DOCUMENT RESUME

ED 232 146 CS 207 400

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TITLE Teaching the Placement of Given and New Information with Sentence Combining.
PUB DATE [79]
NOTE 39p.; Expanded version of a paper presented at the Annual Meeting of the Canadian Council of Teachers of English (Ottawa, Ontario, May 1979).
PUB TYPE Speeches/Conference Papers (150) -- Guides - Classroom Use - Guides (For Teachers) (052)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Information Processing; Language Usage; Linguistic Competence; *Linguistic Performance; Secondary Education; *Sentence Combining; Teaching Methods; Verbal Ability; *Writing Exercises; Writing Skills
IDENTIFIERS *Audience Awareness; *Linguistic Markers

ABSTRACT

The Cooperative Principle posits four general ways in which a speaker is expected to be cooperative: (1) quantity--make a contribution no more and no less informative than is required; (2) quality--say only that which one both believes and has adequate evidence for; (3) relation--be relevant; and (4) manner--make a contribution easy to understand. Once teachers understand this principle, they can begin to discuss with their students why one sentence with its implicature is better than another sentence with its different implicature in a given context. First, however, students need to have an understanding of the placement of given and new information within a sentence. This implies an understanding of the "Given-New Contract." Under this contract, a discourse consists of sentences carefully tailored to achieve the speaker's desired effect on his or her listener. Students also need an understanding of the linguistic structures that alter the information within a given context. Teaching strategies are needed that can exercise their competence with the aim of improving their performance. Signalled and unsignalled sentence combining exercises can accomplish this goal. Signalled exercises require the students, by asking them to treat some information as given, to integrate the kernals into a context during production. Unsignalled exercises are designed to teach the linguistic markers that signal certain words or phrases as new or given. The assumption is that if the Cooperative Principle and the Given-New Contract are really a part of competence, these sentence combining exercises will affect their use. (HOD)

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Teaching the Placement of Given and New Information with Sentence Combining

The best advice that we have seen for beginning writers comes not from a composition handbook, but from George Horace Lorimer, past editor of The Post, secondhand through Paul Gallico. "Young man," Lorimer said to Gallico, "I'll tell you something. I don't care what background you decide to use, just don't forget to tell me a story."[1]

We wish we could get our students to heed that advice. We find that they are so preoccupied with the global concerns of discourse--with finding something to say, structuring their essays, and structuring their paragraphs--that they forget their main goal is to tell a story, to affect their reader's memory. Gallico said "Aim for the heart." (Gallico, p. 28) We, enlightened by modern psycholinguistics, have raised the target slightly.

Indeed, getting to the heart, telling a story, is really a process of integrating information into your reader's memory (with his cooperation, of course) and of letting this information motivate a response in him. Write as the ninth sentence of your novel "His eyelids had been burned away, so that he could not close his eyes, and the light entered into his brain, searing," and your reader will be shocked, revolted, or horrified by the experience your character has suffered.[2] You will have motivated an emotional response.

Write "Diffusion is the process by which molecules distribute themselves throughout the whole space available to them," and your reader will likely file this information away in memory.[3] You will have motivated primarily a memory response. Each story creates its own response, whether it be the story of George Orr and his dreams or the story of human physiology.

As writers, we all wish to achieve such effects for our readers. What perhaps we do not realize is that different syntactic configurations add information to our reader's memory in different ways. For instance, the following two sentences mean different things:

> Eskimos, who eat bagels, live in igloos.
> Eskimos who eat bagels live in igloos.[4]

In the first sentence, all Eskimos eat bagels and all Eskimos live in igloos. In the second, only those Eskimos who eat bagels live in igloos; there are other Eskimos who eat lox and live in brick houses. The first sentence is appropriate to a context dealing with Eskimos in general, the second to a context differentiating one kind of Eskimo from another. In telling what we wish to tell, we must decide which version will make the appropriate statement about Eskimos for our reader. If we put the wrong version in the context we are constructing, our information about Eskimos will enter our reader's memory in a garbled fashion. Our reader will be confused about what we intended to say.

Meaning, unfortunately, is a very personal matter for the college

freshmen we teach. If we try to explain such a distinction in class, we guarantee ourselves an argument about which sentence means what, the class split into partisan factions on the question. We may make it through an obvious case like Eskimos eating bagels with no trouble, but working through even one of Strong's patterned sentence combining exercises would bring on guerilla warfare.[5] While they can readily make judgements about the placement of information in sentences as they speak, students do not have enough awareness of these judgements to control them consciously as they write. Controlling these judgements is central to the activity of writing, and out of a desire to teach this control we began experimenting with sentence combining.

H. P. Grice provided some of the theory we used as our starting point. He has examined the role of speakers' intentions in determining meaning, formulating the Cooperative Principle to account for that role.[6] Since Grice's formulation is too long to reproduce here, we use Herbert H. Clark and Susan E. Haviland's summary:

> The overriding convention, according to Grice, is what he calls the Cooperative Principle, which consists of the following simple precept to the speaker: "Be cooperative." But the speaker is expected to be cooperative in four general ways, which Grice represents as four maxims:
>
> Quantity: Make your contribution no more and no less informative than is required.
>
> Quality: Say only that which you both believe and have

adequate evidence for.

Relation: Be relevant.

Manner: Make your contribution easy to understand; avoid ambiguity, obscurity, and prolixity.[7]

According to Grice, the Cooperative Principle governs conversational implicatures, equivalent to what he calls nonconventional implicatures. Conventional implicatures are those in which only the meanings of the words determine what is implied. Grice's example is [hi Is In %i grIp ʌv ə vays].[8] Because we understand the possible meanings of each word, we know that this sentence means either (a) some man is unable to rid himself of a bad character trait or (b) some part of some man's body is caught in a particular tool. We need no information other than that provided in our lexicon to understand this sentence. We can know which meaning applies by ascertaining whether [vays] has an objective referent. Nonconventional implicatures, on the other hand, require us to make other assumptions to understand what is implied. Grice's example is He is an Englishman; he is, therefore, brave. Now, nowhere in our lexicon is the noun Englishman marked with the feature [+brave]. However, this sentence demands that [+brave] be assigned to Englishman. How do we make this connection? We make the following four assumptions:

1. The speaker is being informative without overstating or understating the case. (Quantity) Brave therefore does not represent exaggeration or understatement.
2. The speaker is not lying. (Quality) Brave represents

a belief the speaker actually holds.

3. The statement is appropriate to the context. (Relation) It is highly probable, as a result, that the speaker intends the unlikely syllogistic connection suggested between Englishman and brave.

4. The speaker intends the statement to be understandable. (Manner) Brave does not represent an obscure or ambiguous statement.

Because of the Cooperative Principle, therefore, we understand the implicature of the statement, that the speaker believes, a priori, all Englishmen are brave.[9]

As long as we can assume the Cooperative Principle holds, we can understand any discourse. The Cooperative Principle, however, will not explain discourse unless we understand how we actually use its maxims. There are five ways to deal with the Cooperative Principle. The first is out and out compliance, in which case the listener or reader understands what the speaker or writer says.[10] The second is out and out violation, in which the speaker unwittingly misleads her listener or deliberately lies to her listener. The third is what Grice calls opting out. The speaker becomes unwilling to cooperate for some reason. Perhaps he would violate national security by divulging the targets of all the ICBM's in North America, and so the secretary to the undersecretary of defense replies No comment to the reporter's polite inquiry. The speaker thus opts out of the maxims of Quantity and Quality even though he possesses the information and knows it to

be true. The fourth is what Grice calls a clash. As he puts it, the speaker may not be able to be as informative as is required (Quantity) without violating the maxim of Quality (having adequate evidence for what she says). To speak, in this case, would be to utter half-truth or rumor. Finally, a speaker may violate the Cooperative Principle deliberately in order to convey meaning. He can violate the maxim of Quantity by not saying enough. For example, he could recommend a student for a Danforth fellowship by saying Paul was punctual and completed all of his assignments, an obvious understatement in this context. The speaker's intention would be to damage the student's chances, for he could have opted out by not writing at all. A speaker can also say too much. A neophyte comes to him and asks about his hobby of model rocketry. The speaker bores the newcomer with a long speech about the relationship of center of pressure to center of gravity, and the neophyte leaves in disgust. The speaker has been overly communicative perhaps because of his good intentions, perhaps because he did not want to be bothered with questions. Speakers can also violate the maxim of Quality to create the following figures of speech:

Irony: Saying My, it's warm today when it is really ten below.

Metaphor: Saying You're peaches and cream of their spouses when it is obvious that human beings are really neither.

Meiosis: Saying of someone who is roaring drunk She's just a little tipsy.

Hyperbole: Saying She's so thin she could slide through a

straw of Twiggy.[11]

Now that we understand the Cooperative Principle, we can begin to discuss with our students why one sentence with its implicature is better than another sentence with its different implicature in a given context. We can cite the particular maxim the compliance with which or the violation of which generates the implicature. But we do not as yet understand the exact linguistic mechanism that causes the implicature. Let us take another look at the pair of sentences we used to begin our discussion:

Eskimos, who eat bagels, live in igloos.
Eskimos who eat bagels live in igloos.

Both of these sentences obey the Cooperative Principle down to the fourth maxim, yet each sentence has a different meaning. What is the mechanism that creates the implicature about Eskimos? To answer this question, we must turn to theories dealing with the placement of given and new information within a sentence.

Clark and Haviland define given information as "information the speaker considers given--information he believes the listener already knows and accepts as true," and new information as "information the speaker considers new--information he believes the listener does not yet know." (Clark and Haviland, p. 3) A speaker divides his utterances so that each sentence consists of some given information and some new. Two general strategies affect the placement of this information.

Normally the division follows what Herbert H. Clark and Eve V. Clark call the subject and predicate strategy:

> When people talk, they also tailor their sentences to suit themselves. They have something they want to say and something they want to say about it. These functions are conveyed, respectively, by subject and predicate. . . . In most sentences the subject is given information and the predicate new information.[12]

But another strategy, as we shall soon see, can alter this normal distribution of given and new information. Clark and Clark call this strategy frame and insert:

> When speakers place a particular phrase at the beginning of a sentence, they are deliberately trying to orient their listeners toward a particular area of knowledge--to give them a point of departure for the sentence. Speakers then use the rest of the sentence progressively to narrow down what they are trying to say. For this reason, the first phrase can be called a <u>frame</u>, and the remainder of the sentence an <u>insert</u> for that frame. (Clark and Clark, p. 34)

In <u>When I went downtown</u>, <u>I left my watch at the jeweler's</u>, the distribution of given and new information can be affected by the fact that a subordinate clause occupies the frame of the sentence instead of the

subject of the main clause.

What follows from the definition of given and new information is the assumption that the structure of discourse is the addition of new information to given information that the speaker believes is already stored in her listener's memory. A listener, on hearing an utterance, divides it into its given and new components, searches for the given information in memory, retrieves the given information, modifies the given information according to the content of the new information, and then stores the modified information in memory once again. (Clark and Haviland, pp. 5-6; Clark and Clark, pp. 45-98) For example, on hearing John bought some bread today, the listener would look up John, the given information, in memory, add bought some bread today to her store of information about John, and then replace all of this information back in memory. Clark and Haviland formulate a contract that must exist between speaker and listener, as a consequence of this process, if they are to obey the Cooperative Principle:

> Given-New Contract: Try to construct the given and new information of each utterance in context (a) so that the listener is able to compute from memory the unique antecedent that was intended for the given information, and (b) so that he will not already have the new information attached to that antecedent. (Clark and Haviland, p. 9)

They also emphasize three essential requirements of this contract:

> 1. Appropriateness. The given part of the sentence ought to convey known, or knowable, information, and the new part unknown information . . . . 2. Uniqueness. The given information provided by the speaker must enable the listener to compute an antecedent that is unique. . . . 3. Computability. The most fundamental requirement of all is that the listener must be assumed to have sufficient knowledge and skill to be able to compute the intended antecedent. (Clark and Haviland, p. 9)

Clearly, under this contract, a discourse consists of sentences carefully tailored to achieve the speaker's desired effect on his listener. These sentences are in turn arranged according to the common patterns of organization we call paragraphs, chapters, or novels, to name a few. The aim of these higher units of discourse is also to control the flow of information into the the listener's memory. A paragraph limits the flow to a restricted domain of topics, a chapter to a larger domain, a novel to one even larger.

This notion of the structure of discourse has certain pedagogical implications. First, the modes of discourse become nearly unimportant. In teaching the placement of given and new information, we are teaching the structure which underlies all the modes. Once a student learns to add information properly to her reader's memory, varying the content of the information, essentially what characterizes the modes, is a secondary skill for her. She should be able to add information about an event (narration) or about a scientific experiment (exposition) with equal ease, since the strategies involved are the same. Second, the

concept of the reader becomes the governing principle of discourse production. Our students' placement of given and new information depends on their beliefs about their reader's level of intelligence and linguistic skill (Computability) and their reader's prior knowledge of their subject (Appropriateness and Uniqueness). When they violate this contract, our students do one of two things: either they assume too much knowledge on their reader's part, leaving him bewildered because he cannot understand even the conventional implicature of what they say, or they do not state the given information explicitly enough, leaving their reader unable to locate it in memory. (Hence we often perceive our students either as having no ideas , or as having ideas but being unable to express them.) We must therefore teach our students to model their reader and to produce their papers according to this model. Finally, the concept of style changes. The variations in sentence structure we formerly took as embellishments often now represent differences in meaning for the reader. We must now define style as the habitual way a writer approaches the memory of his reader. Style still can be measured in terms of diction, sentence structure, transformational derivation, clause-to-sentence factors, or any other proposed measure; but we can discuss as significant only those measurements that represent the habits of the writer, not those that context demands of the writer.

To be able to teach our students, we ourselves must fully understand the linguistic mechanisms behind the Given-New Contract. Wallace L. Chafe distinguishes what he calls the least marked case. Stripped of its linguistic complications, this case consists of a

sentence in which the subject noun phrase contains the given information and represents the frame, and the verb and subsequent noun phrases contain the new information and represent the insert. The greatest, or focal, stress of the spoken sentence, which always distinguishes new information, falls on the last word.[13] The following examples illustrate, the underlining indicating where the focal stress falls:

Jane fell.

Bobby shot his brother.

In each case we assume the subject (Jane or Bobby) already to be in the listener's memory, while we add the new information (fell or shot his brother) to this given information.

Two additional points must be made about the least marked case. First, as Clark and Clark note, if we are in doubt about the distribution of information in a sentence, we can find the new information by determining what question the sentence answers. Whatever part of the sentence answers the question is the new information. In the above, Bobby shot his brother answers the question What did Bobby do? The answer, shot his brother, is the new information. Second, Clark and Clark go on to reveal that any cluster of sentence final phrases, even the entire sentence itself, may represent new information in the least marked case, depending on context. Let us consider contexts which might generate the following questions and answers (Capitalization indicates new information.):

What did Mr. Fields juggle? Mr. Fields juggled THE BOXES.

What did Mr. Fields do? Mr. Fields JUGGLED THE BOXES.

What happened? MR. FIELDS JUGGLED THE BOXES. (Clark and Clark, p. 33)

The information load of a least marked sentence can therefore be altered by the amount of information present in the context. In the absence of context, and indeed in most contexts, however, sentences carry their information according to the subject and predicate strategy.

Their are several variations away from the least marked case. For instance, we can say our sentences in a different way:

Jane fell.

Bobby shot his brother.

Here we are answering questions like Who fell? or Who shot Bobby's brother? By shifting the placement of the focal stress we shift the distribution of the new information from the predicate to the subject. In writing we do not normally make this shift because we have to resort to a special stress marking device, italics. But in speech it is quite commonplace. Chafe names this shift the contrastive case and gives these examples to show that we can assign the new information to any word in a sentence:

The box was emptied by David.

The box was emptied by David.

The box was emptied by David. (Chafe, p. 224)

Chafe even gives an example in which two focal stresses are added to the sentence, distinguishing two words as new information, one in the subject and one in the predicate:

David emptied the box. (Chafe, p. 222)

Such sentences answer questions like Who emptied what?, in which the respondent must assume the fact of something being emptied as given and supply the new information that David was the one who emptied and that the box was what he emptied.

Shifting the focal stress is not the only way of changing the distribution of given and new information. We may also move the words by transformation so that the distribution will fit a conventional pattern of focal stress marking. The passive transformation accomplishes just this feat in the least marked case (Chafe, pp. 219-22):

Pumbel Platypus ate the cookies.
The cookies were eaten by Pumbel Platypus.
The cookies were eaten.

Here we have changed the patient noun cookies from new to given information by moving it from the object position to the subject position. We have changed Pumbel Platypus from given to new information by moving him from the subject position to the object position of the agentive prepositional phrase. By deleting the agentive phrase we can make the object cookies given information and protect the given

status of the subject as well. The deletion is also useful when the agent is unknown to the writer and therefore unlikely to be useful as given information in addressing the reader's memory.

Other transformations accomplish the same feat using different conventional patterns of stress. In the cleft sentence transformation the phrase placed after the verb to be and preceeding the subordinate clause becomes the new information (Clark and Haviland, pp. 24-27):

Pumbel ate the cookies.
It was Pumbel who ate the cookies.
It was the cookies that Pumbel ate.

In the pseudo-cleft transformation, the phrase placed after the verb to be becomes the new information (Clark and Haviland, p. 11):

What Pumbel did was eat the cookies.
The one who ate the cookies was Pumbel Platypus.

Extraposition has yet to be investigated empirically in the ways summarized by Clark and Clark and Clark and Haviland. However, we analyze these sentences by analogy with cleft sentences because of their similarity of form, calling the object of the extraposed sentence the new information:

It worried Frank that I came.

Existential sentences we analyze by analogy with the least marked case, calling the predicate the new information:

> It was Paul.
> There are two useful books.

So far we have dealt only with assertions. How, we may ask, should we handle questions? Clark and Haviland have an answer for Wh-questions:

> Whereas assertions add information to the listener's memory, questions are meant to elicit information from his memory. But just as assertions indicate the address where new information is to be added, questions indicate the address from which the wanted information is to be extracted. So questions have given information, but in place of new information they have wanted information . . . . The Wh-word conveys the new information, and the rest of the sentence conveys the given information. (Clark and Haviland, p. 30)

Therefore, in the question Why didn't you do your homework?, the given information is that you did not do your homework, and the Wh-word requests your reason as the new information. Clark and Clark have an answer for yes/no questions. In this case, the related assertion governs the distribution of information in the question. Yes/no questions inquire whether the identified new information of the assertion belongs with the identified given information. The correct

relationship between these two units is the new information requested. (Clark and Clark, p. 101) The following examples related to the assertions discussed above illustrate:

Did Jane fall?
Were the cookies eaten by Pumbel Platypus?
Did it worry Frank that I came?
Was it Paul?

The first example asks whether Jane, as opposed to someone else, fell. The other examples follow the same paradigm.

In addition to shifting focal stress and transforming a sentence, there are several other ways of marking a word or phrase as given or new information. Chafe points out, for instance, that quantifiers normally communicate new information. Therefore, in the following sentences, the quantifier is given the focal stress (Chafe, pp. 227-29):

All dogs like cheese.
Many dogs like cheese.

Clark and Haviland note three such markers. First, they identify the definite article as marking given information. (Clark and Haviland, p. 12) If we should say to someone Bring the chair to our party, we would assume that he knew which chair we meant. Second, Clark and Haviland show that the adverbs too, either, again, and still signal that a sentence consists entirely of new information. Their examples and discussion follow:

(22) a. Elizabeth is here too.

b. Elizabeth isn't here either.

c. Elizabeth is here again.

d. Elizabeth is still here.

The first, Sentence (22a), presupposes that there is someone else who is here; (22b) presupposes that there is someone else who is not here; Sentence (22c) presupposes that Elizabeth was here before; and Sentence (22d) presupposes that Elizabeth has been here for awhile. In given-new terms, these presuppositions constitute the given information, and the assertions, sans adverb, contain the new information. (Clark and Haviland, p. 23)[14]

Lastly, Clark and Haviland note that personal pronouns always represent given information since by definition they must have antecedents. In order to understand sentences containing pronouns, speakers and listeners must share knowledge of these antecedents. (Clark and Haviland, p. 27)[15]

With the possibility that a specific noun can be marked as given information comes the possibility that such a noun might fill a new information slot or might have no obvious antecedent within the context of the discourse. Clark and Haviland explain four strategies which allow us to cope with such situations. In the first case, where there is an antecedent for the noun but it appears in a new information slot, the new information does not consist of the noun itself, but of the new relationship the given noun bears to the other information within the sentence, as in the following (Clark and Haviland, pp. 12-13):

There was a steak in the refrigerator. What did Paul do with it? Paul ate the steak.

In the third sentence we expect steak to represent new information, but in fact it is marked as given by the definite article. What is new is that Paul ate the steak, the relationship obtaining between Paul and steak vis-a-vis the verb eat.

When the given information has no antecedent, we use three other strategies. The first, called bridging, is a strategy for searching context. "When the listener cannot find a direct antecedent, most commonly he will be able to form an indirect antecedent by building an inferential bridge from something he already knows." (Clark and Haviland, p.6) In the following sequence, a bridge is required:

Fred is a freshman. Hank is cute too.

We know that the adverb too signals that there is a given presupposition that someone else is cute entailed in the second sentence. We cannot find a direct antecedent (that is, someone else specifically called cute). However, observing the maxim of Relation, we assume that the second assertion is relevant, search context for a possible antecedent, and infer Fred is cute as the logical presupposition required since there is no other possible antecedent within the context. We can even go so far as to reconstruct the syllogism the context suggests:

All freshmen are cute.

Fred is a freshmen.

Therefore, Fred is cute.

The second strategy, called addition, takes over when the first strategy fails. "Sometimes it is impossible to find any way of bridging the gap between known information and the appropriate antecedent. The listener must add to memory, perhaps hypothetically, a new node (a nominal associated with one or more propositions) to serve as the antecedent to the given information." (Clark and Haviland, p. 7) Therefore, when we read The wine was sour as the first sentence of a discourse and we have no antecedent for the wine in memory, we add to memory a statement like The thing that is some wine to account for this given information.

The third strategy, called restructuring, accounts for situations where bridging and addition fail, as in the following:

The apples were gone. Pumbel washed the bowl.

In the second sentence, bowl is marked as given, yet there is no antecedent for it. To build a bridge, we must have some information in context that would presuppose either bowl-ness or the existence of a bowl. Apples and gone, however, do neither. Addition is useless, for The thing that is a bowl does not explain the relevance of the bowl within the discourse. To apply this strategy, then, would be to fail to observe the maxim of Relation. The reader must therefore reformulate the discourse in order to understand it. To be gone often means to be

gone from X. X could logically be filled by a bowl. The reader thus gains the license to infer that Pumbel is washing the bowl the apples were in. (See Clark and Haviland, p. 8. Their example is Agnes saw somebody. It was Agnes who saw Maxine.)

With subordinate clauses comes the necessity of hierarchies of information. (Clark and Haviland, pp. 13-14) The clause maintains its own distribution of given and new information which fits into the overall distribution of the full sentence. Randolph Quirk, et al, claim that subordinate clauses represent given information within the matrix sentence.[16] We find, however, that this is an untenable position in light of the following evidence:

> The boy hit the girl who has the ball.
> I left my watch at the jeweler's when I went downtown.
> He showed me how I was to sweep the floor.

In each case, the subordinate clause falls under the focal stress, within the new information of the sentence. In a context in which the listener had no prior knowledge of the information within the clauses, these clauses would have to represent new information. Unless they are so marked, however, we analyze clauses as given.

Certain other evidence supports our position. First, when a clause is not specifically marked as new, it clearly drops into the given background, as can be seen in the contrastive case:

> The boy hit the girl who has the ball.

I left my watch at the jeweler's when I went downtown.

He showed me how to sweep the floor.

In these sentences whatever is not marked by focal stress is given. The same phenomena can be observed in the least marked case:

The boy who has the ball hit the girl.

That I came here bothered Frank.

In each case the clause is outside the predicate and by definition not new information. Next, in the least marked case restrictive relative clauses follow the lead of their head noun in becoming given or new:

The boy hit the girl who has the ball.

The girl who has the ball kissed the boy.

Nonrestrictive relatives, on the other hand, seem to favor status as given information, as our doubts about the acceptability of the following sequence indicate:

Tom arrested the governor, who took a bribe.

Tom, who took a bribe, arrested the governor.

The governor, who took a bribe, was arrested by Tom.

The governor was arrested by Tom, who took a bribe.

?Tom arrested the governor, who took a bribe.

?The governor was arrested by Tom, who took a bribe.

In both cases where the clause is marked as new by focal stress, we feel the information could be better presented in one of the other four ways. Each time we hear the last two pronounced, focal stress seems to convert the nonrestrictive clause to restrictive. This impression is reinforced by the fact that a restrictive clause in the same position would receive greater stress regardless of the focal stress marking. (Quirk, et al, p. 859) Nonrestrictive clauses, then, not only become given unless marked new, but they seem to resist being marked new altogether by conventional patterns of focal stress marking. Finally, preposed adverb clauses change their marking in the least marked case:

I left my watch at the jeweler's when I went downtown.
When I went downtown, I left my watch at the jeweler's.

Since we can find no instance at all of a subordinate clause representing new information without being appropriately marked, we accept this analysis.

Our comment above that restrictive relative clauses follow the marking of their head merits further discussion. We believe that all restrictive modification follows the lead of its head while all nonrestrictive modification represents given information unless specifically marked itself. Because of this differentiation, the two types of modifiers add information to memory in different ways. Restrictive modification is analyzable as part of the head phrase itself, representing some identifying constraint on the head word. For instance, we may ask Which ball? and receive in answer The ball

that is red. Restrictive relative clauses like this one identify the nouns they modify, separating them from a class of similar items in memory. To return to our original example, in Eskimos who eat bagels live in igloos, the Eskimos are separated from a larger class of Eskimos the speaker assumes his listener has stored in memory by the feature eat bagels. Nonrestrictive modification, on the other hand, is analyzable as separate from the head, having a linking function in memory. Such modifiers contain information assumed already to be within the listener's memory but not specifically related to the head word within the context of the discourse. The head word in this case needs no further specification and consists of a class unto itself. The modifier links to the head in memory information which is not essential for the identification of the head, and therefore not essential to understanding the discourse, so we perceive the modifier as being removable. The kind of question that would require our Eskimo sentence as an answer would be something like How does housing structure correlate with bagel eating in Alaskan tribal society? We could simply respond with Eskimos live in igloos, but this sentence does not specifically link housing with bagel eating. Therefore, wishing to link Eskimos to bagel eating but not wishing to separate bagel eaters from another kind of Eskimo, we block the differentiation function of the relative clause by punctuating it with a comma (phonologically with a pause), producing Eskimos, who eat bagels, live in igloos. (See Quirk, et al, pp. 858-59)

As a last comment on theory, we must specifically adapt these principles to written discourse. In writing the least marked case is

the norm. The amount of the sentence considered new is determined by context, that is, by whether the information has been introduced earlier, what kind of question each sentence answers, and what level of general knowledge the reader is supposed to possess. Since prose does not have a variable tone of voice, to achieve special alterations in the distribution of information we must resort to changes in word order. Nonrestrictive modifiers may be placed at the end of a sentence so they are given focal stress marking, obviating the need to italicize words. Any modifier may be placed initially so as to remove it from a new information slot. The context may even be managed so that such modifiers carry their focal stress marking to the frame position:

> When I got up, I drank coffee. When I got to work, I drank coffee. At dinner, I drank coffee. Now I'm in bed, and I'm drinking coffee.

Here the redundant phrase becomes given information, forcing the reader to perceive the sentence frame as bearing focal stress. A common example involves sentence medial adverbs:

> I hardly care.
> Hardly do I care.

We must keep in mind, however, that context is equally capable of preventing preposing an item from having this effect.

So far we have explained a bit of theory. How do we propose to

teach all this? We do not believe that formal study would be productive. It would require investing too much classroom time for a return that certainly would not exceed that of teaching formal grammar. Since students obey them when speaking, we assume that the Cooperative Principle and the Given-New Contract are a part of linguistic competence. We believe that exercise of the students' competence with the aim of improving their performance would be the optimal method.

We chose sentence combining as the method of exercise for three reasons. First, sentence combining requires that the same assumptions be made about competence and performance. We felt that, if the Cooperative Principle and the Given-New Contract really were a part of competence, sentence combining would affect their use. Second, sentence combining has achieved a rather impressive track record.[17] Finally, sentence combining can withstand the pedagogical implications of the Given-New Contract. Sentence combining is not a mode based methodology, so we can de-emphasize the modes of discourse comfortably. It requires students to assess how a particular combination will affect a reader, so our increased emphasis on audience is not foriegn to its method. And sentence combining specifically teaches variation in structure, so our questions about which variations represent meaning and which represent style are not inappropriate.

We have developed exercises in two forms, signalled and unsignalled. The signalled, which we believe should be presented first, are essentially a structuralist activity. They require the students, by asking them to treat some information as given, to integrate the kernels into a context during production. Each different version will

likely reflect different assumptions made about the reader. The goal of classroom discussion is therefore to discover what assumptions the structure of each version makes about its reader. Such discussion provides an introduction to the basic concepts of given and new information. For instance, Last semester I took CAT 135 is probably the best combination of exercise 1, but we can use Last semester I took the public speaking course if we are willing to assume that CAT 135 is the only public speaking course. If we lead our students to this discovery, we have taught them something about how the definite article signals given information. Here, even though public speaking course is new information in the sentence, the definite article signals that we already know which course the public speaking course is.

These exercises also reveal that the elimination of given information often results in the loss of so much contextual detail that the message becomes garbled. In exercises 1-3, the starred kernels are those which often appear as nonrestrictive modifiers. Students learn very quickly that, if the reader is supposed to know the information already, it does not have to appear in the combined version. But while Last semester I took CAT 135 may be acceptable to most students, they will likely rebel against Ted placed one foot on the rock, slid his hands into the crack, and began climbing layback, especially since few of them will ever have climbed a cliff. Students learn as quickly that nonrestrictive given information is useful to enrich the message, especially when it can be used to link a rather uncommon activity (climbing in layback position) to common activities (pressing with the feet, moving the hands, and walking). Readers do not need to receive every part of the message as new information. Some

information may be accessed out of their store of common knowledge by nonrestrictive modifiers.

Exercise 4 represents a different kind of signalled exercise. The information we request be deleted is implied by the following kernels. In other words, we demand that an implicature be created according to the strategy of bridging. We request that a direct antecedent be deleted and that an indirect one be implied. The reason we developed the exercise in two forms is so that the exercise can be used to teach irony. In 4A, the kernel But we were not well organized implies that the bridge can be accomplished by overtly stating the opposite of the intended meaning. In 4B we delete that kernel and allow the students to seek their own bridge. Form 4A we consider appropriate for beginning students, form 4B for advanced students.

After working through a battery of signalled exercises, the students should move on to our unsignalled exercises. These exercises are designed to teach that host of linguistic markers which signal that certain words or phrases are given or new information, as well as to give continued practice in distributing given and new information in discourse. We have removed from exercise 5 all of the definite articles, pronouns, quantifiers, and key adverbs we could without destroying the meaning of the passage. The students are therefore forced to exercise their competence in constructing these implications by recreating them. Class discussion of these exercises should have the same objectives as for exercises 1-4, only here discussion should include the structures mentioned above.

The classroom procedure for teaching these exercises is no

different from that described for sentence combining by Donald Daiker, et al.[18] We do, however, wish to note that more instructor involvement may be necessary in the discussion than Daiker describes. Students can produce a wide range of structures in response to these exercises. For instance, one of our students produced Last semester's CAT 135 course required me to stand up in front of people and speak. Ordinarily this response would be no problem. But often the instructor's teaching point will depend on his students producing what he considers a few very common versions. A group of creative students may prefer the uncommon to the common. In this case the instructor may have to suggest a version of his own at some point in the discussion. He should not, however, introduce his own version at the expense of discussing student versions.

Obviously, we like using these exercises and believe that they should be incorporated into every composition curriculum. At present, however, we do not think it possible to demonstrate empirically that students given exercises like ours will write better than students who never saw our exercises. Gains made would not show up in clause-to-sentence factor counts since we do not attempt to increase clause or t-unit size. Wholistic rating done in the absence of any other measure would permit the influence of too many uncontrolled variables to be accurate. For instance, would wholistic scores reflect correct distribution of given and new information, or might they reflect only an increased number of bridgings? Analytic rating might be useful, but we cannot decide what category to include in the scale. Would readers be able to respond precisely enough to a vague variable like

context for the gains in the variable to be significant?

Therefore, in place of experimental evidence, we recommend these exercises because they introduce students to what psycholinguists have identified as some of the basic principles of discourse. If this argument is not convincing, let us remember teaching Eskimos who eat bagels live in igloos. Or trying to teach the difference between active and passive. These exercises take the warfare out of it. We can explain why the difference in meaning is not a personal matter. Besides, the way to a readers heart is through his memory.

Instructions: Combine the following kernels in any way you wish, but be sure your final sentences show that you believe your reader already knows all of the information contained in the starred kernels. You may add any words that you wish, and you should also feel free to delete any words you think inappropriate.

Signalled Exercises

1. Last semester I took CAT 135.
   *CAT 135 is a public speaking course.[19]

2. *I researched James Joyce.
   *I researched his short story "Araby."
   I found historical facts that support my theory.
   My theory is that "Araby" is in part autobiography.
   "Araby" may be all autobiography.[20]

3. *Ted arched his back.
   He placed one foot on the rock.
   Then he slid his hands into the crack.
   *He pressed back with his foot.
   *He kicked his free boot against the cliff face.
   *Then he began walking upward.
   *He moved one foot at a time.
   *He moved one hand at a time.
   He was climbing in the layback position.

4A. We were the girl's team.
The team was reserve.
The team was from my high school.
The team was very prominent.
The team was well-organized.
We were a squad.
But we were not well-organized.
*Being organized means that you have uniforms.
*It means that you have a season.
*It means that you have a strategy.
*It means that you have captains.
*It means that you practice.
We had no uniforms.
We had a season.
The season consisted of one game.
We had a strategy.
The strategy was the team's.
The strategy was one defensive and one offensive play.
We had no captains.
We had one practice.
The practice was for two hours.
The practice was the week of the game.

4B. We were the girl's team.
The team was reserve.
The team was from my high school.
The team was very prominent.
The team was well-organized.
We were a squad.
*Being organized means that you have uniforms.
*It means that you have a season.
*It means that you have a strategy.
*It means that you have captains.
*It means that you practice.
We had no uniforms.
We had a season.
The season consisted of one game.
We had a strategy.
The strategy was the team's.
The strategy was one defensive and one offensive play.
We had no captains.
We had one practice.
The practice was for two hours.
The practice was the week of the game.

We shared the gymnasium with the boys' junior high squad.

We shared the gymnasium with the boys' junior high squad.[21]

Instructions: Combine the following kernels in any way you wish. You may add any words that you wish, and you should also feel free to delete any words you think inappropriate.

Unsignalled Exercise

Characters are oppressed by a society.
Characters cannot escape from a society.
Characters are in James Joyce's collection Dubliners.
Eveline is a character in a story.
A story is fourth in Dubliners.
A story is called "Eveline."
"Eveline" is a story of a woman.
Eveline is troubled.
Eveline considers herself past nineteen.
Eveline considers herself underprivileged.
Eveline considers herself a part of a put-upon minority.
Eveline considers herself a spinster.
Love's proper tide is reversed for spinsters.
Love's proper tide is chilled into filial dutifulness.
Love's care is required for an offspring of others' passion.
Eveline has a decision to make.
Eveline must decide whether to go with a man.
A man offers her a new life.

A new life is better.

Or Eveline may remain in a life she hates.

Yet "Eveline" is much more than a story of a decision.

"Eveline" is a protrait of misery.

"Eveline" is a portrait of fear.

"Eveline" is a portrait of hardships.

"Eveline" is a portrait of women of Dublin.[22]

Notes

The original research for this paper was done during the academic year 1978-79 while we were both at Miami University, Oxford, Ohio. We reported that work in "Why Eskimos Who Eat Bagels Sometimes Live in Igloos: Teaching the Placement of Given and New Information with Sentence Combining" at the Canadian Council of Teachers of English annual conference, Ottawa, Ontario, in May 1979. This paper represents an expansion and correction of our earlier work.

[1] Paul Gallico, "Aim for the Heart," in The Writer's Handbook, ed. A. S. Burack (Boston: The Writer, Inc., 1972), p. 28. Hereafter, second references to this and other sources will be made parenthetically in the text.

[2] Ursula K. Le Guin, The Lathe of Heaven (New York: Avon Books, 1971), p. 7.

[3] Ernest M. Wright, "General Physiology," in Essentials of Human Physiology, ed. Gordon Ross (Chicago: Year Book Medical Publishers, 1978), p. 6.

[4] Following the tradition of linguists borrowing their examples from other linguists, we borrowed this cross-cultural example from Professor Max Morenberg, Miami Univer ity. In such examples, the violation of selection restrictions reinforces our perception of the restrictive or nonrestrictive function of the clause.

[5] See William Strong, Sentence Combining: A Composing Book (New York: Random House, 1973), pp. 157-85.

[6] H. P. Grice, "Logic and Conversation," Lecture 2, William James Lectures, Harvard University, published in Syntax and Semantics, ed. John P. Kimball, Vol. III: Speech Acts, ed. Peter Cole and Jerry L. Morgan (New York: Academic Press, 1975), pp. 41-58.

[7] Herbert H. Clark and Susan E. Haviland, "Comprehension and the Given-New Contract," in Discourse Processes: Advances in Research and Theory, ed. Roy O. Freedle, Vol. I: Discourse Production and Comprehension (Norwood, N. J.: Ablex Publishing Co., 1977), pp. 1-2.

[8] Transcribed, the two sentences are He is in the grip of a vice and He is in the grip of a vise. See Grice, p. 44.

[9] This discussion of conversational implicature comes from Grice, pp. 44-46.

[10] To avoid confusion, we will stipulate that the terms speaker and writer are synonomous, as are the terms listener and reader, for the purposes of our discussion.

[11] This discussion of violations of the Cooperative Principle is based on Grice, pp. 49, 52-53.

[12] Herbert H. Clark and Eve V. Clark, Psychology and Language: An Introduction to Psycholinguistics (New York: Harcourt Brace Jovanovich, 1977), pp. 33-34.

[13] Wallace L. Chafe, Meaning and the Structure of Language (Chicago: University of Chicago Press, 1970), pp. 214-18. We omit for simplicity's sake Chafe's discussion of case frames.

[14] This list of adverbs is far from complete. It can be extended by also, neither, and there because they can fill the slots presented in sentences 22a-d. The list can also be extended by adverbs like just in School is just too much for Mike and right now in School is just too much for Mike right now.

We must point out that here, as throughout this paper, we accept a very loose definition of presupposition. For a discussion of problems with the definition of presupposition, see Ruth M. Kempson, Presupposition and the Delimitation of Semantics (Cambridge: Cambridge University Press, 1975).

[15] This list of noun phrase markers could be extended by any determiner or quantifier with the property of deixis.

[16] Randolph Quirk, Sidney Greenbaum, Geoffrey Leech, and Jan Svartik, A Grammar of Contemporary English (New York: Seminar Press, 1972), p. 551.

[17] See Donald Daiker, Andrew Kerek, and Max Morenberg, ed., Sentence Combining and the Teaching of Writing (Conway, Arkansas: L and S Books, 1979).

[18] Donald Daiker, Andrew Kerek, and Max Morenberg, "Using 'Open' Sentence-Combining Exercises in the College Classroom," in Daiker, et al, Sentence Combining, pp. 160-69.

[19] From a freshman paper by Cecilia Pottebaum.

[20] From a freshman paper by Kim Hostetler.

[21] From a freshman paper by Kris Gamwell.

[22] From a freshman paper by Julie Morrett.