Paragraphs, as well as sentences, can be spoken of as having a deep and a surface structure. The amount of deep structure of the paragraph that is mapped onto the surface paragraph is related to the mode of discourse in which the paragraph is found: the deep structure in scientific paragraphs is relatively uncomplicated with few assumptions made; the deep structure in informative and persuasive paragraphs is much more complex. Helping students understand the deep structure of their paragraphs allows them to be more sensitive to the underlying assumptions of what they write and to generate texture and greater complexity in their writing. (TJ)
The Deep Structure of the Paragraph

One valid way to talk about paragraphs is in the light of how they function in various modes of discourse. Just as Noam Chomsky demonstrated that sentences have a deep and a surface structure, I believe that it can be demonstrated that paragraphs have a deep and a surface structure and that the amount of the deep structure of the paragraph that is mapped onto the surface paragraph is directly related to the mode of discourse in which the paragraph is found.

A paragraph has a fairly concrete surface structure that can be regarded as a base, and that base generates an abstract deep structure when the paragraph is viewed as a T-unit. This deep structure of the paragraph with its assumptions is a part of the semantic interpretation of the paragraph, and it is mapped onto the surface structure through the processes of ellipsis, subordination, and embedding. The degree to which this deep structure can be elliptical and the degree of subordination, coordination, and repetition which can occur at the paragraph level are related to the universe of discourse. Problems in students' writing such as ambiguity, lack of texture, repetitiveness, overuse of synonymity to the point of redundancy, are all caused by a lack of sophistication in understanding the deep structure of the information given.

*This paper is excerpted from an unpublished doctoral dissertation of the same title (TCU, 1977).
in the paragraph and a misinterpretation of the audience. If students of rhetoric can be provided with a metaphor for the deep structure of the paragraph and the discourse, even if that metaphor is imposed, then they can attain a greater sophistication in mapping their own deep structures onto the surface in the course of writing. This study attempts to provide that metaphor. Obviously a reconstruction on the part of a reader of a writer's world of invention is always going to be hypothetical because each reader will reconstruct that world of invention differently, since each reader will bring to the analytical situation knowledge, values, judgments—a world of invention.

The writer has to be made conscious of how much of the deep structure of discourse must be mapped onto the surface to provide fact value for scientific writing, surprise value for exploratory and informational writing, and finally persuasive evidence for persuasive writing. The tree diagram of a paragraph with the surface structure of the paragraph described and the underlying ellipses and assumptions of that paragraph indicated, illustrates graphically and often dramatically how complex the deep structure can be and how different the degree of complexity is in the various modes of discourse.

A number of choices presented themselves for the classification of the paragraphs examined. The most useful classification of discourse, because it incorporates every kind of
written discourse and because it takes into consideration the four aspects of the speech act, is James L. Kinneavy's classification in *A Theory of Discourse* (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1971). This study is limited to reference discourse, with special sections for scientific, exploratory, and informative expressive discourse, and persuasive discourse. For obvious reasons literary discourse is omitted. Any examination of literary discourse would be so partial that any conclusions could be only highly tentative.

To make the study as valid as possible, pieces of discourse were chosen at random. Paragraphs, too, were chosen at random within those pieces of discourse. Some consideration had to be given to length, and for the most part, the paragraphs examined averaged about one hundred and fifty words. I will here only be able to give a specific example, indicate some of my other findings, and show how I think the theory can contribute to the composition class. First, the example.

The paragraph I have chosen is from S.I. Hayakawa's *Symbol, Status, and Personality*:

The end product of education, yours and mine and everybody's, is the total pattern of reactions and possible reactions we have inside ourselves.
If you did not have within you at this moment the pattern of reactions that we call "the ability to read English," you would see here only meaningless black marks on paper. Because of the trained patterns of response, you are (or are not) stirred to patriotism by martial music, your feelings of reverence are aroused by the symbols of your religion, you listen more respectfully to the health advice of someone who has "M.D." after his name than to that of someone who hasn't. What I call here a "pattern of reactions," then, is the sum total of the ways we act in response to events, to words, and to symbols.¹

On the surface the paragraph is composed of a thesis, two developmental sentences and a conclusion. An examination of the deep structure of the paragraph makes it obvious that the audience to which it is directed is assumed to be educated and literate. Certain repetitions are avoided. Certain definitions are omitted. On the other hand, the writer has assumed that the audience will allow him to make a behaviorist generalization about man without challenging that assumption. Otherwise, the paragraph will not be successful. Looked at verbally, the paragraph includes the following deep structure:
The end product of education, yours and mine and everybody's, is the total pattern of reactions and possible reactions we have inside ourselves. 

Education has an end product common to all. The end product is the total pattern of reactions and possible reactions we have within ourselves. Man is a reacting animal. Reactions are predictable enough that a pattern of both the exhibited reactions and those which are possible may be established. The establishment of these patterns is the process of education.

Developmental 1: If you did not have within you at this moment the pattern of reactions that we call "the ability to read English," [You have within you at the moment that you are reading this the pattern of reactions that we call "the ability to read English." If you did not, then the consequence would be] you would see here only meaningless black marks on paper.

Developmental 2: Because of the trained patterns of response [which I have assumed that you agree are within man as animal. Again, I am making a behaviorist assumption, hence the choice of the word "trained." you are (or are not) stirred to patriotism by martial music [I am assuming that you will bring your own interpretation of "patriotism" to bear here.], your feelings of reverence are aroused by the symbols of your religion [Reverence is a response reaction aroused by external symbols.], you listen more respectfully.
to the health advice of someone who has "M.D." after his name ["M.D." carries with it the meaning of doctor representing years of training in giving health advice.] than to that [health advice] of someone who hasn't. ["N.D." after his name.]

**Conclusion:** What I call here a "pattern of reactions," then, I have demonstrated successfully the meaning of "pattern of reactions," and you have accepted that meaning for the purposes of the information being given here. Therefore, I am able to restate my thesis as a consequence because of this agreement; it is the sum total of the ways we react in response to events [the playing of martial music is an example], to words [the health advice of a doctor], and to symbols [symbols of your religion.]

A tree diagram makes the enormous complexity of the deep structure even more apparent. (See diagram next page.)

Investigations of referential discourse paragraphs revealed that the deep structure of scientific paragraphs is relatively uncomplicated with few assumptions made and little elliptical information. The analyses instructed the student in a graphic way that in the successful scientific paragraph, the proof is mapped explicitly onto the paragraph surface, and the language is impersonal. What became evident from the analyses of informative discourse paragraphs is that the audience is more of a concern in the informative paragraph than in the
scientific paragraph, although the emphasis is still away from personal identification of the author and toward anonymity. The value of the deep structure analysis to the informative paragraph is that informative discourse often involves informing premises that the reader must consciously choose to accept or not accept; but often, it seems, the reader is unaware of the existence of those premises and accepts them unquestioningly. The deep structure analysis increases sensitivity to the underlying assumptions behind what we often consider merely information.

Sometimes the deep structure of exploratory discourse is complex, sometimes quite simple. This seems to reinforce certain preconceived characteristics of exploratory discourse. One of these is that the writer will make certain assumptions in the course of the exploration that are based on personal previous understandings. And, depending upon the writer's conception of audience, the assumptions will or will not be supported or mapped onto the surface. If the audience is only intended to witness the exploration and not necessarily intended to be a participant by agreeing with the conclusions drawn, there is little need to support the assumptions made, or, indeed, to map them onto the surface. The analysis of the deep structure of the exploratory paragraph, then, becomes particularly useful for matters of style.
Identifying the deep structure characteristics of the persuasive paragraph is a way of providing the student of discourse with the necessary knowledge to write successful persuasion. The student persuasive paper often fails because of a lack of knowledge of how much of the deep structure of thought is imperative to the surface structure. Looking at the deep structure of the successful professional persuasive paragraph can be a first step to gaining the sophistication needed to write successful persuasion. My own analyses of persuasive paragraphs revealed that the deep structure is unusually complex, made up of both elliptical assumptions and information that are not mapped onto the surface paragraph. The deep structure analysis provides specific vocabulary for talking about the purpose of a paragraph and the ethical quality of a paragraph.

The following paragraph is from a student persuasive paper. The student and I, in conference, worked backward from her paragraph to the underlying deep structure. The elliptical assumptions became apparent to her through the use of a tree diagram, and she was given a definite method of remedying the paragraph. The original paragraph was:

The relationships abortions has on a doctor's career can effect him in many ways. For instance,
he may lose patients and his nurses. It may also cause the doctor to be lead to malpractice. Which can affect a doctor physically as well as psychologically.

After we had worked out the deep structure, the revised paragraph was as follows:

The relationships abortions have on a doctor's career can affect him in many ways. For instance, if some of his patients do not believe in abortions and unpleasant rumors are spread abroad, he may lose many of his patients. Also, if he's taking the wrong steps in preparing abortions, he may lose many of his nurses, which can affect a doctor physically as well as psychologically. What I mean by physically is that his nerves may become bad and his financial condition worsen.

Still a long way from being clear in meaning, the revised paragraph seems to indicate that the student is on the way to understanding how to generate texture in a threadbare paragraph.

The theory of deep structure of the paragraph seems to have multiple uses in the classroom and numerous implications for teaching. The average student, even the above-average student, tends to read for answers. Students look
for specifics in their reading, a necessary and useful skill. But that is not the only reading skill students need, albeit the one that they are most likely to have because it is the easiest to teach. Students need to be able to read generatively, to go beyond the written word. For the most part, students reading textbooks do not approach this skill in a systematic way. Reading a paragraph and analyzing its deep structure makes the inexperienced writer aware of how a professional writer stays with a thought throughout a paragraph, enlarging it and yet avoiding needless repetitions and redundancy.

When student writers are told that their writing lacks texture, they have nowhere to turn. They have already said everything they think they have to say. They are unaware that what they have actually said has a structure underlying it to which they can turn in developing their ideas for greater complexity in their writing. Student writers are also often helpless in controlling the direction of their writing. They may have a world of thoughts before they write, but once they start the difficult task of saying what they want to say, they run into problems with syntactic structures and in the process forget much of that world of ideas or find themselves cramping those ideas into a few limited sentences. The tree diagram helps the beginning
writer to hold onto thoughts while developing and expanding an idea. I offer another illustration.

A student turned in the following paragraph to me:

Lynn and I recently became close and strong friends this past Jan. when we were introduced formally in a music event at which I was giving a speech on music.

The student was bright, bright enough to know that in the past he had been penalized because of errors and that the safe way was to risk as little as possible. His expression, therefore, had been severely restricted by his inability to place his thoughts before the reader. In conference, he and I worked out the deep structure of the paragraph. The resulting revised paragraph was as follows:

Lynn and I were aware of each other because we had both played in a broadway show in Las Vegas. We both played in the orchestra as well as in other bands and ensembles. Even though we had played together we really did not know each other. We met formally when I returned to Las Vegas at the end of my Freshman year. I had been asked to recruit new members.

Interpreted linguistically, the deep structure of the
paragraph would probably be too unwieldy to be of much value to rhetoric. I have attempted to take the concept of deep structure into the world of rhetoric by interpreting that structure semantically. An artist takes a common object, places it in a new perspective, and forces us to look at it with the child-like perceptions of a first awareness. The rhetorician, in doing a good job, takes discourse and changes the perspective of looking at it, forcing us in the process toward new insights into the process of communication.

Note