else can understand it, is unexplained by the best of current transformational grammars. The basic processes of encoding and decoding information have been excluded from consideration. The central question of linguistics posed by Chomsky (1964: 50)—namely, how are speakers able to utter new sentences on appropriate occasions and how are hearers able to understand them—is left unanswered. While Chomsky notes the significance of the notion "appropriateness to the situation", he states that "just what
'appropriateness' ...may consist in we cannot say in any clear and definitive way..." He continues to maintain that "the normal use of language is...free from the control of detectable stimuli, either external or internal" (1968: 11).

All of this is quite consistent with the premise that language is a self-contained calculus. Moreover, in view of the impossibility of accounting for the communicative use of language with current transformational theory, it is not at all surprising that there is now a fairly general agreement that psycholinguists should provide a "theory of performance". (For example, see Chomsky, 1965: 10-15.) However, the call for a performance theory is quite inconsistent with the original definition of "performance" and with the motivation for distinguishing it from "competence".

On inspection of the communicative use of language we discover all of the creative aspects which motivated the original distinction between competence and performance. I may talk about "green and white striped elephants floating around in the air" though I have never seen any, and you, being a speaker of English will understand me. That is, you have a fairly good idea of what sort of thing I am talking about. I could as easily have mentioned "red and blue spotted baboons swimming in red ink", "orange and pink speckled birds flying across the North Pole" or any number of other things which you and I have never seen before, but which we have no difficulty in imagining. The generation of novel ideas is just as creative as the generation of new sentences; therefore, to relegate the use of language for communication to the realm of performance is clearly an error. In order to account for the actual use of language to convey information, we do not need a "theory of performance", but an adequate theory of competence.

The fourth conclusion of transformational theory which I want to discuss concerns its applicability to language teaching. In view of the discussion of the preceding points, it hardly seems surprising that transformationalists (Chomsky, 1966a) have concluded that their theory is not applicable to language teaching in any obvious and definite way.
This admission seems to me to be correct and above reproach. In fact it is the one area in which Santayana's statement, "It is a great advantage for a system of philosophy to be substantially true", seems to apply to transformational theory. In view of this, I would like to suggest an alternative approach which seems to me to be both more correct and more clearly applicable to the problems of language teaching.

Albert Einstein once remarked that "if language is to lead at all to understanding there must be rules concerning the relations between the signs on the one hand, and on the other hand there must be a stable correspondence between signs and impressions (Hayden and Alworth, 1965: 324). I would like to define pragmatics as the correspondence of linguistic forms to situational settings. The principal questions of the study of pragmatics are, "How is the linguistic form in question used?" "When is it appropriate?" "To what situations can it apply?" In brief, "How does linguistic form relate to contexts?"

Consider the following illustration, from the book Pragmatics of Communication (Waltzlawick, Beavin, and Jackson, 1967: 20).

In a fenced-in grassy field near a rural house, a bearded man is creeping around in figure-eights looking back over his shoulder and quacking without interruption ("quack, quack, quack"). A curious crowd of passers-by begin to form at the fence. One man with a look of horror runs off to a phone booth to call for the men in white. The man engaged in the bizarre quacking behavior is Konrad Lorentz, the famous ethologist. Far from being insane, he is performing an experiment in which he has substituted himself for the mother of the little ducklings which are following him, hidden in the tall grass, out of sight of the curious crowd.

The point of the illustration is simply this, if we want to understand the basis of complex behavior, we must consider the context in which it occurs... Language like every other blessing derives its value from its use alone, and it is used in contexts for communication.

Pragmatics places emphasis not so much on entities as on their relations in a broader context. It is because of the relations which hold between linguistic forms and situational settings that we are able
to use language for communicating with each other. Linguistic forms have what William James (1907) called a "practical cash-value". This value is set by the rules of usage which govern what people say in order to convey meanings. These are the rules that a child learns in acquiring language, and that the foreign language teacher must instill in his students in teaching a language. By broadening the scope of our study of language from the sentence as an abstraction to the utterances of language in use, relations and patterns which were previously concealed come into view, and old concepts take on new meanings. Innate ideas look a great deal like the principles of association and generalization built into a complex sensory mechanism and an abstract memory space. Language competence is seen as the native speaker's capacity to use his language in communication—to encode and decode messages. Deep structures appear to be meanings--relations between situational settings (referents, actions, events, abstract concepts, etc.) and linguistic forms, rather than between sentences and underlying sentences.

Moreover, the concept of pragmatics is applicable to language teaching. It has definite implications for program design, classroom practice and student orientation. With respect to material construction it indicates that the language structures selected should be presented in meaningful contexts where a normal sequence of events is observed. That pattern drills should be designed so that instead of manipulating purely abstract elements of a calculus--usually a paradigm of totally unrelated sentences illustrating a point of syntax--the student should be using language in response to a paradigm of situations, where the meaning of what he is saying is the primary focal point. Instead of concentrating on the words coming out of his mouth he should be thinking about the ideas in his head that he wishes to communicate. With respect to classroom practice in general, pragmatics defines the goal of teaching a language as inducing the student not merely to behave, or to manipulate meaningless sound sequences, but to send and receive messages in the foreign language. It is only in using language in this way that the student acquires it.
In the final analysis, language like every other blessing derives its value from its use alone.
For example, if a man says: "I am lying" and, if what he says is taken to refer to what he is saying at the time—that is, if we confused the symbol with what is symbolized—then we find ourselves faced with a paradox. If the man is telling the truth then he must be lying because that's what he says he is doing. If he is lying then he must be telling the truth since that's what he says he is doing. In either case he is simultaneously lying and telling the truth. The same sort of problem arises in set-theory if a set is allowed to be a member of itself. Russell's solution to this in the theory of types was to require that a set be regarded as a higher logical type than its members. Actually, this only makes sense. Otherwise, the set would violate the intuitive requirement that it be identical with itself—if it contained itself, it would have to contain one member more than it actually contained. And, moreover, if the set which contained itself—logically being a different set from the set without itself as a member—were allowed to contain itself, we then find ourselves in an absurd infinite regress. (See Russell, 1919.)
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