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The identification and study of 20 syntactical patterns responsible for much of the structural ambiguity found in literary composition can develop in students an audience awareness. When they realize that such constructions as "a dull boy's knife" and "the club will be open to members from Monday to Thursday" can be misinterpreted, they take more care in their sentences. If students study these ambiguities, write original examples illustrating each type, and participate in class discussions about better ways of presenting the information, they can learn to write with greater economy and precision. (LH)

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Some Structural Ambiguities

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The author, a professor of English at the Iowa State Teachers College, Cedar Falls, suggests a practical application of structural patterns by identifying twenty situations which cause structural ambiguity in student writing.

MANY native speakers believe that our language can be manipulated like a boy's mechanical-builder set—with its interchangeable parts that can be put together in every which fashion—and that in English one can say any old thing in any old way. Such a belief is naive, for English is structured with a large number of syntactic patterns that we are compelled to follow. As a quick example, consider this noun group: *Our first large authorized class party*. Each of the five modifiers belongs in a class by itself and takes its predetermined position in the pattern.[1] If you change the order of these modifiers in any way, you will get a non-English sequence. And with many other patterns the same is true. We are pattern-bound in language just as we are culture-bound in mores. Now one would think that the numerous patterns of English, after centuries of development, would have become so refined as to be clear and unequivocal vehicles of thought. But such is not the case. On the contrary, there are many syntactic patterns that are open to ambiguity. It is these ambiguous patterns that I propose to describe—not all of them to be sure, but those that may be of greatest interest to the teacher of composition. At the outset we must be clear on one point: we are dealing with ambiguities in the written, not the spoken, language.

First, it may be useful to distinguish between two kinds of ambiguity, lexical and structural. In lexical ambiguity the multiple meaning resides in the words themselves, as in this news item from a California paper: "Rev. Keith Hammond was congratulated on being able to get his parish plastered." Structural ambiguity, on the other hand, results from the arrangement of the words, that is, from the structure of the utterance. It is sometimes known as syntactic ambiguity and, in older logic books, as amphiboly. Here is an example from a New York paper: "Whatever her thoughts, they were interrupted as the hotel lobby door swung open and a young woman carrying a baby and her husband entered." Our concern here is with the latter type of ambiguities, and I will present them in a series of structural situations.

SITUATION 1: *Adjective + noun in possessive case + noun.* As an example we may take *a dull boy's knife.* The trouble here is that the adjective may modify either the noun in the posses-

[1]There is nothing "natural" about the order of pre-noun modifiers. In Russian, for example, one says "gray two horses" and "two my friends."

sive case or the second noun. It is true that in English we tend to interpret an adjective as modifying everything that follows it up to and including the headword; but despite this tendency we often meet ambiguities like a *blond artist's model, a clever reporter's story*, and *a plain man's necktie*. An advertisement in the *New Yorker* played upon this pattern with this legend: "A handsome man's shirt? No, a man's handsome shirt."

SITUATION 2: *Adjective + noun + noun*. A good example occurs on a sign beside an Iowa highway reading *Little Charm Motel*. This is similar to the first situation in that the adjective may modify the immediately following noun or the second noun. We meet ambiguities of this kind often in such expressions as *modern language teaching, big building owners, basic English text, hot evening drink, fresh strawberry ice cream, hot bed covers, heavy hog production*, and *deep love movies*.

SITUATION 3: *Modifier (noun or adjective) + noun*. In this situation the reader must know whether the modifier is a noun or an adjective if he is to understand the sentence. A convenient example is furnished by a headline in the *Waterloo Daily Courier:*

> Fleet planes told shoot snooper jet.

What kind of planes do we have here, speedy planes or planes of the fleet? The sentence is ambiguous because we do not know the form-class of the modifier *fleet*. From a trade journal called the *Tire Review* comes a similar case:

> A keen edge quickly on rubber knives with Branick electric knife sharpener.

Or suppose you read this headline:

> German teachers visit Greensboro.

Would you take this to mean teachers of German or teachers from Germany?

SITUATION 4: *More or most + adjective + noun*. The ambiguity lies in the two possibilities—that the *more* or *most* may modify the adjective or the noun. Of the examples which follow, the first is a comment I once wrote on the paper of a freshman, who demanded clarification:

> Give more realistic details.
>
> The defense system should have fewer troops with more modern arms, including field missiles.

Occasionally the words *less* and *least*, because of their use in the sense of *fewer*, and *fewest*, will cause a similar difficulty:

> This soap has less harmful effects on the hands.

SITUATION 5: *Noun + noun + noun*. When this pattern occurs it may raise a question of modification, as it does in this newspaper headline:

> Study of fish blood system may aid cancer research.

Does the first noun *fish* modify the compound noun *blood system*, or does the compound noun *fish blood* modify *system?* And how do you interpret the next:

> Cream cheese cake.

Is this cheese cake with cream or cake with cream cheese? The list of ingredients below the label does not help a bit: "Cheese, sugar, fresh eggs, cream, graham crackers, flour. . . ." Usually when we meet a collocation of three nouns the sense operates to prevent ambiguity, as in *hand garden plow* and *coil bed springs*. When more

than three nouns pile up, the result is likely to be confusion, as in this:

> New Moscow bus student travel officer.

SITUATION 6: *Adjective + series of nouns.* Here is an example from a student paper:

> A baseball player must have good vision, coordination, and speed.

Does the adjective *good* in this sentence modify only *vision*, or the whole series of nouns? If one insists that of course it modifies only *vision*, then what can be said about this sentence, which has exactly the same pattern?

> She raised wonderful tulips, hyacinths, and crocuses.

Does *wonderful* here modify only tulips? Thus it seems apparent that the situation itself makes for ambiguity. Of course the lexical compatibility of the words may keep the reading from going wrong. For instance, the first sentence would be clear if the adjective were compatible only with *vision:*

> A baseball player must have sharp vision, coordination, and speed.

Here are two more instances:

> Bulletin No. 7 contains only a few items on French literature, theology, and philosophy.
>
> For sale: Handwoven towels, table mats, wool shirts, and wool stoles.

SITUATION 7: *Noun + series of adjectives.* This is like Situation 6. It can be illustrated by a quotation from a *New York Times* advertisement. The words describe three colors in which men's socks are available: *heather gray, red,* and *blue.* If one ordered red socks on the basis of this description, what color would he get, red or heather red?

SITUATION 8: *Modifier + past participle + noun.* In this pattern the question is whether the first term modifies the past participle or the noun. Students write expressions like these, without punctuation: *steep pointed gables, heavy padded coat,* and *clean swept room.*

SITUATION 9: *ing verb + noun.* This pattern may sometimes be construed in two ways: as modifier + noun, or as verb + noun object. An AP Story gives us a good example:

> U. S. Sabre jet pilots today shot down one Communist MIG-15 and damaged another in clearing North Korean skies.

From E. A. Nida's *Synopsis of English Snytax* we get another:

> . . . two systems of outlining notation are employed.

A second interpretive possibility for the *-ing verb + noun* pattern is that it may be looked at as either adjective + noun, or as noun + noun. This is fundamentally the same as Situation 3. The following examples will illustrate:

> So you think you have moving problems!
>
> He joined the standing committee.
>
> She maintains an entertaining apartment.

SITUATION 10: *Adjective + noun + conjunction + noun.* The question in this pattern is whether the adjective modifiies only the first noun or both nouns. An example will make the question clear:

> A new company was formed to handle artificial ice and fuel.

SITUATION 11: *Series of words + modifying word or word-group.* The

series usually consists of nouns. The question that arises is whether the modifier refers to all items in the series or only to the last item. A few examples will show the problem:

> . . . a conservative, a Fascist, and an atheist who might be excluded from the teaching profession because of non-conforming beliefs.

> He used an arm stroke and a kick which propelled him through the water.

> Red, yellow, blue, navy, or white with trim.

> At the dress rehearsal she sang, danced, and tumbled very expertly.

SITUATION 12: *Modifier + subject of sentence.* The reader tends to associate an opening modifier with the closest following word, which is usually the subject, whereas this modifier may relate to something further on in the sentence. This is more often a misleading construction than a genuine ambiguity, as these examples will show:

> After choosing the college I thought I would like to attend, the student adviser at my high school arranged an interview with a former student.

> Whether religious or humorous, the church plays a great part in everyone's Christmas activities.

SITUATION 13: *Modificand + intervening material + modifier.* The difficulty here is that the modifier may appear to modify some part of the intervening material. Here are some cases from student papers:

> We must show the world how fallacious the Communist Party is by democratic means.

> Zola was able to describe the characters, the places they went, and the things they did very well.

> We believe in doing what we do well (motto of Tuskegee Institute).

When the intervening material consists of a noun + relative clause, we have a pattern that frequently occurs:

> Every child awaits the time he can go to school with great excitement.

> When applying the clay coil to the base, roughen the parts you are joining with a comb.

SITUATION 14: *Modificand + modifier + modificand.* This is our old friend, the squinting modifier, which looks before and after and pines in both directions, as in this sentence:

> The club will be open to members only from Monday to Thursday.

A writer sometimes gets into this pickle when he tries to wriggle out of a split infinitive. In the next example a *New York Times* writer placed the modifier before the *to:*

> . . . one-way streets had failed completely to relieve cross-town traffic.

And the writer who puts the modifier after the infinitive runs the same risk, as the next exhibit will show. It is from a textbook by a Browning scholar who eschews a split infinitive like ginger ale in his whiskey:

> The university man or woman learns to examine critically conflicting points of view.

The last example is from a well-known college textbook of speech:

> What we believe profoundly influences our ability to listen fairly to any subject.

SITUATION 15: *Verb-adverb, or preposition. By verb-adverb* is meant

such verbs as *put up with* (endure), *turn up* (appear), *turn down* (refuse), *look up to* (admire), *look down on* (scorn), and *prevail on* (induce). Sometimes a reader cannot be sure whether the second word is part of the verb or a preposition. These two instances will illustrate:

The loud speaker wakes everyone up in the hall.

The amphibious truck will carry over its rated capacity when crossing a stream.

SITUATION 16: *Dual parallel structure.* A sentence element may sometimes be taken to go with either one of two structures already established in the sentence. This ambiguity occurs frequently in student writing, from which these sentences are taken:

We overhead the same cleaning woman who cleans the Rose Lounge and another one.

Some persons, after consuming alcohol, want to fight and become hard to manage.

It seems as though the commander of the ship put very little foresight into a problem which faced him and endangered both men and ships.

This situation not infrequently forms the basis of cretinous humor, as in this TV exchange: "I've always wanted to see Lake Louise and Banff." "Sounds great, but how do you banff?" A special case of this kind that students find hard to see occurs with a prepositional phrase which contains a series of nouns:

His job is to post changes in address, telephone numbers, and performance ratings.

The course includes the theory of procurement, property accounting, and requisitioning.

SITUATION 17: *Modificand + two modifying word groups.* If we consider the modifying word groups may be of three kinds – prepositional phrases, relative clauses, and verbal phrases–then it is evident that this situation contains nine different patterns. Each of these nine lends itself to possible ambiguity. In all of them the trouble lies in the third term–what does it refer to?

A. *Modificand + prepositional phrase + relative clause.* In this pattern the writer often intends the relative clause to modify the modificand; but when this clause appears to modify the last word of the preceding phrase, then the sentence is ambiguous. There is no ambiguity, of course, when ties in agreement prevent us from misreading. This is a standard pattern of modification in English, and students frequently run afoul of it. Here are three examples culled out of many:

The life of a movie star that the public sees does look glamorous.

She has cute ideas for parties that are easy to plan.

He has a blue satin ribbon around his neck which is tied in a bow at the top.

The menu of a restaurant in Marshalltown, Iowa, proudly makes this ambiguous pronouncement:

We have a reputation for fine food, quick service, and a friendly atmosphere which amounts to a tradition.

The remaining eight patterns are fundamentally the same, except that only two of them can be protected from ambiguity by ties in agreement. Hence a mere listing, with a single example each, will perhaps suffice to show what they are.

B. *Modificand + prepositional phrase + verbal phrase.*

There was a spotted dog in the group barking at the speeding car.

C. *Modificand + prepositional phrase + prepositional phrase.*

This restatement of the central idea serves as a review for the audience of the entire speech.

D. *Modificand + relative clause + prepositional phrase.*

I was talking about the books I had read in the library.

E. *Modificand + relative clause + verbal phrase.*

We watched the old miner, Maheu, who was feeding his horse, begrimed with dust from the mine.

F. *Modificand + relative clause + relative clause.*

Fred had a second-hand car that he later traded for a motorcycle which he loved to tinker with.

G. *Modificand + verbal phrase + prepositional phrase.*

They stood watching the fireworks in the back yard.

H. *Modificand + verbal phrase + relative clause.*

There is also a theater located near the business district which is crowded every night.

I. *Modificand + verbal phrase + verbal phrase.*

I saw the rake lying against the box stuffed with leaves from my last raking.

SITUATION 18: *Elliptical constructions.* Sometimes the omission of words from a structure will result in ambiguity, as in these cases:

Serve meat when thoroughly stewed.

For sale: Two Dutch rabbits, does, low cost. Breeding age. Will breed if requested.

In this respect *than* and *as well as* are especially troublesome. Here is an example from Noah Webster:

. . . we are less under the influence of reeson [*sic*] than our ancestors.

And students will write sentences like these:

It is more important for me to enter the activities in high school than college.

I like my room mate as well as Janice.

SITUATION 19: *Movable adverbial modifiers.* The different kinds of adverbs and adverbial modifiers have allowable and non-allowable positions in various types of sentences, though this matter has never, to my knowledge, been thoroughly studied. At any rate, such modifiers do move around rather freely, and it is this freedom that betrays students into putting them in positions where they are ambiguous. Student writing contains many ambiguities of this sort:

I repaired the car and returned the following day.

The hostess greeted the girl with a smile.

The crew chief will drive the truck, choose a suitable site, and unload the ammunition with the assistance of two helpers.

The bottle on the table there.

SITUATION 20: *Reference of pronouns, relatives, and demonstratives.* This kind of ambiguity might be considered lexical rather than structural. Words like *he*, *it*, *they*, *her*, *which*, *who*, *this*, and *such* are a constant source of ambiguity in student writing because they often refer to more than

one antecedent. The instances that follow are taken from both professional writings and student papers:

At 10 a.m. today the anchor will be carried out into Lake Ontario aboard a naval craft and consigned to the waters. The three chaplains will accompany it.

The local weather bureaus are not permitted to dispute the predictions of the central weather bureau, regardless of whether they are right or not.

The Graf Zepplin was leaving Lakehurst Airport. Among the last to enter was Mrs. J. D. Smith, lone woman passenger. Slowly her huge nose was turned into the wind. Then, like some huge beast, she crawled along the grass.

Men like Brodie and Kolmer discovered vaccines and gave them to the public, but they were not successful. . . .

He had never gone ice-fishing from a hut like that.

The words *this* and *which* are a special source of confusion because they may refer not only to individual words but to word groups. The following cases are typical:

He was always bringing into the room a strange dog which he had found. This was a nuisance when I was trying to study.

She told me that Joe had come, which pleased me.

Biologists have discovered that fragments of chromosomes attach themselves to another chromosome which is called translocation.

Each room has two study desks and only one study lamp. This is very inconvenient because of poor lighting on one of the desks.

The foregoing twenty situations seem to be the ones responsible for much of the structural ambiguity that we find in student writing.[2] Of those that remain we should take into account one set of situations which need not be described in detail and which can be lumped together in a single omnibus group of form-class ambiguities. These have been emphasized by Professor C. C. Fries in his *Structure of English*.[3] He points out that if one does not know the form-class, that is the part of speech, of a word, then one does not recognize the pattern and as a consequence the word is ambiguous. We have remarked this condition above in situations three, nine, and fifteen. Even the basic sentence pattern of subject-verb-object, Professor Fries reveals, can be ambiguous, as in *Ship sails today*, where we do not know the form-class of *ship* and *sails*.

We frequently meet form-class ambiguities of various types in newspaper headlines, where the demands of space-saving cause the usual signals of form-class to be left out. Here are a few miscellaneous examples: *PW's 1st item on agenda—call girl; baby-sitter demands rise; police raid gatherings; digs well with bulldozer; complete 31-piece drill outfit.* Now and then form-class ambiguities other than those we have classified will turn up in student papers. Here are a few:

At last they heard the boat whistle.

The storm was striking.

Unlike other Shakespearean plays, *Othello* offers no real complicated personality.

Students have important experiences

[2]Sometimes one finds interesting permutations of them, as in *a manned missile launching base,* and in this description of shirts—*blue, tan, or gray stripes or checks.*

[3]New York: Harcourt, Brace, 1952.

> in college that prepare them for the future. They are meeting people, gaining new friendships, and learning to get along with different types of people.

The presence of ambiguity in student writing is easy to understand. In high school the student does not always write to communicate to a known class of readers, as we do in normal writing situations. Instead he often writes writing to fulfill an assignment. The consequence is that he does not develop a reader-awareness: he does not learn to step outside himself and survey his words as with the mind of another person. When he reads over what he has produced, the words mirror exactly what was in his mind as he wrote, and he fails to realize that other readers might get other meanings from these same words.

One way to sensitize the student to the dangers of multiple meaning is to make a direct attack on the structural situations liable to ambiguity. For instance, the teacher can present the situations described above and then have the class write original examples of them with double-track meanings. These examples will furnish material for lively discussions and will offer heady and challenging problems of restatement. Such a procedure will help the student to tool his sentences to a closer tolerance in meaning and to write with greater clearness and precision.