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English teachers have a responsibility to interpret for students the current linguistic insights into language and to lead them in an open-minded inquiry involving (1) careful observation of language data, (2) translation of this observation into rule-like descriptions, and (3) verification of the rules to determine if revisions must be made. In deciding whether or not to teach transformational grammar, teachers should examine the key concepts advanced by the transformationalists, rather than depend upon the results of possibly inconclusive educational research. These grammarians explain that in order to understand the semantic meaning of a sentence, one needs to know the "deep structure" (the underlying organization of the sentence) which is different from the "surface structure" (the sounds uttered or the words written). Determining the deep structure from the surface structure involves the basic language skills of reading and listening; translating the deep structure into surface structure involves oral and written composition. (JS)

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Incorporating Transformational Grammar into the English Curriculum

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PERHAPS our major responsibility as teachers of language is to interpret for our students the insights into language currently being made by linguists. Unless we make use of this discipline in our classroom instruction, we risk shutting our students off from a rich source of meaningful inquiry. I think it is a fair judgment to make that typical school lessons in language are not generally characterized by a spirit of inquiry. Grammatical units—when they are even attempted by the English teacher today—are invested with an aura of certitude that belies the rich complexity of the language they purport to describe. We have for years been disillusioned by our students' confusion over the traditional definitions of parts of speech and functional use of sentence elements, a confusion that is seldom cleared up by subsequent reviews. We usually infer that there is something amiss with the student who fails to grasp the description of his language as the school grammar presents it, and that there is nothing deficient in the school grammar itself.

None of us today of course can take refuge in the kind of linguistic security that this closed view of language once afforded. Recent work in linguistic grammars has pointed up the many deficiencies of the school grammar. Probably the most glaring deficiency lay in the very semblance of completeness and accuracy that the school grammar was made to convey to our students. This deception was perpetrated upon them unwittingly, for we lacked the critical techniques for evaluating a grammar: we did not really think seriously about what a grammar was to accomplish nor how it was to accomplish its end. We were quite outside the discipline in which we should have been operating, a discipline being in essence a method of inquiry.

The act of discovery, the sense of adventure, the satisfaction of original observation—all these are too often elements missing in our classrooms. We need to become involved with our students in making serious inquiry into the

Editor's Note: This article is based on a paper delivered at the Houston meeting of NCTE, November 1966.

facts of the language we use and into attempts to explain those facts. Such inquiry will cover a range of problems extending from the effective use of metaphor down to the formation of the passive transformation rule. Nor should we pretend that every linguistic problem has a solution at the present time—an attempt simply to describe the ordinary determiner system of English should prove humbling enough. Rather, we should adopt an open-minded attitude toward language study in our classrooms, one characterized possibly by a three step approach: (1) careful observation of language data, (2) a rendering of this observation into rule-like descriptions, and (3) checking the rules against more complicated data to see whether revisions need to be made.

Let me illustrate this procedure. Suppose that the facts to be carefully observed by the class involve studying the behavioral effects in various sentences of the negative word *not* and its contraction, *n't*. Attention to the details of English use reveals quite quickly that the placement rule for *not* works differently from the one for its contraction. We do have the sentence,

Won't you try harder next time?

but not its uncontracted counterpart,

*Will not you try harder next time?

In the uncontracted version, *not* must be shifted after *you*, to produce

Will you not try harder next time?

The second stage of the proposed procedure challenges the class to develop rules by which the acceptable sentences are produced and the unacceptable ones blocked. Finally, the rules developed are applied to a wider range of more complicated sentences to determine whether they hold up as they have been written. If the rules do not hold up, of course, they need to be revised, if possible.

Once inquiry into a discipline is undertaken, I think there are numerous side effects that take place—most of them, if not all, for the good. Students working with the placement rule for *not*, for example, can apply other transformations at the same time. Such experimentation often reveals the importance of the order which the rules of a grammar must follow. Suppose that in the data for the *not* placement rule we had included the sentence,

Mary does not understand the lesson.

What is the passive form for this sentence? The grammatical problem involved here is that of dealing with the form *does*. This element has entered the sentence as a result of the process that places *not* in its proper position. The passive transformation needs to be applied before the placement rule for *not* is applied, producing then the form,

The lesson is not understood by Mary.

Thus, the three-step procedure suggested here is a way of solving the sorts of problems that the grammar itself is able to pose, for a discipline, in addition to being a way of knowing, or perhaps *because* it is a way of knowing, is also a way of asking questions. The intellectual process that the student is being asked to reconstruct is much like the one that the linguist follows: (1) the careful observation of behavioral changes in real sentences; (2) an attempt to account for these changes by constructing rules—in effect the formulation of a hypothesis; and (3) the verification of the hypothetical formulation by its applicability to other linguistic data—that is, by its ability to predict the grammaticality of other structures in the language. This is, in short, the process of theory construction and validation. And it is in this sense that I take Jerome Bruner's observation to be valid:

> Intellectual activity anywhere is the same, whether at the frontier of knowl-

> edge or in a third-grade classroom. What a scientist does at his desk or in his laboratory, what a literary critic does in reading a poem, are of the same order as what anybody else does when he is engaged in like activities—if he is to achieve understanding. The difference is in degree, not in kind.[1]

WE must still decide whether a transformational grammar should be studied in the English classroom. What benefits would our students derive from such study? We lament the fact that we in English seem to be singled out from the school subjects and asked to meet certain pragmatic tests; but we are in fact singled out, and so we ought to have developed a more convincing rationale for ourselves than we have heretofore: Valor must sometimes be the better part of discretion. In this connection, I am sure that we have all had occasion to cite some of the pertinent research evidence from our field regarding especially the teaching of grammar and its possible effect on composition. I have many times heard people make confident summaries of such research and draw inescapable conclusions proving the unrelatedness of grammatical study for compositional skills. A serious examination of the research design in such studies, in the manner of Lumsdaine in the Gage *Handbook of Research on Teaching*,[2] supports another sort of conclusion, however: a diminishing respect for the kinds of studies that constitute research in our field. The use of grammar in the English curriculum remains, I believe, an open question so far as research is concerned.

Examining the content of the discipline seems to me to be a more fruitful way to decide upon uses of transformational grammar. The preliminary task that the curriculum maker needs to complete would be to examine the structure of a transformational grammar to identify the key concepts this structure contains and to establish the relations that exist among them. That English, any natural language, is systematic and therefore characterizable by a system of rules seems incontrovertible. As Chomsky points out,

> The central fact to which any significant linguistic theory must address itself is this: a mature speaker can produce a new sentence of his language on the appropriate occasion, and other speakers can understand it immediately, though it is equally new to them. . . . On the basis of a limited experience with the data of speech, each normal human has developed for himself a thorough competence in his native language. This competence can be represented, to an as yet undetermined extent, as a system of rules that we can call the *grammar* of his language.[3]

Now a grammar can concentrate on sentences in several ways. It can consider the sentence primarily as a sequence of sounds or characters—that is, the *form* of the sentence, or utterance, is all important. Of course, this is the stated concern—and limitation—of the structural linguist. Or a grammar can consider the sentence as the expression of a thought and try to discover how it is that a sentence expresses its thought. To some extent the traditional grammarian has been interested in this problem. A third approach, that of the transformationalist, is an expanded combination of the first two approaches. Thus a grammar might undertake to explain (1) how a sentence expresses its meaning, (2) how the sentence assumes the form it has, and (3) how its meaning and form are

[1] *The Process of Education* (Cambridge: Harvard University Press, 1960), p. 14.

[2] (Chicago: Rand McNally & Company, 1963). See in particular the problems of statistical interpretation, pp. 664-67.

[3] "Current Issues in Linguistic Theory" in Jerry A. Fodor and Jerrold J. Katz, eds., *The Structure of Language* (Englewood Cliffs: Prentice-Hall, Inc., 1964), pp. 50-51.

related. That the meaning and form of a sentence are often quite different is clear from the fact that there are sentences which we can understand only by supplying some "missing elements." Any imperative sentence in English, for example, omits the elements *you* and *will*, as in the sentence,

Close the door.

School grammars, incidentally, omit mention of the missing modal *will* in these cases, although we intuitively know that it belongs there when we add the tag question,

Close the door, *will* you?

Or, with the negative tag,

Close the door, *won't* you?

Consider, next, the instances in which the form—the surface structure—of the sentence does not necessarily reflect the relationships that exist among the various elements of the sentence. In such cases, we need to pierce through the surface structure of the sentence if we are to understand it. The instances I have in mind are perfectly straightforward sentences, well-formed, and not ambiguous. To understand them, however, and we understand them effortlessly, we have learned to supply certain elements and to rearrange certain others. Take, for example, the sentence,

The checkered flag signaled the end of the race.

What do we understand the subject of this sentence really to be? Ostensibly, it is *flag*. But would we want to ascribe a subject-predicate relationship to *flag* and *signaled* in this sentence? I think not, especially when we compare it with the subject-predicate relationship in the sentence,

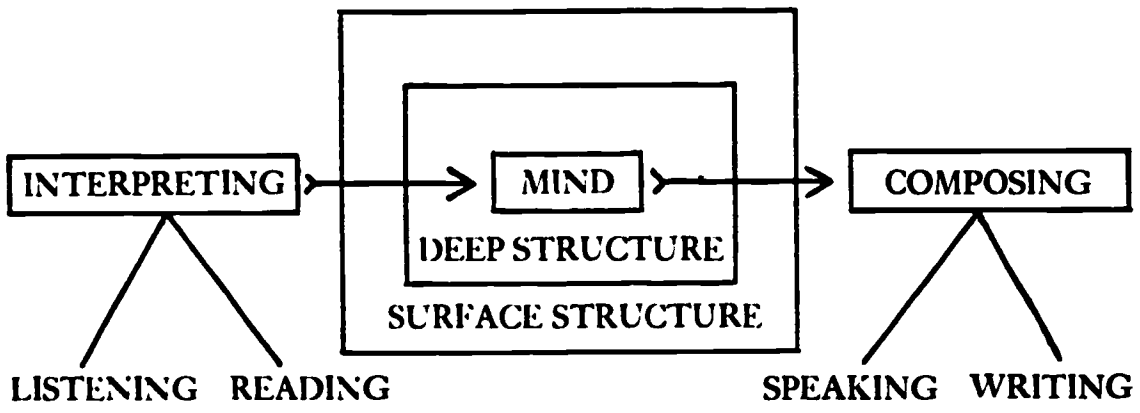
An official signaled the end of the race with a checkered flag.

Here, it seems clear, *official* and *signaled* are related as subject and predicate, whereas the phrase *with a checkered flag* appears as an instrumental adverb. Is there much difference between the two sentences, finally? Or do we not in fact interpret the first one much as we do the latter one? In both sentences, it seems, flag performs an adverbial function, even though it appears as the ostensible subject in the first.

In the terms of transformational grammar, we might say that to understand a sentence, we must know what the *deep structure* of the sentence is—that is, we must perceive what the underlying organization of the sentence is. This underlying organization, the way the elements of the sentence are related, moreover, is often obscured by the final form the sentence takes, that is to say, by its surface structure.

The transformational model of generative grammar consists of two major components. The first is a set of Base Rules that produce the *deep structure* of a sentence, which reveals how the various elements of the sentence are grammatically related to one another. It is the deep structure that enables us to impose a semantic interpretation upon the sentence. The second component is a set of Transformational Rules that act upon the deep structure to provide the *surface structure* of the sentence, the actual sounds we utter or the characters we see in print.

This relationship between deep structure and surface structure appears to be a concept of central importance in the structure of a transformational grammar of English. Other important relationships are those between grammatical and deviant sentences; competence and performance; acceptable and unacceptable; and grammatical, deviant, acceptable, and unacceptable sentences. The explanatory power of the relationship between deep structure and surface structure is suggested in the following schema, which provides another way of considering the entire language arts curriculum.



The schema identifies two basic skills in the English program; interpreting and composing. Interpreting involves the ability to decipher from the surface structure present what the deep structure is in order to impose the semantic interpretation upon it. Since the surface structure can be ambiguous, recovering the deep structure is not always simple. In composing, the path is reversed and goes from deep structure to surface structure. Under *interpreting* skills we would group *listening* and *reading;* under *composing*, *speaking*, and *writing*.

I SHOULD like to dwell finally on a not entirely facetious review of strategies I have encountered being used by teachers in the field to maintain their professional stance and, at the same time, remarkably, to maintain the *status quo*. In a spirit of camaraderie, I offer these ploys to those who are not going to change instruction in any way but who could use a professional reason for not doing so.

Strategy A. "I have always been interested in practical aids for helping my students write better. If transformational grammar provides such help, I might try it. But, after all, the author of *The Beowulf*, Chaucer, Shakespeare, Milton, Dickens, *et al*, didn't study transformational theory and they wrote fairly well." If delivered dramatically enough, you can reach a note of irony, or even sarcasm, with the words *fairly well* so sharp as to devastate your transformational opponent. Of course, as grammar is discussed herein, everyone can be said to have internalized a transformational grammar.

Strategy B. Whereas Strategy A is an aggressive one, basically questioning the need for transformational study at all, Strategy B is ideal for the person comfortable with traditional materials as they are presented in the popular language arts series. It goes like this: "In all these competing systems of grammatical analysis, I find that there is a heavy reliance on new terminology. Our students could easily become submerged in a morass of conflicting terms, notions, and procedures. They ought to have a solid basis in conventional grammatical study to provide them with a framework for studying the new grammar." Notice this teacher can now reasonably continue laying that solid basis of traditional terminology again.

Strategy C. Perhaps the most professional-sounding position to take is the one embodied here. This position reflects well on the open-mindedness of the teacher and shows him to be among the more sophisticated. It is very briefly stated, one sentence sufficing: "The evidence isn't all in, yet." Unfortunately, none of us will be around when all the evidence is in; hence, there is little point in commenting on this classic delaying tactic of the conservative curriculum coordinator.

Strategy D. The general theme of the final strategy runs something like this: "Language is beautiful. Why can't we accept it in all its beauty instead of picking it to pieces and then re-assembling it. I'm afraid that a rigorous study of our language will simply result in shutting us off from the beauty of English—like missing the forest because of the trees."

Objections made against a rigorous study of language are much like those levied against the literary critic who advocates close reading of the text. The fear is that, if made rigorous, such study is no longer enjoyable. Let me close with a thought from Robert Penn Warren on this possibility:

> I know perfectly well that there are some readers of poetry who object to this process. They say that it is a profanation, that they simply want to enjoy the poem. We all want to enjoy the poem. And we can be comforted by the fact that the poem, if it is a true poem, will, like the baby's poor kitty-cat, survive all the pinching and prodding and squeezing which love will lavish upon it. It will have nine lives too. Further, and more importantly, the perfect intuitive and immediate grasp of a poem in the totality of its meaning and structure—the thing we desire—may come late rather than early—on the fiftieth reading rather than on the first.[4]

[4] "The Themes of Robert Frost," in *Selected Essays* (New York: Random House, 1958), p. 119.