

M.A. THESIS

THE ORDER OF PRENOMINAL ADJECTIVALS IN UNAMBIGUOUS
UNBROKEN STRINGS IN ENGLISH

UNIVERSIDADE FEDERAL DE SANTA CATARINA
PROGRAMA DE PÓS-GRADUAÇÃO EM LETRAS

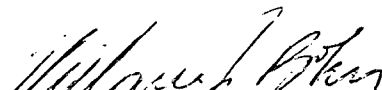
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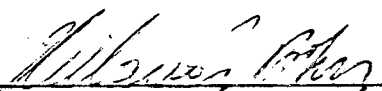
DISSERTAÇÃO SUBMETIDA À UNIVERSIDADE FEDERAL DE SANTA CATARINA
PARA A OBTENÇÃO DO GRAU DE MESTRE EM LETRAS, OPÇÃO LÍNGUA
INGLESA E LITERATURA CORRESPONDENTE.

Ana Antônia de Assis

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To my parents

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RESUMO

Considerando que a ordem natural de adjetivos prenominais na frase nominal em inglês constitui um problema único para o falante de português, este trabalho procura esclarecer alguns dos princípios de ordenação e apresentar sugestões para o seu ensino.

Foi feita uma análise de vários estudos sob o ponto de vista da gramática tradicional, estrutural e transformacional assim como de estudos baseados na psicolinguística num esforço de apresentar uma visão eclética sobre o assunto.

Concluimos que enquanto os princípios da ordenação não tenham sido plenamente determinados, um número de generalizações valiosas podem ser estabelecidas.

ABSTRACT

Considering that the natural order of prenominal adjectivals in unambiguous unbroken strings in English presents a unique problem for the speaker of Portuguese, this thesis aims to clarify some principles of ordering, and make some suggestions for teaching purposes.

An analysis was made of a number of studies by traditionalists, structuralists, transformationalists and psycholinguists in an effort to compile an eclectic overview of the question.

We concluded that while the principles of ordering have not been fully determined, there are a number of valuable generalizations which may be drawn.

CHAPTER 1

1. INTRODUCTION

1.1. IDENTIFICATION OF THE PROBLEM

As a student and teacher of English we have found that adjective order in which the adjective is placed before the noun in English presents difficulties for the speaker of Portuguese, whose tendency is to put the adjective after the noun following the predominant model of his own language. We have found that this difficulty is greater yet when the student has to deal with sequences of more than one adjective preceding the same noun.

1.2. AIM OF THE STUDY

What we would hope to to in this study is to provide a firm basis for the generation of 'good' data which would be suitable for analysis in work designed to clarify English prenominal adjective order. Our aim is to provide a guide which will make the study and teaching of this phase of English-language learning more understandable.

Sequences of more than one adjective before the noun are varied. In common English usage we have the following examples.

large red house

a small round pink face

big yellow Mexican hats

a little old blue car

Indeed, how do we know if a car that is old, blue and little is to be spoken of as a blue old little car or as

a little old blue car; or else that the phrase big yellow Mexican hats represents the correct adjective ordering while Mexican yellow big hats does not?

Native speakers of English are unaware that there is any particular problem. They seem to know 'intuitively' how to order a string of prenominal adjectives, and that this ability is well established at an early age was demonstrated by Martin and Molfese (1971, p.219). Using a list of twenty adjectives that Martin (1970a) had used in previous experiments on adjective order, the researchers generated each of the 190 possible pairings. Each pair was placed in the two possible order to the left of the noun 'thing', forming two noun phrases with prenominal adjectives. All pairs of phrases were assembled on presentation sheets which were then presented to subjects who were asked which phrase 'sounded better' when read 'to themselves'. The average proportion of times each adjective was preferred closer to the noun than the rest of the adjectives was calculated and the list of adjectives was then ordered according to this datum.

Five groups of subjects co-operated in the experiment, each group representing a different school age. Thus the groups ranged from fourth grade to college level.

The results showed that the ordering phenomenon is an extremely consistent one across the assessed age-groups. This was indicated by the fact that the intercorrelations among the scale values of the adjectives for all the groups varied between 0.92 and 0.99. Thus, as well as this consistency the experiment indicated that subjects as young as nine years old (fourth grade) were well able to put a string of prenominal adjectives in

preferred order.

1.3. CLARIFICATION OF QUESTIONS INVOLVED

As the possibility of ordering a string of adjectives which function as adjuncts to one and the same noun in a noun phrase presents no problem to the native speaker of English, we do believe that there are some principles which give him some guidance to this respect. Indeed, two questions arise out of the findings. The first is "What is the preferred order of adjectives?" and the second is, "Why is that the preferred order?" These are the two questions which we attempt to answer by investigation of adjective ordering to establish what principles, if any, govern the position of adjectives in a sequence of adjectives. In this way can make reasonable conclusions which will help clarify the principles involved in ordering so that the student will be able to comprehend better the material and generate normal conversational or written English. To answer these two questions implies two different approaches to the subject. The first question can be answered through an analysis based on the observation and classification of facts i.e., descriptive adequacy. The second question is more complex and concerns an analysis in which an explanation of the facts, and not only a list of data, is essential to insightful understanding.

1.4. DEFINITION OF TERMS AND SYMBOLS

However, in the course of research it was found that some of the basic concepts that have to be considered in this kind of work have not been well defined, often rendering clear interpretation of their results and examples

difficult or impossible. One of the most important not well defined concepts is the distinction between 'broken' and 'unbroken' strings. So before addressing ourselves to the two questions above, it is necessary to make clear this distinction. After all, the native speaker's 'intuitive' adjective ordering ability is relevant only in the case in which the adjective string is uninterrupted in some sense. If the string is interrupted (by a conjunction or a comma for example) one immediately finds that restriction on adjective order is eased. Indeed it is possible to say both The expensive, comfortable chairs are by the door and the comfortable, expensive chairs are by the door. It is a case of personal choice. In neither expression are we producing a sentence which sounds unacceptable or incorrect. The same with adjectives linked by and. We could say The beautiful, expensive and comfortable chairs..., or The expensive, beautiful and comfortable chairs..., or any other change of order, if we wanted to. These interrupted strings are called broken strings, and since they seem to display that flexibility in ordering they represent little problem for the Portuguese learner of English.

This being so, our interest concerns the unbroken strings, and we anticipate our conclusion to a large degree by having in mind the idea of an unbroken string as being one which has the following characteristics:

(i) The stress pattern is that of a series of secondary stresses preceding a primary stress on the noun (Hill, 1958, p.175).

For example:

a smâll rôund pînk fáce

bîg yêllow Mêxican háts

ˆ = secondary stress

ˈ = primary stress

(ii) The syntactic structure of a noun phrase containing an unbroken adjectival string is that in which each adjective modifies the whole of the structure (up to and including the noun head), i.e. the adjectives operate in an 'accumulative' manner. For example:

a (small (round (pink face)))

(big (yellow (Mexican hats)))

These uninterrupted or unbroken strings display less flexibility and are more difficult for the speaker of Portuguese. For this reason, we will focus on unbroken strings in an effort to define the reason for more strict ordering.

In this thesis, by adjectives we understand what has traditionally been considered qualifying adjuncts or pure adjectives, that is those adjectives which already exist: blue eyes, an interesting book, an old man, a serious mistake. All the other words that we find in the most characteristic position of the adjective (the prenominal one), playing the role of an adjective, are either participles if they are verb derivatives (e.g. an undersized young French engineer, the advancing German units) or nominals, if they are noun derivatives or nouns that by means of position shift are placed before another noun becoming an adjective (e.g. a lovely silk dress, old golf shoes, some Italian historical society). These participles

and nominals are included together with the adjectives under the term adjectivals which will be employed by us to avoid the tendency of including them under the term adjectives. The term is taken from Roland Sussex (1973, p.111).

Symbols used in this paper:

* represents an ungrammatical phrase

' primary stress

/ unwritten juncture

1.5. CONTENT AND LIMITATIONS OF THIS STUDY

Besides this chapter 1 in which we discuss the problem, the content and its limitations, in chapter 2 we discuss the two types of prenominal adjectival strings (broken and unbroken strings). Since it was found that the ideas surrounding broken and unbroken strings arise naturally out of a discussion of another important concept, that of coordination, we discuss coordination and its relationship with the factors which cause prenominal adjectival strings to be broken.

In chapter 3 we discuss in some detail these causes.

In chapter 4 we discuss classification of adjectivals as part of the process of discovering the answer to the first question: What is the preferred order of adjectivals in unbroken strings?

In chapter 5 we deal with the principles which govern the adjectival ordering so that we could attempt to answer the second question: Why is that the preferred order?

In chapter 6 we list some conclusions made after analysis of the data, and make some suggestions about a practical application of them to language learning.

This study is limited to an analysis of information provided by the bibliography. We realize the restrictive nature of this limitation to written English as analysed by others. However, neither having the training for, nor being able to finance a research project which would provide fresh data for an original study, we have taken advantage of the experience of established scholars of English to define and summarize the basic questions involved in this study. Verification of data was available to some degree through acquaintances who are native speakers of English. The data from acquaintances has its own limitations because of the small number of acquaintances consulted and the cultural and regional differences between those consulted.

However, our aim is to clarify a question and not necessarily to be original or creative. We are more interested in broadening our understanding of the way English functions, as described by specialists in the field.

CHAPTER 2

2. TYPES OF PRENOMINAL ADJECTIVAL STRINGS

In this chapter we will discuss coordination and the distinction between broken and unbroken prenominal adjectival strings. For the student, the absence of this distinction in the works of most of the authors consulted for the writing of this paper is one of the reasons we found the issue confusing. For this reason we distinguish between broken and unbroken strings.

It was found that the ideas surrounding broken and unbroken strings arise naturally out of a discussion of the idea of coordination and it is from this viewpoint that the present chapter is developed, in order to define broken and unbroken strings.

Coordination in relation to adjectival strings occurs when each adjectival modifies the head equally. This is in contrast to non-coordination or accumulative attribution where each adjectival modifies the head together with any other adjectival between it and the head.

2.1. COORDINATION

To discuss coordination we are going to survey several authors such as: Kruisinga, Nida, Francis, Crowell and Poutsma.

Pursuing the study of coordination Kruisinga (1932, p.162) talks about 'loose word groups' the members of which are mutually independent and do not influence one another in any way. They may be connected by conjunctions (in which case they are called linked groups) as in:

(1) a fine and quiet afternoon

or they may succeed each other without any intervening words (in which case they are called unlinked groups) as in:

(2) a small, bright light

- (3) a still, moist night
- (4) a strong, angry voice

In this case they have a break between them, as is indicated by the comma, and it is these two groups that appear to be closest to our idea of a broken string.

However, unlinked groups without a break are also common:

- (5) a low soft breathing
- (6) the long dry summer
- (7) a handsome old basque peasant

In example (7), for instance, each adjectival does not really modify the noun peasant but rather the whole groups that follows it, thus, handsome modifies old Basque peasant, old modifies Basque peasant and Basque modifies the noun peasant only. These relationships may be represented as follows:

a (handsome (old (Basque peasant)))

Kruisinga (1932, p.206) adds that in this kind of unlinked group the adjectival order cannot be changed. This group is closest to our idea of an unbroken string.

Nida (1973, pp.75-76) distinguishes single coordinates (and, or, but, pause-pitch) and combinations of these or double coordinates (either... or, neither... nor, both... and). Thus Nida's class of groups (or strings) which exhibits coordination contains the whole of Kruisinga's class of linked groups and those members of his unlinked groups which contain either commas or pause-pitches. So again the idea of broken strings arises from the examples of coordination.

With respect to non-coordination or accumulative attribution, we see the comparison between Kruisinga's unlinked groups without a break and Nida's pattern in which "each attributive modifies the head together with any other attributive standing between it and the head". (Nida, 1973, p.76). For example:

(8) poor little old man

Thus poor modifies little old man, little modifies old man, etc. Note that the point made here is exactly the same as Kruisinga makes with his example (7). Thus it seems possible that Nida's class of non-coordinated strings is identical to our class of unbroken strings.

Nida (1973, p.76) also says that "... altering the relative order gives a considerably modified impression".

Thus compare:

(8) poor little old man

with

(9) little old poor man

or

(10) old poor little man

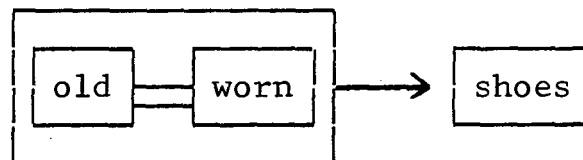
From these examples we note that there is a subtle change in meaning. In example (8) we have reason to believe that the little old man merits pity. But the position of poor in example (9) indicates that the man is not rich, but poor and the next example (10) emphasizes that we are referring to the old (and not the young) poor little man. So we agree with Nida that the relative order of such adjectivals, as based upon the concept of essentiality to the head, is both complicated and debatable (Nida, 1973,

p.76). Therefore, although he doesn't say so explicitly, it seems that Nida is in agreement with Krusinga about the restriction imposed on the order of the adjectivals in unbroken strings.

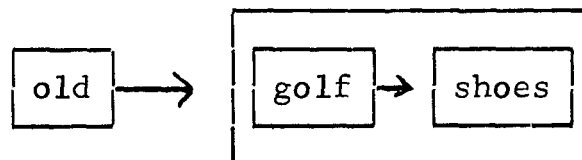
Francis's (1958, pp.358-359) description of coordinate and progressive (successive) modifiers is quite close to Krusinga's description of linked and unlinked groups but would appear to be identical to Nida's ideas of coordination and non-coordination.

For Francis, whereas a structure of coordination consists of a series of parallel modifiers, a structure of 'non-coordination' is a series of structures of modification one within the other.

(a) Coordination.



(b) Non-coordination.



(a) is a single structure of modification with shoes as head and the structure of coordination old worn as modifier. (The parallel lines connecting old and worn in the diagram (a) above indicates coordination). The two adjectives are coordinate and are on the same structural

level, i.e. their function is interpreted by:

shoes which are old

shoes which are worn

The adjectival order can be reversed, or the adjectives can be connected by means of a conjunction or comma when written, or a juncture when spoken:

(11) old, worn shoes

(12) worn, old shoes

(13) old and worn shoes

(b) consists of two structures of modification, one resinding within the other in a manner comparable to Chinese boxes. The head of the inner structure is shoes which is modified by the noun-adjunct golf. The whole structure of modification golf shoes serves, in turn as head of the outer structure with old as its modifier. They are interpreted as:

shoes which are for golf

golf shoes which are old

Because golf is an adjectival (that is, it is a noun which has a modifying or adjectival function in the noun phrase) it is innately different from the adjective old which describes the condition of the head and not its innately distinctive quality.

Some adjectivals, the ones that are subcategorized as non-coordinate, may not be reversed, nor may they be joined by a coordinator. So we may have

(14) old golf shoes

but not

(15) *golf old shoes

or

(16) *old and golf shoes

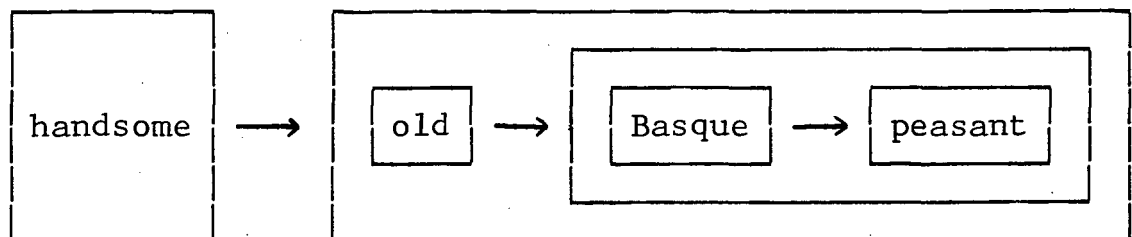
Here we have the confirmation by Francis of the restriction imposed on the order of adjectivals in unbroken strings.

This distinction of Francis between coordinate and non-coordinate modifiers is indicated in speech by intonation and in writing by punctuation:

(a) /³ówld² |³ wóhnrn² |³ súwz¹ #/= old, worn shoes

(b) /²ôwld³ gálf^v súwz¹ #/= old golf shoes (or golf-shoes)

Kruisinga's example (7), 'a handsome old Basque peasant', could also be analysed in the manner of Chinese boxes:



The following diagram shows our concept of the difference between Kruisinga's ideas and those of Francis and Nida.

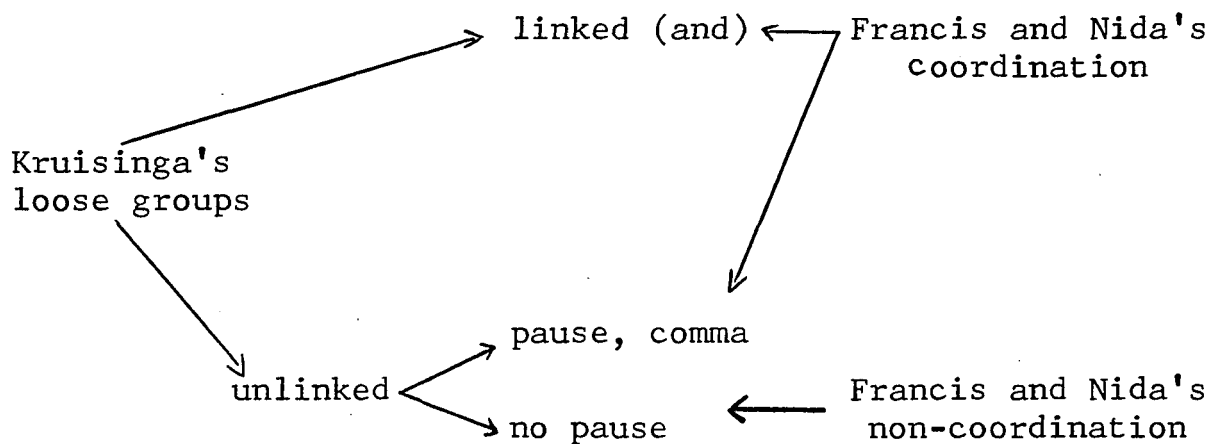


Figure A

Francis and Nida's coordination category corresponds to the union of Kruisinga's linked and unlinked with comma categories.

Francis and Nida's non-coordination category corresponds to Kruisinga's unlinked with no pause category and it is this class that we associate with that of unbroken strings.

Crowell's (1964, p.430) use of the term coordinate is different from that of Francis (and Kruisinga and Nida). Whereas Francis considers the syntactic differences between the two structures, coordinates which are parallel, and non-coordinates which are successive in relation to the noun-head, Crowell states that modifiers from the same semantic group joined by a conjunction or a comma are called coordinate modifiers. Here are some of Crowell's examples illustrating coordinate pairs of modifiers. The subscripts represent semantic adjectival classes. Although we will treat these classes in more detail in chapter 4, it is necessary to clarify in general terms what a semantic adjectival class is. For example, adjectivals may be classed according to their meaning among the most common classifications being those of description, size, age, shape and colour. In the following examples d represents description and c represents colour.

(17) The psychiatrist spoke in a gentle_d but persuasive_d voice.

(18) The orchestra played a swaying_d, enchanting_d waltz.

(19) Sarah had a black_c and blue_c spot on her arm

(20) Millie has a smooth_d, creamy_d complexion.

Poutsma (1914, p.364) would appear to make the same basic distinction between coordinates and non-coordinates, or broken and unbroken adjectival strings when he says that several adjectives qualify the same noun we may distinguish between two types of structures:

(i) That in which the adjectives denote separate qualities.

That is, each quality refers separately to the noun head.

(21) a long, straight street

(22) a rich and generous man

(23) the poor but happy man

In this case the adjectives should be separated by a comma or connected by a conjunction. They have equal stress and their order is unrestricted although the latter tends to be influenced by the consideration of traditional usage or euphony. This case corresponds to coordination.

(ii) That in which one of the adjectives forms a kind of unit with the following noun, the unit then being qualified by the other adjectives.

(24) excellent Rhinish wine

In this case a comma should not be used, nor is it possible to interpose a conjunction between the adjectives. The adjective immediately preceding the noun has weak stress compared to that of the other adjectives, and the order arrangement cannot be changed. This case is clearly that of non-coordination.

We have analysed what these five authors (Kruisinga, Nida, Francis, Crowell and Poutsma) have said about coordination and concluded that adjectivals are ordered according to two types of structures: that in which each adjectival modifies the head equally (coordination), and that in which each adjectival modifies the head together with any other adjectival between it and the head (non-coordination or accumulative attribution).

2.2. BROKEN AND UNBROKEN STRINGS

This section makes clear the distinction between broken and unbroken strings by presenting what some authors such as Vendler, Teyssier, Farsi, Oller and Sales, Coates, Lance and Sussex have said.

In papers based on generative transformational grammar research, Vendler (1968, pp. 120-127) indicates similar differences for the two types of structures in which prenominal adjectivals are ordered using the terms broken and unbroken strings, as in the following examples.

- (25) My house is big and beautiful.
- (26) That is a big and beautiful house
- (27) That is a big beautiful house.
- (28) I have a house, big and beautiful.

Vendler notes that (25), (26) and (28) contain broken strings whereas the adjectival string in (27) is unbroken. (However, note that it is unfortunate that Vendler has chosen to use 'beautiful' in his 'unbroken string' example because of the tendency of this word to introduce juncture into a string containing it and thereby cause it to become 'broken').

From these examples we might infer that broken strings contain and (and or commas), whereas unbroken strings do not. Contrasting both, Vendler says that in broken strings two adjectives are said to be coordinated if they share the same transformational characteristics to the subject:

- (29) long_d and narrow_d road

(The subscripts refer to classes of adjectivals with common transformational characteristics). Classes of adjectivals are discussed in chapter 4.

However, if the adjectivals have different transformational characteristics, then the phrase is rendered ungrammatical.

(30) * long₂ and Polish₆ word

(31) * wooden_a and comfortable₄ chair

(32) * green_f and broken_j vase

However, he also points out that there are phrases like:

(33) old_m and broken_j pot

(34) big₂ and beautiful₄ house

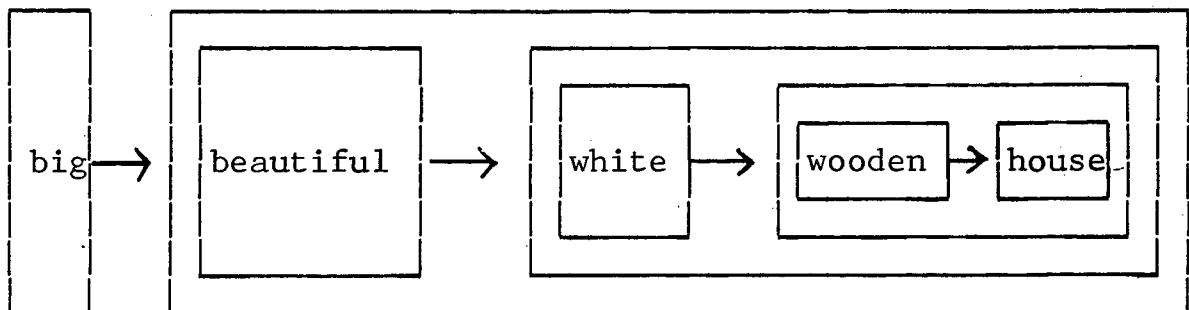
(35) large₂ and comfortable₄ chair

(36) clever₆ and profitable₈ venture

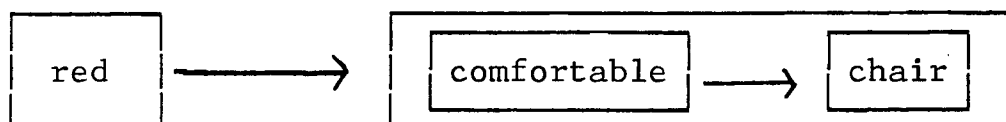
in which the adjectivals are brought in by different operations, and which, Vendler says, are 'tolerable' (1968, p.124).

He adds that unbroken strings require a more or less definite order of succession (1968, p.126):

(37)



(38)



Combinations like:

(39) * white wooden beautiful big house

(40) * red comfortable chair

are felt as peculiar or even ungrammatical because they do not follow the natural order. In chapter 5 we will discuss adjectival ordering in detail.

Also, the fact that

(41) red and yellow flowers

and

(42) long and narrow road

sound better than

(43) yellow and red flowers

and

(44) narrow and long road

indicates the existence of a less cogent restriction on adjectival order.

Vendler's concept of coordination arises when he contrasts broken with unbroken strings. His broken strings are identical to those described as coordinate by the authors we have previously cited (Nida et al). His unbroken strings correspond to non-coordinate prenominal adjectival strings, as previously identified by the same authors.

Another work studied in order to clarify the difference between broken and unbroken strings was that of Teyssier (1968, pp.239-240). His idea of functional parity corresponds with Nida and Francis's ideas of coordination,

which in turn is comparable to broken strings, as defined by Vendler.

However, Vendler's classification system for adjectivals is more complex, having more divisions of classes (See chapter 4). Teyssier recognizes three basic functions: (1968, pp. 226-231)

(i) That of identification. Semantically referring to expressions which have a contrastive reference that helps them identify the noun. The syntactic position is post-determinative. For example:

(45) the last important English King.

(ii) That of classification. Semantically referring to expressions which have a categorizing function, indicating a specimen of a class of objects. The syntactic position is closest to the noun. For example:

the last important English King

(iii) That of characterization. Semantically referring to expressions which characterize. They neither define nor categorize but simply describe the object. The syntactic position is that of a mediator within the string.

the last important English King

When more than one adjective is used in the same function their functional parity is indicated by neutralizing the hierarchy of qualifying functions. Teyssier says that this may be done in three ways which shall now be illustrated with reference to the phrase

(46) a large red'house

(a) The normal stress may be altered without altering the word order. This entails the introduction of pauses indicated by/. Thus

(47) a 'large/red/'house

(b) Both the stress pattern and the word order may be altered:

(48) a 'red/'large/'house

(c) With altered word order the functional parity of both adjectives may be further indicated by means of a coordinating element, thus:

(49) a red and large house

Although both Vendler and Teyssier affirm that coordination occurs in broken strings, from the above examples we see that Teyssier considers coordination in the case of two adjectivals from different classes which are forced to perform the same function, whereas Vendler sees this as being possible but only tolerable. For example,

(50) a large and comfortable chair

Further studies which clearly confirm the existence of broken and unbroken strings are those realized by Farsi (1968, p.49). He uses a "coordination test" as one of his criteria for classifying adjectivals.

He says that the capacity of an adjective to be

linked to another adjective by a coordinating conjunction happens if the adjectives belong to the same class. In other words, a class A adjective cannot be linked to a class B adjective (* modern and verbal experiments) but a class A adjective can be linked to another class A adjective (stylistic and verbal experiments).

One reason Farsi is of interest to us in this paper is because his research does not use classification to clarify adjectival ordering, but flexibility in ordering to distinguish criteria for classifying adjectivals. While Vendler, Nida, Kruisinga, et al. appear to be using the idea of classification to distinguish broken strings (and therefore by omission to identify unbroken strings), Farsi reverses the process, using the function of the adjectival to determine its class. We might compare this to the mathematical process by which we subtract a number and in turn add the subtracted number to the result in order to confirm our answer, for example, $[1000 - 900 = 100]$ $\therefore [100 + 900 = 1000]$. In this way we have interpreted the difference in approach between Nida, for example, and Farsi.

Nida $\left[\begin{array}{l} \text{Adjectival of the same class plus} \\ \text{adjectival of the same class} \\ \text{equals coordinate adjectivals} \end{array} \right]$

Farsi $\left[\begin{array}{l} \text{therefore} \\ \text{Coordinate adjectival plus} \\ \text{coordinate adjectival equals} \\ \text{adjectivals of the same class} \end{array} \right]$

As we have repeatedly said, later in this work (chapter 4) we will discuss in more detail classification of adjectivals, because it is impossible to analyse their order without considering the class to which they belong. That is, the function of the adjectival.

One of the clearest examples of the theory of coordination as identified by the authors already cited in this work is that of Oller and Sales (1969, pp.222-223). Interestingly enough, they don't mention coordination explicitly, but do acknowledge that in noun phrases which can be paraphrased by the insertion of and after each modifier except the last (or before the last modifier only) the ordering of the modifiers seems to be quite irrelevant to the interpretation of the noun phrase. Their example:

(51) the rude, unexpected, boring guest

may be paraphrased by

(52) the rude, and unexpected, and boring guest

or

(53) the rude, unexpected, and boring guest

all three of which mean the same as:

(54) the unexpected, rude, boring guest

(55) the rude, boring, unexpected guest

(56) the boring, rude, unexpected guest

Examples (51) to (56) can all be diagrammed as in figure B.

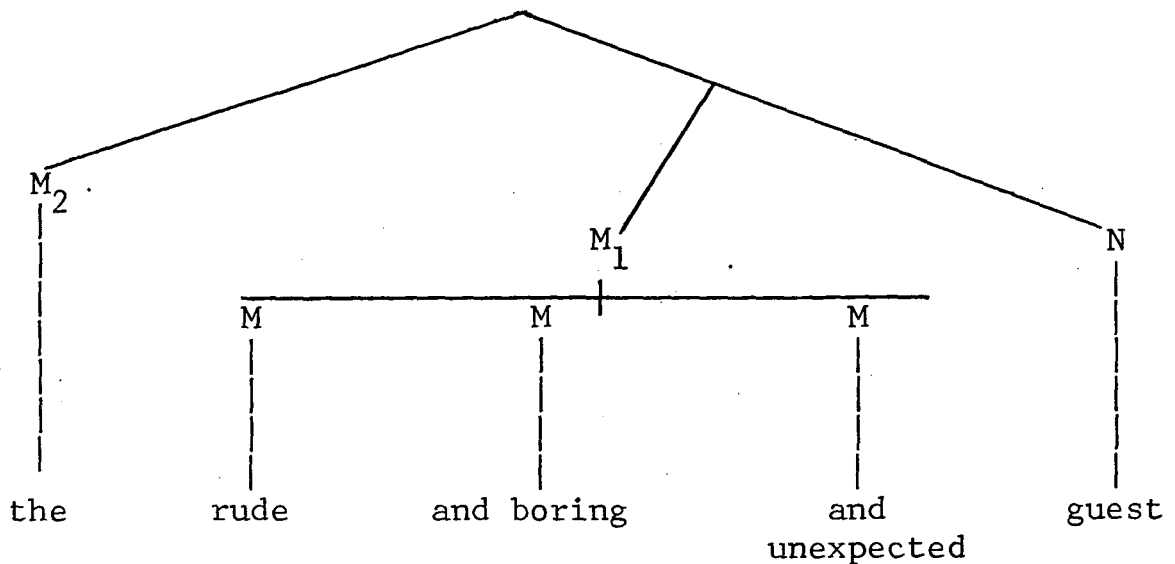


Figure B

To quote Oller and Sales (1969, p.223), "The diagram suggests that the modifiers, rude, unexpected, and boring constitute a cluster of properties of the referent of the head noun 'guest'. As a cluster these modifiers function as a unit within which there is no hierarchical structuring." In other words the noun phrase analysed contains a broken string of modifiers which are coordinate with one another, and the order is not restricted.

Coates (1977, p.10) is also very clear by what she means by coordination. She supplies a 'Coordination Test' which entails posing the question. "Is and (or any other coordinator) present in the sequence? If not, could it be? If not, could it be?" Thus for Coates, the actual or possible use of a coordinator between two adjectives is enough to establish that they are coordinate. She continues, "Coordination is found when we have two or more words of the same class" (1974, p.14) and, "Conversely, a sequence of modifiers involving words of different classes cannot be coordinated" (1974, p.14). Thus two modifiers may be

coordinated if and only if they belong to the same class. Finally, she notes that "Coordination marks those modifiers which share a head" (1974, p.18), which is an idea akin to Teyssier's functional parity'. However, her definition of coordination is more limiting than Teyssier's concept, since the latter is not restricted to operating only between modifiers belonging to the same class.

In this chapter we want to distinguish clearly between broken and unbroken strings. Again we see this difference in the studies of Lance (1968, p.5) who chooses not to discuss coordination saying that it should be the subject of further study. However he does talk about a notion called 'markedness' as follows; "The unmarked noun phrase, by definition, is one which may have stress lower than secondary level only on determiners, predeterminers, intensifiers, or subordinate portions of phrasal modifiers and which may not have a terminal juncture between any two modifiers. If any such modifier has stress either higher or lower than secondary, or if a terminal juncture occurs, the phrase is regarded as marked".

Thus Lance's unmarked phrase would appear to be the same as our noun phrase which contains an unbroken string of modifiers only, a string in which the ordering of adjectivals is more restricted. Since our object in this chapter is only to establish the difference between broken and unbroken strings we leave a more detailed explanation of unbroken strings for chapters 4 and 5.

Sussex (1974, pp.111-112) refers to a broken string as one interspersed with pause or connectives by which (by referring to his examples) one takes to mean commas and conjunctions respectively. He says that the

broken construction is not subject to strict grammatical ordering, and that any broken sequence of attributive adjectives can, in principle, be reordered, the only effect being one of style. However, in unbroken strings of adjectives the order is typically fixed.

Sussex further observes that "the distinction between broken and unbroken strings has not always been properly drawn" (1974, p. 112). This is one thing we think contributes to the confusion of non-native speakers when confronted with the need to generate correct utterances using a string of prenominal adjectives. Learning a simple syntactic rule of adjectival before the noun is easy. Understanding why we have the liberty of arrangement in some phrases and rigidly follow a certain order in other phrases is difficult.

It is evident that different people use the term 'coordination' (when they use it at all) to denote slightly different things. This is no doubt, in part, due to their using differing modes of definition. Thus Nida and Francis use a syntactically based definition ('equal' or 'parallel' modification of the noun head), Crowell and Poutsma appeal to semantics (Crowell: conjoined modifiers from the same semantic group are coordinate; Poutsma: modifiers semantically detached from the noun head are coordinate) whereas Kruisinga's treatment is on the level of grammatical structure (modifiers not joined by a conjunction are 'unlinked'). As a result of this variety in approach there is confusion as to what coordination really is (or should be). Thus Crowell's definition doesn't seem to admit the possibility that two modifiers from different semantic classes may be coordinate whereas those of Kruisinga, Nida and Francis do, at least in principle.

If we take as our definition of a coordinate string the more general idea of Francis (or Nida), i.e. that a coordinate string of modifiers is one in which the modifiers operate in parallel with respect to the head, i.e. that the noun head is modified equally by each modifier, then it would appear that there might be a very close relationship between the class of non-coordinate strings and the class of unbroken strings. In order to provide ourselves with a framework for the investigation of this relationship we shall posit the hypothesis that the class of unbroken strings is identical with the class of non-coordinate strings. The truth of this hypothesis may be demonstrated by proving that the following two propositions are both true:

- (a) All unbroken strings are non-coordinate strings.
- (b) All non-coordinate strings are unbroken strings.

First we note that for two modifiers to share the same head (which follows them) they must be separated by some kind of connective. Otherwise the modifier furthest from the head would be modifying the compound structure following it. Thus it is true that 'all coordinate strings are broken strings'. It follows from this that 'all unbroken strings are non-coordinate strings' and so (a) above has been proved. It remains for us to prove (b), i.e. that 'all non-coordinate strings are unbroken strings'. It is doubtful whether this proposition could be proved directly. All that we can

do is to try to find an example of a broken string that is non-coordinate and so disprove the proposition. Here we may see clearly why those who have studied this problem (such as Sussex) concede that more study is needed.

Opinions vary among authors with respect to how broken and unbroken strings should be defined. Thus we can infer from Sussex and Vendler's definitions that an unbroken string is one which does not contain either conjunctions or commas whereas Hill and Lance frame their definition in terms of intonation saying that an unbroken string is one which is characterized by a stress pattern consisting of a series of uninterrupted secondary stresses terminated by a primary stress (on the noun head). These two definitions are not sufficient because neither the intonation allotted to a noun phrase nor the presence or absence of certain grammatical elements are the only determining factors. The semantic characteristics of its constituents also determine the type of string.

We now turn our attention to the causes of broken strings in order to cast some light on the truth or otherwise of the proposition 'all broken strings are coordinate strings', and thereby on the equivalent proposition 'all non-coordinate strings are unbroken strings'. Should we find a broken string that is non-coordinate then we would have disproved the hypothesis that the class of unbroken strings is identical to the class of non-coordinate strings. Such a discovery would not necessarily be of major importance to the generalized separation of broken and unbroken strings, because cases of this kind could be exceptions. Also, although the lack of an absolute definition may complicate somewhat the understanding of the function, and thus make it impossible

for the student to determine the required position of the adjectives in unbroken strings, we feel that we have established sufficiently the existence of a difference between broken strings, that have relatively flexible order and offer less problem to the non-native student of English, and unbroken strings in which the order is relatively inflexible and therefore requires more understanding of the grammatical process for correct spoken and written English. In order to clarify further this dicotomy we will now analyse more specifically broken strings.

CHAPTER 3

3. THE CAUSES OF BROKEN STRINGS

In this chapter we want to indicate clearly the causes of broken strings in the most explicit and demonstrative way possible: by example. It is necessary for the student or teacher of English that he be able to identify these types of phrases in order to distinguish them from the unbroken strings which require a more studied concentration on the non-native speaker's part. In the previous chapter we described coordination and broken strings in order to make distinction between these two terms and that of unbroken strings. From the authors cited, we have established the fact that these differences are recognized by grammarians and linguists. Now we want to be sure they can be recognized by serious students.

A string is considered to be broken when there is a contrast in intonation or some kind of pause between two of its modifiers that are adjacent. This may occur in several ways:

(i) By the presence of an intervening word:

a sadder but wiser man

(ii) By the presence of a comma:

a happy, contented baby

(iii) By the presence of an unwritten juncture (/):

a little, white/car

(iv) By the emphasis on one of the adjectives:

A BIG brown dog

(v) When the adjective order is not normal:

a black tame horse

(vi) In the presence of compound adjectives:

her new light blue dress

These causes are arbitrary and frequently mutually influencing, as we will see as we discuss each of these cases in turn and the relationship of their characteristic structures with the idea of coordination will be commented upon. However, we find this discussion to be the most exhaustive possible, and therefore useful for purposes of clarification.

3.1. INTERVENING WORDS

These words are always conjunctions and they always indicate the presence of coordination. For example:

(57) a lack and blue bruise

(58) an ugly but contented primadonna

(59) a derogatory or insulting remark

3.2. COMMAS

Insertion of a comma in between two of the adjectives belonging to an unbroken string has the effect of coordinating the adjectives.

Thus in

(60) a large red house

large modifies red house.

But in

(61) a large, red house

the effect of introducing a comma after large is to create a natural pause after red as well so that the net result

is to reduce both large and red to being parallel modifiers of house. Thus the use of a comma induces coordination.

3.3. UNWRITTEN JUNCTURES

An unwritten juncture is just a pause that is not typographically indicated. As instance of such a juncture occurred in example (61) after word red, and as we saw, is was an indication of coordination.

(61) a large, red/house

Because it is difficult to find many examples of phrases in which unwritten junctures appear, we would assume that this cause of broken strings is actually often mutually dependent on the presence of other factors such as commas, emphasis, or word order which is not normal. However, we may compare

(62) a big green 'house

with

(63) a beautiful green house

In the opinion of a colleague who is a native speaker of English, the phrase (62) a big green house contains no pauses whereas the phrase (63) a beautiful green house may well be more naturally uttered with a pause after beautiful. The question here is whether the introduction of the juncture causes the modifiers beautiful and green to be coordinate or not. If the juncture in (63) is made explicit by a comma as in

(64) beautiful, green house

then we find that upon inverting the order of the adjectives we produce a phrase which is also acceptable and which means the same thing

(65) green, beautiful house

indicating that coordination is in fact present in (63) a beautiful green house. Thus, as for commas, we may associate unwritten juncture with coordination.

3.4. EMPHASIS

Consider example (61) once again:

(61) a large red house

The adjectives in this phrase form an unbroken string as indicated by the stress pattern. Semantically the phrase denotes a red house which is large. If we now place emphasis upon the first adjectives we produce a phrase which has a different meaning:

(66) a LARGE red house

(66) carries with it the denotation of a large rather than a small red house. The adjectival string, according to our definition, is now a broken one, but note that LARGE still modifies red house (as in 61) as a syntactic unit. In other words, in spite of the string being broken, the constituent modifiers are not coordinate. Thus, by finding an example of a non-coordinate string that is broken we have disproved the hypothesis that the class of unbroken strings is identical with the class of non-coordinate strings. The relationship existing between these two classes may be

illustrated by the following diagram:

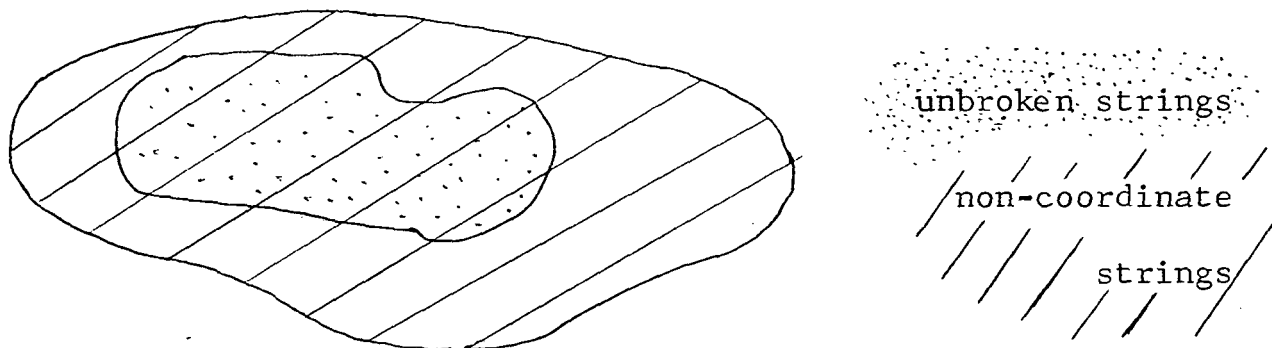


Figure C

It is important to add, however, that the definition of coordinate strings being equal to broken strings is a generalization still valid for the purposes of this study. Our purpose is not achieved by focusing on exceptions, but on utilizing generalities.

3.5. NON - 'NORMAL' ORDER

Reversing the 'normal' or 'natural' order of modifiers in an unbroken string (i.e. that order which a native speaker would intuitively deem to be 'correct') has the effect of disrupting the stress pattern if an intonation is chosen which would render the string acceptable. For example:

(66) a red large 'house

is not an acceptable phrase if the stress pattern of an unbroken string is used. By changing the stress pattern, however, phrases may be produced which are acceptable. This may be done in three ways:

(67) a RED large house

(68) a red LARGE house

(69) a red, large house

In (67) RED carries emphasis (a red large house rather than a green large house). In (68) LARGE is emphasized. This phrase is equivalent to (66). In (69) adjectives have been coordinated by the introduction of junctures after red (indicated by a comma) and after large (not typographically indicated). Note that in (67) and (68) coordination does not occur even though in all three phrases the adjectival strings are broken, a result of reversing the normal adjective order. Coordination does not occur in the examples (67) and (68) because semantically the object being identified is not just a house, but a red house.

When we make an effort to separate and analyse elements of English grammar we begin to see why the study of psycholinguistics has become essential to deep analysis. We will leave any comments on the psycholinguists' viewpoint for chapter 5, where we will see the importance their work has for ordering. Here we have summarized the viewpoints of several authors on causes of broken strings which have been chosen as convenient ways of dissecting the material.

3.6. COMPOUNDS

When two of the words in a noun phrase have a greater affinity for one another than for the other members of the phrase, then the two words often form a compound unit, i.e. they combine to form a constituent of the noun

phrase which functions as a single syntactic unit. Compounds may be adjectival or nominal and may be constructed in many ways. However, if we limit ourselves to the kinds of ambiguity that can occur in otherwise normally constituted noun phrases, then the compound adjectivals that we may consider must be limited to an adjective-adjective structure, and the compound nominals must be of the adjective-noun variety. Thus interpreted as an unbroken string.

(70) a deep blue 'lake

would probably be first interpreted as a lake which has a deep-blue colour. (here, deep-blue is a compound adjective). The interpretation, 'a lake which is both deep and blue' is applicable to the coordinated structures:

(71) deep, blue lake

(72) blue, deep lake

(Note that there is often a juncture after the second adjective as well as the first).

The interpretation normally attributed to unbroken strings in the case of (70) is available only through emphasis, e.g.:

(73) DEEP blue lake

Thus the existence of the tone deep blue serves to disrupt the normal interpretation of the otherwise unbroken string (70). Although the stress pattern of (70) is barely distinguishable from that of an unambiguous string (compare deep blue 'lake with big blue' lake), nevertheless, it must

be rejected as a general and representative example of an unbroken string (even though it is an unbroken string) because its interpretation is open to ambiguity.

Similarly, the phrase

(74) a black Persian cat

may be interpreted as either 'a black cat from Iran' or 'a black cat which belongs to the species known as Persian cat'. Thus, due to this ambiguity, strings containing compound nominals such as Persian-cat are not considered as unblemished examples of unbroken strings.

Likewise we shall be equally wary of any other kind of compound, for example: diamond-hard, Prussian-blee, blue-black, well-written, and, Maltese-cross, Danish-pastry, black-bird, cannon-ball.

(The reader might like to ponder on the meaning of

(75) a hard blue black South American Danish pastry)

In addition to the kinds of compound discussed above there is another kind which arises occasionally when use is made of the words, young, little and old. Thus the phrase old man, old maid, young man and little girl all tend to be understood as syntactic as well as semantic units, i.e. as compound nouns. Thus old maid means spinster, young man means boy, and little in little girl is just a diminutive which tends to emphasize the youth (but not the size) of the party concerned. That old man operates as a unit may be illustrated by pointing out that in other languages it is translated by a single word only, e.g. velho in Portuguese, vieux in French.

An interesting experimental confirmation of the special status of the group young, old, little is provided by Richards (1977, p. 493). In her experiment she required subjects to order pairs of adjectives. Half of the subjects had to order the adjectives in attributive sentences, (''(He, She, It) is a _____ (noun)''') and the other half were required to use predicative sentences (''The (noun) is _____ (and/but) _____.''). The resulting orders obtained under the two sets of conditions were compared. Richards found that most of those cases in which the orders were reversed to a significant degree were accounted for by the presence of one young, old, little. ''In both attributive and predicative sentences, these adjectives were preferred closest to the noun.'' (1977, p. 494). That is, they have an affinity for the noun, tending to form compounds with it.

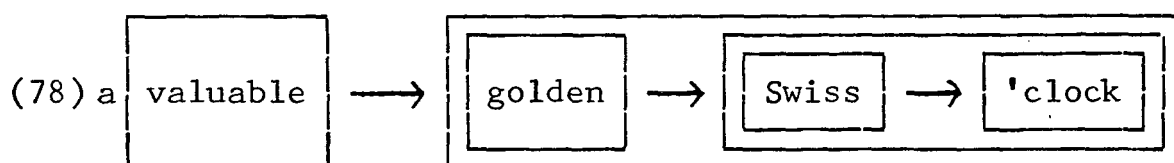
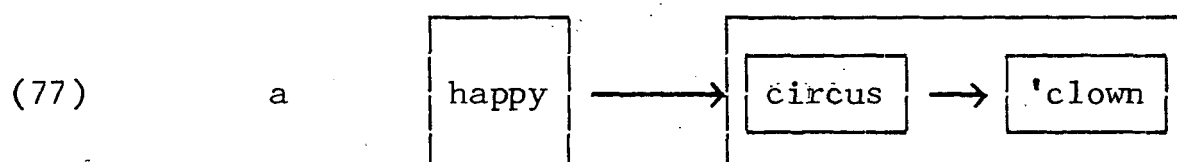
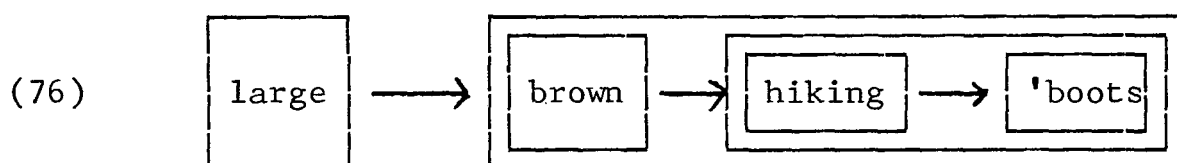
In this chapter we have seen the various causes, sometimes occurring together or mutually influencing one another, of broken strings, which we have compared to coordinate strings that leave the writer or speaker free to determine the ordering of the phrase according to his interests. This was necessary to prepare the way for the next chapter in which we will concentrate on classification and its effect on unbroken strings that are restricted to a pre-determined order.

CHAPTER 4

4. THE IMPORTANCE OF ADJECTIVAL CLASSIFICATION IN UNBROKEN PRENOMINAL STRINGS

Our major emphasis in this work is the natural order of adjectivals in unbroken prenominal strings. It can be hypothesized that this order is determined by the classification of adjectivals. Therefore, it is necessary to re-define unbroken strings and clarify the principles of classification of adjectivals so that we may understand what exactly is influencing the order.

Unbroken prenominal strings are those which have secondary stress on the modifiers and the primary stress on the noun head. They are not normally interrupted by conjunctions, commas, juncture, emphasis, or the like. The components of the string do not modify the noun head in an independent or parallel manner. They are interrelated and accumulative. Their order is restrictive. For example:



For the purposes of this study, we will not attempt to treat the innumerable possibilities of broken strings within unbroken strings, where some flexibility of order is possible within the string. However, it is evident that the principal string being analysed is the unbroken one. For example:

- (79) a familiar geographical and social
'background
- (80) a profitable coal and iron 'mine
- (81) beautiful interesting executive 'secretary
- (82) valuable old Swiss 'clock

There are many causes of these patterns associated with broken strings, being embedded in unbroken strings. Among the most common causes being more than one denominal or noun-adjunct functioning as adjectives, as in example (79) and (80) respectively, or more than one descriptive adjective as in examples (81) and (82). Whenever possible, we will avoid these kinds of examples.

Classification of adjectivals is based on analysis of the many facets of the characteristics of the noun they are attempting to describe. It attempts to separate the descriptions into groups which have the same function. Adjectivals have widely differing functions. Some of the most obvious classifications are those of size, shape, colour, material, and origin, so that in one string you may have various classes represented, as in:

- (83) a big round red silk Chinese 'lantern
- (84) a small blue felt 'triangle

Since we are interested in the study of adjectivals for the purpose of clarifying the reasons for

flexibility and inflexibility to help the student speak English correctly, it is important that we clarify the principle of classification. Without an understanding of classification, it is difficult for the non-native speaker to analyse what is actually happening in a noun phrase which has a sequence of prenominal adjectivals. If he doesn't perceive what is happening, he will not be able to understand why a given adjective comes before another. Therefore, we see that an understanding of classification is essential to an understanding of ordering.

4.1. TRADITIONAL AND STRUCTURAL APPROACHES

Most of the authors consulted relate adjectival order to the types of meaning into which adjectives can be classified, that is, there is a consistent tendency for adjectives to be preferred in a order which is a function of the semantic characteristics of the adjectives. For example, in view of the acceptability of 'small round pink face', 'high red building' and 'large yellow hat', it has been concluded that the ordering of the adjectives has to do with the semantic parallelism (Crystal's term, 1974, p.139) between the phrases. In the examples above, for instance, an adjective of size precedes an adjective of colour.

The following tables have examples of some of the classes recognized by grammarians. No one author has a completely exhaustive system of classification. This is only normal, given the vast amount of material to be analysed and the fact that language is continually growing and changing. For purposes of a more organized presentation of the materials we will now simply list several charts for the reader's consideration.

(a) Hornby's (1962, p.174) Classification

Det. etc.	quality etc.	size length shape etc.	colour	noun or gerund	head
a several a quite an those	valuable, old attractive smart	large small, round triangular	red pink green brown	gold pickling Cape-Colony snakeskin	watch cabbages face stamp shoes

- Table 1 -

(b) Christophersen's (1974, pp.140-141) Classification

Det.	other adjs. (than those following)	temperature	shape size	age	colour	nationality or regional origin	material	head
an	undersized			young		French		engineer
a	long	cool		new	black			drink
a	nice		large	old	white		wooden	cat
a				old				chap
a								house

- Table 2 -

(c) Strang's (1962, pp.137-138) Classification

Det.	Adjectives			adjunct-noun	head
	3	2	1		
a	general characterizing adjectives	colour	age		
	tall	white	old	country	house

- Table 3 -

d) Crowell's (1964, pp.429-431) Classification

Indicating Modifiers.	Descriptive Modifiers										Head	
	descriptive (other than the words following)	size, height or length	age or temperature	shape	colour	nationality origin or location	material	operation	power	purpose or destination		
Det. etc.												
a	beautiful	long	old		green	American	silk	automatic		washing		machine
a	interesting	tall	cool	oval	blue	Swedish	ceramic			party		dress
an				square			fruit	mechanical				bowl
a							metal					cocktail
the												cleaner

- Table 4 -

(e) Quirk et al's (1976, p.925) Classification

Det.	general	age	colour	participle	provenance	noun	denominal	head
the	hectic						social	life
the	extravagant					London	social	life
a				crumbling		church		tower
a			grey	crumbling	Gothic	church		tower
some	intricate	old		interlocking	Chinese			designs
a	small		green	carved		jade		idol
his	heavy	new						responsibilities

- Table 5 -

These tables are only a small sampling of the material available in the study of classification of adjectivals. However, they serve to alert us to some of the most widely recognized classes. At the same time we see important differences.

Hornby (Table 1) is a typical example of a classification system which is neither too vague nor so incomplete as to greatly restrict its usefulness as a pattern for generating expressions. On the other hand Strang (Table 3) has overgeneralized the classifications, which leaves many doubts for the student when that student finds himself unsure as to how to express himself when numerous types of adjectivals are involved. Another confusing factor is that of Strang's ordering of age after colour, something which we rarely see in spoken English, and differing from the other tables included here.

Whereas Hornby (Table 1) uses the general heading noun or gerund adjunct to the head, others such as Christophersen (Table 2) and Crowell (Table 4) further distinguish them as being origin, material, purpose, and so forth.

Another interesting observation about the tables is the difference between the pre-classification division of Strang (Table 3) of determiners, adjectives, adjunct-noun, head and Crowell's (Table 4) more generalized pre-classification of Indicating Modifiers, Descriptive Modifiers (in which he includes adjunct nouns and participles) and Head. In the introduction to this paper we decided to use Sussex's term "adjectivals" to indicate all these modifiers as having descriptive functions. One

reason was the fact that many grammarians treat them as adjectives, defined generally as descriptives or modifiers.

In Table 5 (Quirk et al.) we see an interesting further division of what Hornby (Table 1) classified generally as noun or gerund. That is, the establishing of participle, provenance, noun, denominal, head, as in the example

(85) a carved Indian marble religious tomb

Although we might wish to express our description of the Taj Mahal in these terms, using a generalized pattern like that of Hornby (Table 1) we would be unsure of the correct order because he does not give us sufficiently distinctive classification.

While it is evident that no Table could possibly include all the possibilities and the vocabulary chosen to distinguish the classes is variable, we can easily see that some tables are much more informative than others. (See Tables 3 and 4).

Schibsbye (1970, p.141) as well as Strang also classifies adjectives into two broad categories; those which have a descriptive value, called descriptive adjectives, and those which have a limiting value, called limiting adjectives. The descriptive adjectives precede the limiting ones. For example

(86) a naughty little boy

(87) a nervous young man

(88) a beautiful French man

The adjectives little and old may be closely associated

with the succeeding noun, so that other adjectives often precede them;

(89) a brave little woman

(90) a rich old man

However, they are separated from the noun by adjectives denoting colour, material, or nationality. For example:

(91) the little red tower

(92) old wooden furniture

(93) a charming little Italian girl

As regard the mutual relation of little and old, little precedes old. For example:

(94) the little old Coton church

The above mentioned authors (Hornby, Schibsbye, Strang et al.) often resort to a mixture of criteria when making their classification. Thus all the authors use a semantic criterion, that is, one based upon the types of meaning of the adjectives, but some authors, in addition, also use a morphological criterion, i.e. one based upon the form of the words. Also, their terminology varies a great deal between them. Just to give one example, those adjectives which are called 'adjectives of quality' by Hornby, are called 'general characterizing adjectives' by Strang, 'other adjectives' by Christophersen, and 'descriptive adjectives' by Schibsbye and Crowell. There is also much disagreement among the grammarians with respect to the relative positions of the adjective in a noun phrase. For example, Strang writes:

(95) a tall white old country house

but according to Christophersen and Schibsbye it should be

(96) a tall old white country house

In general a clear idea is not generally provided about the co-occurrence of adjective of shape, size and length (See Tables 1 and 3). Indeed, there appears to be some confusion even concerning the meaning of these terms. Schibsbye places 'thick' in a category termed 'form' which presumably must mean shape. Other authors would conceivably refer to 'thick' as a size. One of Hornby's columns contains size, length and shape together, whereas Christophersen puts shape and size in the same class mentioning length, so presumably, for him, length is a size whereas for Hornby it is not. We also notice that there is no indication of the relative order of adjectives of shape and size so that the classification is underspecified. In fact, in general, the above classifications seem to be under-determined. The special nature of the group 'little, old, young' is often not recognized. Thus one can say

(97) a young French boy

as well as

(98) a French young boy

or

(99) a little white house

as well as

(100) a white little house

and it is necessary to distinguish between the different functions that the same word may have while in different positions. Schibsbye's classification is fragmentary and somewhat unsatisfactory because in his examples he uses commas and doesn't seem to realize that a characteristic of strings containing connectives is that the restrictions on adjectival order are considerably weakened.

An attempt at classifying prenominal modifiers but using a structural criterion which is neither basically semantic nor morphological is provided by Hill (1958, pp.175-179).

While we believe that his approach is very restrictive and not an adequate treatment of the problem, it has value in its simplicity and some of the points Hill makes are important to an over-all understanding of what is occurring in the language.

Hill defines classes by the inspection of model phrases and the application of the following guide-lines:

(i) Two words belong to the same class if one can substitute for the other without affecting the framework of the phrase, as old and grey in the following examples:

(101) a fine old stone 'house

(102) a fine grey stone 'house

(ii) Two words belong to different classes either if they occur in a fixed sequence or their sequence can be broken only by placing a terminal juncture between them. For example:

(103) a large oak tree

(104) an ornate old lamp

or

(105) an old, ornate lamp

(iii) Two words belong to the same class if they can occur in the order AB or BA, but require a terminal, A/B or B/A, between them. For example:

(106) a large/round 'spot

(107) a round/large 'spot

Hill then gives the classes neutral labels, e.g. group I, group II, etc. the members of group I occurring closest to the noun head, these being preceded by the members of group II, etc. As a result of this classification Hill assigns to group I all uninflected noun forms (e.g. silk 'hat, coal 'stove) as well as modifiers derived from these noun forms by means of a suffix (e.g. stoney, wooden, silken, golden). Thus adjectives which show nationality also fall in group I. Hill has problems in defining his group II but says that, the group can be very roughly described by saying that its membership consists of the colour adjectives; the age group (old, new, young); and the shape-size group (big, huge, little, small, tall, high, thick, thin, slim, fat, stout). He also feels the need to define a subgroup of group II which he calls groups IIa. Group IIa contains old, new and little and is characterized by the tendency of its members to form fixed phrases (e.g. old-maid, little man,

newcomer, old country). A characteristic of group II is that all its members are comparable with postbases. For example, blue, bluer; old, older; large, larger. In this, the groups forms a partial contrast with group III, which can be compared with postbases or with more and most. Besides this qualification for group III membership, Hill also says that an adjective can be phonologically classified as belonging to group III if it regularly comes before a known group II adjective-like old and if the order cannot be changed without stress or juncture modification. Further generalizing he says that if the members of group II were fully listed, he would then describe group III by saying that it contains all the modifiers whose position is not otherwise defined. Also, all new or learned adjectives fall into this group.

Recent analyses differ from their precursors in that they tend to be more systematic. Also, contemporary authors have at their disposal transformational grammar techniques which wasn't the case for traditional grammarians.

Hill, Strang, and others as well as the more traditional grammarians, tend to over-generalize, leaving many questions unanswered, many possibilities unexplored. While it is not in the scope of this paper to research these unanswered questions, we cite a few in order to leave the reader with an understanding of the complexity of the subject. For example:

1) Beginning from our last observation about Hill's work we see the open-ended Group III in which the vast amount of data applicable to this group makes it completely uncontrollable and impossible to analyse.

2) The inclusion of colour, age and size in the same group is also too complex to handle, when obviously there is usually a preferred order.

3) A similar problem of lack of sufficient distinction between modifiers of different classes as already cited in Strang's classification (See Table 3, p.43) likewise obstructs understanding.

4) The discussion of juncture also seems to obscure the data, as juncture is determined by such widely differing influences as the personality of the speaker, intonational inflexes which modify the meaning, emphasis, and the like.

One study of the complexities of the classification which attempts to look at the internal structure in order to solve some of these problems is that of Teyssier.

Teyssier's analysis (1968, pp.226-232) of the adjective is centered on the relationship between the adjective and the noun. The noun finds in the adjective additional information sufficient to specify its meaning, but on the other hand, the adjective finds in the noun the grammatical support necessary for its functioning as a linguistic sign. The relation from noun to adjective is one of semantic sufficiency, whereas the relation from adjective to noun is one of grammatical necessity.

When used attributively the adjective presents the following basic pattern:

DETERMINATIVE (a/the/his/this)	ADJECTIVE (new)	NOUN (house)
-----------------------------------	--------------------	-----------------

and it can be regarded either as functionally related to determinatives or as semantically related to substantives, according as it stands more or less closely to either element. The adjective-noun combination can be read now as:

(DETERMINATIVE ADJECTIVE) + NOUN DETERMINATIVE + (ADJECTIVE NOUN)
--

On this basis, Teyssier classifies the attributive adjective into two groups, so that the above patterns look like this:

DETERMINATIVE AND ITS IDENTIFYING EXPANSION	NOUN
DETERMINATIVE	CLASSIFYING EXPANSION APPLIED TO NOUN

In the case of IDENTIFICATION the adjective seems to have a defining function of syntactic order. It points to ONE particular instance of the object thus described, its main function being to expand the 'definiteness' implicitly contained in the determinative. In the case of CLASSIFICATION the adjective seems to have a categorizing function of a semantic order. It points to A SPECIMEN of a class of objects, its main function being to expand the inherent 'indefiniteness' of the noun it applies.

If we combine both patterns, we find the identifying adjunct nearest to the determinative and the classifying one nearest to the noun:

DETERMINATIVE + IDENTIFYING ADJ.		CLASSIFYING ADJ. + NOUN	
The	same	English	person
The	first	German	attack

A third element appears to balance the sequence. It stands half-way between the identification and classification in order to function as a MEDIATOR within the group:

DETERMINATIVE (IDENTIFYING ADJ.)		ADJECTIVE	(CLASSIFYING ADJ.) NOUN	
The	same	handsome	English	person
The	first	successful	German	attack

The word-order could hardly be altered, each adjective representing a definite function in a definite order. The Intermediate Adjective is of a different nature. It neither defines nor categorizes, but simply describes the object. It is a pure 'qualifier' whose function is rather to 'characterize' by indicating some non-restrictive quality.

Whenever two non-identifying adjectives occur the more classifying will as a rule stand nearest to the noun and the more characterizing farthest from the noun (hence nearest the determinative).

(117) a naughty little girl

(118) a beautiful French girl

We will now consider some of the criterion imposed on classification by others who have used a more eclectic approach. For example, Farsi (1968, pp. 45-49) uses batteries of criteria to classify adjectivals such as:

a semantic criterion (i) the type of meaning the adjective has;

a morphological criterion (ii) the type of negative prefix it takes;

syntactic criteria (iii) adjectives which may be modified by very;

(iv) adjectives which may be linked by a coordinator;

(v) the position of the adjective in a noun phrase.

According to these items he classifies the adjectives into three classes:

Class A	Class B	Class C
(i) DESCRIPTIVE	EVALUATIVE	either DESCRIPTIVE or EVALUATIVE
(ii) it takes <u>non-</u>	it takes <u>un-</u> ,	
(iii) it cannot be modified by <u>very</u>	<u>in-</u> , or <u>dis-</u> it can be modified by <u>very</u>	
(iv) An <u>A</u> adjective can be linked by <u>and</u> to another <u>A</u> , but not to a <u>B</u>	a <u>B</u> adjective can be linked by <u>and</u> to another <u>B</u> , but not to an <u>A</u>	
(v) <u>A</u> follows <u>B</u> and comes close to the N	<u>B</u> precedes <u>A</u>	
affective	affectionate	American
cardiac	hearty	artistic
behavioural	mannerly	academic
generic	generous	scientific
verbal	verbose	legal
semantic	significant	literary

Farsi fits his classes into Hill's model phrase:

VI	V	IV	III	II	I	N
all	the	ten	fine	old	stone	houses
			Class B		Class A	

by saying that Class B falls into Hill's Group III and Class A into Hill's Group I, the order being that displaced by Hill's model phrase. His Class C depends on meaning and the other characteristics it carries. It can be described as having the same characteristics of a Class A. Its order is B C; if it is described as a Class B its order is C A, that is, C follows B and precedes A.

Farsi's classification takes into account only three classes of adjectives; however he does make clear that the type of suffix an adjective takes is not sufficient for its class characterization. Adjectives containing the same suffix may belong to different classes. For instance, tactile is Class A, docile is Class B; urban is Class A and human is Class C.

Like Farsi, Jennifer Coates (1977, pp.12-13) also defines her adjective classes with batteries of criteria and classifies them into four classes described as follows:

Central Adjectives	Participles	Denominal	Noun	Head
long, cheerful, good, cheerful, interesting, young, cheerful	controlled, fascinating, limited, shocking, frightened, deserted	social, urban, political, physical	air, copper, food, price, rubgy	

Coates, unfortunately, does not discuss what she calls "smaller idiosyncratic word classes" (e.g. adjectives of colour, size and age).

Crystal (1974, p.139) after having worked through a statistical analysis of informants' preferences, observes that there is a consistent tendency for adjectives to be preferred in a specific order where certain characteristics are present. These characteristics concern the types of meaning into which the adjectives can be classified. On this basis, he draws the following conclusions summarized by the table below:

Deter miners	Adjuncts						Head
Those	other adjectives pretty	size large	age new	colour red	nation- ality English	material wooden	chairs

- Table 6 -

Goyvaerts (1968, p.27) after having discussed what grammarians say about classification and adjective ordering comes to some conclusions summarized by the following table.

Goyvaerts's classification (1968, p.27)

8	7	6		5	4	3	2	1
		a	b					
quality	size length shape	old new young	colour	nation- ality	style	gerund	noun (XX)	HEAD
	little						little (dim.)	

- Table 7 -

Where (XX) = adjectives derived from nouns
and dim. = diminutive

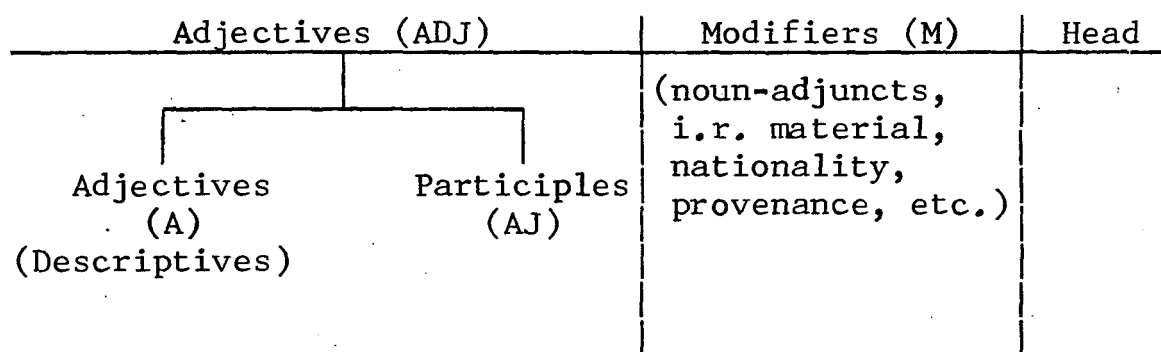
Whereas Hill, Teyssier, Farsi and Coates define their adjectival classes by using different batteries of criteria such as: the type of meaning the adjective has, the form of the word itself, juncture, position of the adjective in the noun phrase, use of coordinator, adjectives which may be modified by very and so on; Crystal's approach only concerns the type of meaning the adjective has. On the other hand, Goyvaerts' analysis is more close to what traditional grammarians have said. He establishes the classes for the adjectives by using semantic categories or grammatical criteria.

4.2. TRANSFORMATIONAL APPROACH

However, some of the more recent studies, especially those which used transformational grammar techniques, tend to be more systematic, as we will see in the following material. In this section we shall take a close look at two of the more comprehensive attempts at classification (those of Annear and Vendler) and compare them. Other contributors will be more briefly summarized.

Annear (1964, pp.95-121) establishes three classes of adjectives within the general framework of transformational grammar.

According to her, we may distinguish the following grouping of adjectivals in a prenominal string as:



- Figure D -

Using a common formula based on constituent structure, she presents an utterance in which she uses an adjectival of type A (see Figure D above).

Determiner + Noun + Tense + Be + A

as in The boy (present) is tall

This structure then undergoes three transformations.

1. The Addition of Relative Clause:

The boy is tall. → The boy who is tall is
The boy is my brother. my brother.

2. Relative Clause Reduction:

The boy who is tall is my brother → * The boy tall
is my brother.

Because this order is not acceptable to a native speaker the third rule in the sequence is obligatory.

3. Obligatory Transposition:

* The boy tall is my brother → The tall boy is my
brother.

If, however, for ADJ we choose an AJ, then AJ must be expanded by another embedding rule before these three rules can be applied.

First we must see the process by which a verb is deverbilized, for example from:

The gorilla terrifies everyone
we get

The gorilla is terrifying.

or

Everyone is terrified.

Then it is possible to apply the three transformations described above as:

The gorilla is terrifying.

The gorilla is from the Circus.

—→ The gorilla that is terrifying is from the Circus.

—→ * The gorilla terrifying is from the Circus.

—→ The terrifying gorilla is from the Circus.

This is one way in which she distinguishes the descriptive adjectives from the verb derivatives as distinctive classes, because they have to pass through different transformational processes. This route also includes the gerund and participial forms of certain verbs. From

The dog is barking

we can derive:

the barking dog

Likewise, from the chair is broken

we can derive

the broken chair

From: the race has vanished

we get

the vanished race

Annear's A class comprises three groups of listed words Aa, Ab and Ac. For example:

<u>Aa</u>	<u>Ab</u>	<u>Ac</u>
words of colour	can take <u>ly</u> :	
	angry, strong,	beautiful
	abundant, thin,	big
	bright, sharp,	enormous
	cheap, quick,	large
	cold, pretty,	handsome
	deep, helpless,	long
	<u>cannot take ly</u> :	small
	shiny, clean,	tremendous
	square, dark,	
	hot, high, ugly,	
	old, wet, round,	
	young	

The AJ class comprises five categories of deverbalized forms:

- 1) intransitive verbs whose present participles can be preposed, e.g. sleeping dog
- 2) intransitive verbs whose past participles forms can be preposed, e.g. decayed log
- 3) transitive verbs whose past participles can be transposed, e.g. broken chair
- 4) transitive verbs both of whose participles can be preposed, e.g. frightening animals,

frightened animals

- 5) transitive verbs whose past participle may be preposed but must be accompanied by -ly adverbs, e.g. a hastily written novel

Nominals cannot be introduced into noun phrases by means of the same rules because they do not have the vehicle of a be clause to conduct them. By analysing the structure of the phrases, or by identifying certain grammatical or semantic properties, Amear has identified 6 groups or classes of noun-derived modifiers. They may be summarized as:

- 1) Mf - which must immediately follow determiners and precede all other adjectives, e.g. actual, central, certain, chief, major, primary,... as

(106) the chief determining factor

- 2) Me - whose semantic reference is to measure, e.g. two-page, twenty-mile, ten-minutes... as

(107) a twenty-page report

- 3) Md - referring to nationalities, eg. Canadian, French, Swiss... as

(108) a French cookbook

- 4) Mc - whose semantic reference is to material, eg. steel, wood, glass, silk, concrete... as

(109) the new steel structure

- 5) Mb - which must immediately precede the noun and follow all other modifiers, eg. agricultural, artificial, civic, cultural... as

(110) a new Portuguese agricultural community

- 6) Ma - which may not be accompanied by any other modifiers, eg. marked, dire, utter, mere, distinct... as

(111) dire need

Annear says that sometimes a modifier may have two different relationships with the noun, one as an Mb modifier, the other as an A adjective. For example:

Bb: a constitutional amendment

A: a constitutional law

Mb: an American_{Md} technical_{Mb} report.

A: a technical_A linguistic_{Mb} study.

Mb: a deep_A personal_{Mb} animosity

A: a personal_A diary

As an A the modifier can appear in the predicate, can be modified by very, and precedes Mb, Mc, Md or Me. In fact, the properties of the M modifiers are quite distinct from those of the A modifiers:

1. M's cannot be conjoined with and as A's can.
2. Each M class corresponds at least roughly to a semantic class.
3. No M can appear as a predicate.

Annear's classification of the M class is more detailed than that of the A class. However, she gives no indication of how to assign words to groups Ac and Ab, as well as the distinction between the M's not being clearly made. In fact, Ma, Mb and Mf are only characterized by their position in the noun phrase. That is, that Ma cannot be accompanied by any other M's, that Mf must follow the Q (quantifier) and precede all other modifiers which are introduced transformationally (A and AJ), and that Mb must immediately precede the noun and follow all other modifiers.

Annear's distinction between the A's and the M's is weakly drawn since her first argument that "M's cannot be conjoined with and as A's can" seems to be easily contested by examples such as:

(112) political and social affairs

(113) economic and financial problems

She says that each M class corresponds to a semantic class, but as we have seen above, her Mf, Mb and Ma show no correspondence to any semantic class.

It is interesting to note that she points out that the lexicon must recognize two words young, three words little, three words old as well as two words good,

two words nice and two words pretty. These special words are not taken into account by the rules she set up for the derivation of adjectives and nominals. For example:

(i) In little boy, young man, old maid each adjective + noun constitutes a single lexical item. In juicy little apple and shaggy old house they are considered as suffixes to the preceding modifiers. In little round box, old white house, and young frisky horse, they are one lexical item.

(ii) We can say;

The meal was good → the good meal
but there is another good which cannot be used in the predicate;

a good sharp knife → *a sharp knife is good

The same analysis applies to pretty and nice.

She wore a small pretty watch. → Her small watch is pretty.

but

That's a pretty small suitcase.

The girl is nice → She's a nice girl.

but

It's a nice big room.

Annear's classification makes clear that there are three classes of adjectivals: nominals, participles and adjectives. The type of meaning the adjectival has is by no means put aside in her analysis. In spite of this fact, in the classification of her M class she could not avoid identifying certain grammatical or semantic properties.

Like Annear, Vendler (1968, pp. 85-108) also uses transformational grammar to analyse adjectives. He asserts that the restrictive clause is the general, source of noun phrase of the type AN (A = Adjective, N = noun). He then considers the different types of relative clauses that account for AN phrases. Each type of clause is taken as defining a class of adjective. These constitute Vendler's transformationally derived classes which bear some degree of correlation with semantic classes. The following is a summary of his results.

His classes are labelled A_1 to A_9 having 19 subclasses determined by means of transformations and represented by formulas. For example:

$$A_1 : AN \leftarrow N \text{ wh } \dots \text{ is } A$$

(A_1 : where noun which is adjective is AN)

as, red balloon - balloon which is red
 sad face - face which is sad

 beautiful dancer - dancer who is beautiful

In this class the nouns are non-functional, that is, they don't imply the existence of any function as the noun king does for example in weak king. To be a weak king means that he is weak as a king (i.e. in the function of a king), but not as a man. The adjectives are transitive, that is, transferable from noun to noun. For example, given that all apples are fruits, a red apple has to be a red fruit.

Following this line of thought Vendler distinguishes 14 different subclasses:

Aa material: an iron bar

Ab origin: a Portuguese ship

Ac comparables: a catlike manner

Ad those simple nominalized verbs: mortal wound - wound causing death

Ae which apply to verb nominals: foolish action - action like that of a fool

Af colours: a red balloon

Ag shape - texture: a rectangular window

Ah those having a quantity of a noun - derivative:
luminous star - star that emits plenty of light

Ai present participles: floating ice

Aj past participles: broken pot

Ak goes through the passive: active volcano - volcano which is inclined to explode

Al which has a tendency to verb: a breakable glass - glass which tends to break

Am contrastives: a sad man; a happy man

Ax emotives: a terrible event

To subclassify the A_1 's Vendler determines the transformation that turns a noun or verb into an adjective. He is somewhat guided by the suffixes, assuming that identity of suffixes probably indicates identity of derivation. Using these criteria he determines that

2 subclasses, Af and Am are non - derivatives. Aa, Ab, Ac, Ad, Ae, Ag, Ah are noun derivatives. Ai, Aj, Ak, Al are verb derivatives. Ax is a special class of emotives which cause or evoke. As:

a terrible event - event which causes horror in
him

a dreadful face - face which evokes
dreadfulness in him.

$A_2: AN \leftarrow N$ wh ... is A for N
(where noun which is adjective for noun is AN)

small elephant - elephant which is small for an
elephant

short python - python which is small for a
python

or

$AN \leftarrow N$ whose Nm is A
(where noun whose nominal is adjective is AN)

wide road - road whose width is wide

In this class the adjectives are not transitive (although all elephants are animals, a small elephant is not a small animal) and don't require adverbial derivatives.

$A_3 : AN \leftarrow N$ whose [e (V +) is A

(where noun whose present participial verbal form is adjective is AN)

good dancer - dancer whose dancing is good

just king - king whose ruling is just

fast runner - runner whose running is fast

or

$AN \leftarrow N \text{ wh... (V+) } D_A$

(where noun who verb adjectival derivative is AN)

beautiful dancer - dancer who dances beautifully

just king - king who rules justly

Beautiful belongs to both A1 and A3. In this class the nouns are functional and the adjectives are non-transitive and do require adverbial derivatives.

$A_4 : AN \leftarrow N \text{ whose } [e (V-)] \text{ is } A \text{ (for } N_j)$

(where noun whose noun derivative is adjective for someone is AN)

easy problem - problem whose solution is easy
(for me)

difficult language - language whose learning is difficult (for me)

or

$AN \leftarrow N \text{ wh... is } A \text{ to } [\bar{V}-]$

(where noun which is adjective to verb form is AN)

comfortable chair - chair which is comfortable
to sit on

interesting book - book which is interesting to
read

A_5 : AN \leftarrow N wh is A to V+

(where noun who is adjective to infinitive verb form is AN)

willing subject - subject who is willing to
cooperate

eager man - man who is eager to succeed

A_6 : N is A to V+

(where noun is adjective to infinitive verb form)

John is stupid to take job

He was thoughtful to bring flowers

or

N is An to V+

(where noun is adjective + noun to infinitive verb form)

John is a stupid man to take that job

He was a thoughtful person to bring flowers

or

to V+ is A of N

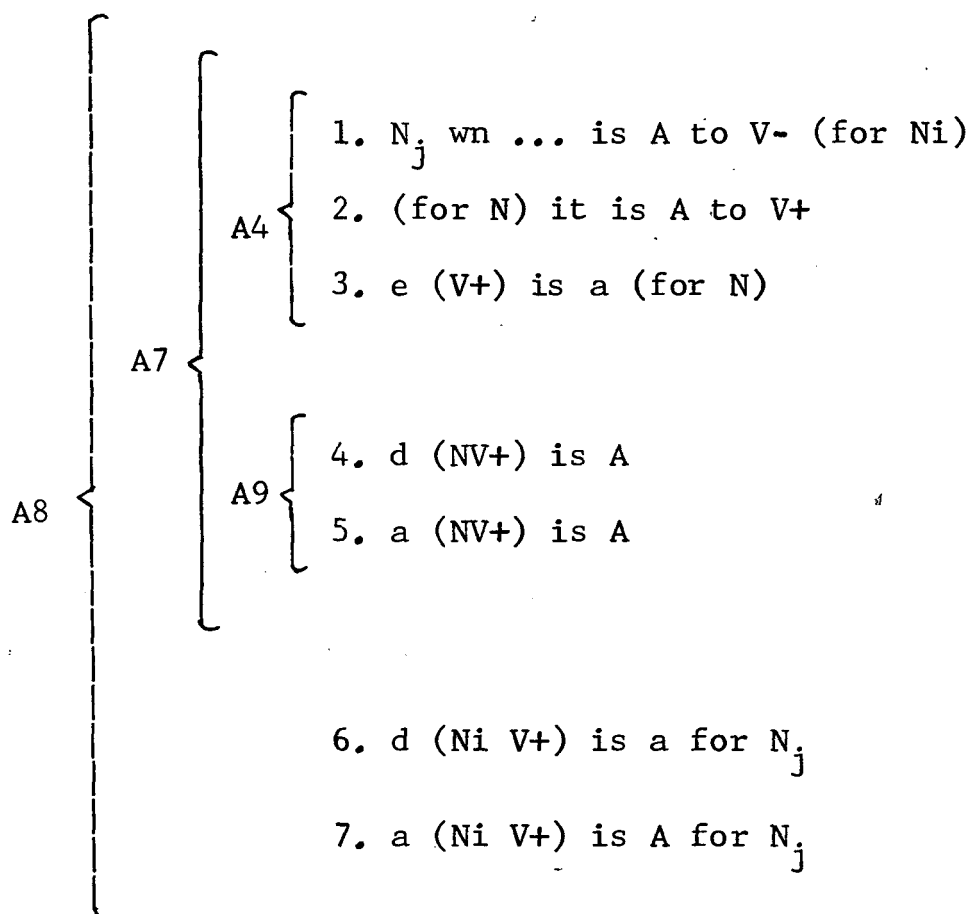
(where to infinitive verb form is adjective of noun)

to take that job is stupid of John

to bring flowers was thoughtful of him

To group the adjectives (i) easy, difficult, pleasant and unpleasant; (ii) possible and impossible; (iii) useful,

profitable, necessary, and their opposites; (iv) probable, likely, certain, and their opposites; Vendler sets up a wide sample of schemata and tests the adjectives involved as to their affinities in order to arrive at some classification. The order of the transforms has been slightly adjusted in order to show more clearly the relationship between the order classes and their defining transformations.



Vendler uses the matrix He runs the race to illustrate these schemata:

(1a) ... race which is A to run (for him).

(2a) (For him) it is A to run the race.

(3a) The running of the race is A (for him).

(4a) His running the race is A.

(5a) That he runs the race is A.

(6) His running the race is A for me.

(7a) That he runs the race is A for me.

According to these schemata, easy, pleasant, unpleasant and difficult (i) enter 1 and 2 and refuse the rest. They are pure A4's.

Possible and impossible (ii) enter all forms except 6 and 7. They are A7's.

Useful, profitable, necessary and their opposites (iii) enter all forms. These are A8's.

Probable, likely, certain and their opposites (iv) enter 4 and 5 and refuse the rest. They are A9's.

Both Vendler and Annear have used the same approach in their analyses of adjectives, that is, by means of transformational grammar. Vendler's analysis is more detailed (22 classes) than Annear's (14 classes), but still we can establish some correspondence between them.

Annear's M seem to correspond to Vendler's A₁ noun-derivatives. Annear's Md corresponds to Vendler's Ab, though Ab seems to be more extensive, e.g. it includes other modifiers than those of nationality. Annear's Mb corresponds to two of Vendler's classes: Ab and Ad. Annear's AJ corresponds to Vendler's verb-derivatives Ai and Aj, yet Vendler has two more classes of verb-derivatives,

Ak and A1, that don't fall into Annear's AJ.

Annear's placement of M, AJ and A seem to be similar to Vendler's adjective ordering. Vendler's noun-derivatives as well as Annear's nominals come close to the noun. Annear's Aa and Vendler's Af which stand for colour-words follow verb-derivatives and precede noun-derivatives. The adjectives (Annear's A and Vendler's Am, A2 ... A9) are placed further from the noun.

In fact, Vendler's A₁ seems to cover most of Annear's classes except that some adjectives in Annear's Ab correspond to Vendler's A3 and Annear's Ac size-words correspond to Vendler's A2.

On the other hand, there are some adjectives which fall into different classes such as shiny. Vendler includes it as being a verb-derivative (Ak), whereas Annear considers that it is an adjective (Ab). In fact, Annear's classification is much less extensive than Vendler's. If one thinks of an adjective which is not included in Annear's lists it is not easy to fit it in one of her classes. However, one can also argue against the number of Vendler's paraphrase - types.

Another transformationalist, Lord (1970, p.57) says that "adjectivals which precede a noun as a head word normally succeed each other in the order of increasing transformational investment". In other words, an adjectival which requires a long time for its generation falls automatically into a later place in the sequence. For example a fresh, well-written play. Fresh precedes well-written because it is not derived. Well-written comes from a series of transformations of the verb write. In his

data he rejected noun-adjuncts, post-nominal clusters and compound adjective - noun headwords.

He classifies the adjectivals in five different classes computing the score of transformational investment and they are summarized by the table below:

CLASS I UNDERIVED	CLASS II HISTORICALLY COMBINED	CLASS III DERIVED BY SUFFIXES	CLASS IV VERB DERIVATIVES
big, brave, fresh, good, calm, little (Score:1 point)	hilarious, absolute, legal, lucid, important, upright (Score: 1)	brutal, affectionate, cloudy, thoughtful (Score: 2) Compounds: good-spirited, light-hearted (Score: 3)	- EN broken, pounded (Score: 2) - ING tr. song-singing cat (Score: 1) - ING. intr. singing-cat (Score: 1) Derivative-forms from: -ive, -ble attractive (Score:2) employable (Score:3)

For Class V he only gives examples since he could not devise any system for scoring its members:

(114) fat, jolly, contented, non-feeding problem,
eighth-month-old girl

(115) the first real, honest-to-goodness backache

(116) weird, quasi-spaceman type accouterment

According to him, adjectives in any cluster should either show successively higher scores or the same score as the preceding one. If the hypothesis failed to predict correctly, the scores should neither be the same or rise, but level. This refers, of course, to order, which will be the subject of the next chapter.

Like Vendler, Lord includes in his Class IV not only words which are verbs inflected with an allomorph of -EN or with -ING; but also words derived from verbs by means of such affixes as -tive, -ative, -able and -ible. His class of adjectives PER SE (Class I) which is similar to Annear's Ab and Ac and Vendler's Am and A2 is also placed further from the noun than any other class.

4.3. SUMMARY

As we have seen all the authors cited go some way towards producing satisfactory classification of adjectives although most of them are incomplete in one way or another.

One clear generalization that emerges concerns the distinction made between nominals, adjectives and participles.

Whereas Crystal's approach is concerned with purely semantic categories used in setting up adjective classes, Goyvaerts's analysis is a mixed synthesis of what traditional grammars have said about the subject. The classes Goyvaerts establishes are based either on semantic

categories (colour, nationality) or based on morphological or grammatical criteria (gerund, style, noun). Farsi has combined batteries of semantic, syntactical, grammatical and morphological criteria in classifying adjectives, though he has only discussed nominally derived adjectives. Annear has attempted to analyse adjectives according to transformational grammar. Being so, she prefers labels for her adjectives (A, AJ and M) which do not imply any meaning. The same applies to Vendler and Lord. In other words, these latter authors do not consider the "meaning" or "qualities" of the adjectives, but are concerned with their form and transformational properties. The transformational approach is a very interesting analysis of the process of language: how it functions, expresses itself, and re-expresses itself. Only Teyssier and Coates seem to indicate different functions for nominals and adjectives. Teyssier identifies three semantic-syntactic functions, i.e. identifying and characterizing (for adjectives) and classifying (for adjectives and nominals). Coates distinguishes two: temporary for adjectives and characterizing for nominals.

Thus we may state that there are several important criteria for determining to which class an adjectival belongs.

First, as we have noted, there is a definite distinction between those derived from verbs and those derived from nouns. These in turn are distinctly different from those which are purely descriptive and are determined semantically, such as colour, age and shape. Morphological considerations such as suffixes are more distinguishing than descriptives. For this reason we usually find these

derivatives closer to the noun head.

Our purpose here has not been to make a startling contribution to the study of classification, nor to choose the most complete classification system developed until now. What we have tried to do is alert the student to the fact that an "adjective" is not something so simple as a 'word which describes a person, place or thing'.

As we have stated, at least an elementary understanding of classification is necessary to an understanding of ordering. We will now consider the principles of the ordering of adjectivals in unbroken strings.

CHAPTER 5

5. THE PRINCIPLES OF ADJECTIVAL ORDERING

In this chapter we will first comment on some of the findings of a few traditional grammarians (Sweet, Zandvoort, Poutsma, Schibsbye) as compared to the more contemporary grammar of Quirk et al. Structural grammarians (Strang, Coats, Farsi, Teyssier) and transformational grammarians (Vendler, Annear) will also be included in order to compare their approaches with the more experimental semantic-psycholinguistic viewpoint (Martin, Ferb). These groupings are somewhat debatable because some grammarians have characteristics of more than one school. Nevertheless, we found it more organizable to think in terms of these basic divisions. Thus we will attempt to summarize the basic concepts of the principles of adjectival ordering. ⁴

5.1. TRADITIONAL APPROACH

Most of the authors considered so far classify adjectivals by establishing semantic classes for them such as; colour, size, age, material, etc., and then establish an order when these adjectivals co-occur. However, the reason why, for example, adjectives of size must precede adjectives of age is not given. The only recommendation that most of the authors seem to make is that adjectivals occur in decreasing order of generality, that is the adjectivals most specifically connected with the noun in meaning come nearest to it in position in the sentence. Sweet (1931, p.9) gives as an example a tall black man, where black man is equivalent to the single word negro. Black, having this inherent relationship,

comes nearer to the noun head than tall, which is more general. Whether the man is tall or short, it does not affect the fact that he is black.

Zandvoort (1957, p.242), perhaps thinking of this principle, says that adjectives expressing inherent qualities (e.g. colour, material, nationality) come close to the noun and adjectives expressing non-inherent qualities (general descriptives, e.g. steep, pretty) come further from the noun.

Continuing this same line of thought, Poutsma (Lance, 1968, p.173) says that adjectives "are arranged according to the degree of intimacy with which they are connected with" the noun head. As an example of the intimacy between old and man in the phrase old man he says that the phrase may be represented by the word greybeard. While an old man is not necessarily a greybeard, we would immediately recognize greybeard as a synonym of old man.

According to Schibsbye's (1970, p. 141) classification there are two values of adjectives:

(i) descriptive, denoting a quality:

wonderful weather

a chivalrous gentleman

(ii) limiting, denoting a category, a section of a whole or a number:

various books

the previous age

French girl

He says that strings of adjectives of the same value may exhibit different orders which are equally acceptable.

Note his examples:

(119) Presently the sudden, near, loud cry of a
carrion crow flying to the wood startled
the blackbird.

(120) ... near, sudden, loud cry ...

(121) ... loud, near, sudden cry ...

Here he implies that if there is a string of solely descriptive adjectives or only of limiting adjectives then they are of the same value and consequently can be interchanged.

However, he further states that adjectives denoting size precede adjectives indicating form, and these in turn precede adjectives denoting other qualities. Here his theories become confusing because at the same time he talks about flexibility of ordering within the same class he gives rules for ordering within the same class. Then he precedes to give an example which shows the contradiction between the two ideas. Consider the examples:

(122) a large, thick, sweet pancake.

(123) a tall, thin, swarthy man.

Obviously these examples include the categories of size - form - other quality - head which he said have an established order within the general class of descriptives. However, he uses exactly these examples to show that there is flexibility because the adjectivals are from the same

class. We feel that this confusion partly arises from the fact that he has chosen broken strings for his examples, thereby rendering any restriction on adjectival order weak or non - existing (See chapter 3).

We have seen that these traditional grammarians agree that there are at least two different types of adjectivals, whether we use the terms descriptives, non-inherent, less intimate, or general, they are distinctive from those which are limiting, inherent, intimate or specific. And it is the latter group that are nearer to the noun in position in the sentence. It is obvious that their approach is very broad and general, and thus leaves many unanswered questions, such as the reason for a certain ordering within a group.

Even so, more modern, linguistics-oriented grammarians (Quirk et al, 1976, p. 924) still find it difficult to agree on generalizations that underly the native speaker's preferences as to ordering, because subcategorization is still controversial. The same basic differences may be seen. Although Quirk has a more detailed description of classes, (see Table 5, chapter 4) his denominal and nominal premodifiers are not really different from Sweet's designation of adjectivals that are more closely or specifically related to the noun in meaning. Both agree that these come nearer the noun in position in the sentence.

The traditionalists don't appear to question the origin of the components of the phrase, but rather to identify them as indicating different qualities. It is the meaning of the words in surface structure which leads them to subcategories.

5.2. STRUCTURAL APPROACH

Structuralists give a lot of emphasis to the form of grammar as found in noun phrases, verb phrases, or those phrases not associated directly with nouns or verbs in the basic sentence. They want to distinguish the components of the structure according to the function of the word. As to adjectivals, for example, do they identify, describe or characterize? In noun phrases they still tend to agree basically with the traditionalists that less inherent characteristics appear further from the noun head.

According to Strang (1970, p.137) adjectives are divided into two classes:

(i) Longer less every day adjectives called 'inherently unplaced', i.e. whether the adjective is to be found at the very beginning or at the very end, its meaning and importance remain the same. Thus one can say:

(124) the bean has a pale dicotyledonous seed

or

(125) the bean has a dicotyledonous, pale green
seed

(However, note Strang's use of a broken string in (125).)

(ii) Short, everyday adjectives called 'inherently placed', which means that they ought to have a constant

position in the noun phrase. For these Strang distinguishes three positions:

1. nearest the head (adjectives of AGE: old, young, etc.)
2. next nearest the head (adjectives of COLOUR and diminutives, e.g. little)
3. furthest from the head (characterizing adjectives: pleasant, horrid, nice, etc.)

She recognizes that adjectives can be displaced in two different ways; they may be either parallel or successive in their relations to the noun head, a distinction indicated in both speech and writing. Compare:

(126) a nasty, irritable, selfish man

with

(127) a nice little old man

Strang implies that some sequences of adjectives seem to display a certain flexibility while others do not:

(128) an irritable, nasty, selfish man

(129) a selfish, irritable, nasty man etc.

but

(130) a little nice old man

(131) an old little nice man

However, her examples (128) (129) suffer from the defect of being broken strings so that the 'flexibility' shown by the adjectives is not really surprising, one of the characteristics of broken strings being the coordinative flexibility of its components. Strang asserts that the positioning of 'inherently unplaced' adjectives is governed by factors external to them, thus an adjective closely associated with the noun head will be placed close to it, and an adjective in the environment of several others will be so placed that the adjectival characteristics are named in decreasing order of generality.

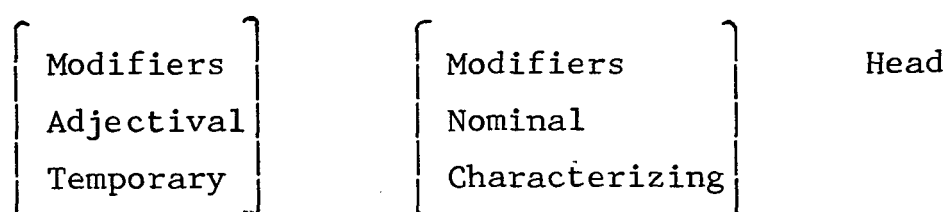
Neither Strang nor Schibsbye sufficiently take into account the differences in flexibility of ordering exhibited by broken and unbroken strings. As we have seen earlier, some authors (Nida and Sussex for example - See chapter 3 and chapter 4) have made definite distinctions between the coordinate, flexible quality of broken strings and the more fixed ordering of the unbroken.

Hence Strang's generalizations that only larger, less common adjectives are inherently unplaced would appear to be in error as well as Schibsbye's statement that only adjectives of the same value can be interchanged. Both have neglected the effect on acceptable adjectival order of the broken or unbroken nature of an adjectival string.

Coates (1977) and Farsi (1968) use mixed criteria (grammatical, syntactic and semantic) to account for adjectival classes and consequently also for adjective ordering. However, their analyses are far from being

complete since Farsi only takes into account three kinds of adjectival and Coates puts aside, in order to analyse in another paper, adjectives of size, colour and age.

However, as Coates says "whatever criteria are used, one clear generalization emerges: nominal modifiers occur close to the head, while adjectival modifiers occur further away" (Coates, 1977, p. 15)



These two characteristics "temporary" and "characterizing" were taken by Coates from Bolinger's (1967) distinction between the temporary - characterizing scale and the referent - reference scale which are applied to predicative-attributive contrast. Coates applies these two scales to the adjectival/descriptive - nominal/defining pattern of the prenominal slot and concludes that the ability to be predicated indicates an underlying temporary characteristic. As nominal modifiers cannot be predicated, they are essentially characterizing.

As we saw in chapter 4, Teyssier (1968) raises the question of Class, and in classifying the adjective in terms of functions (identification, characterization and classification) he orders them: classifying adjectives come close to the noun, characterizing adjectives come before the classifying, and identifying adjectives come further from the noun. However, he does not explain

sequences of adjectives in which there are more than one adjective which have the same function (e.g. genuine old wooden chair, fine white Georgian house).

From the brief summaries it is easy to see the emphasis the structuralist places on the function of words in phrases. However this fails to satisfy the question of how structures are interrelated.

5.3. TRANSFORMATIONAL APPROACH

Transformationalism was born out of the inadequacy of traditionalism and structuralism to show how various structures are related. The transformationalists found that analysis of different ways of expressing the same thing facilitates the understanding of how certain words come to have different functions. Thus the transformations discover why or how certain words can have certain functions. A very simplified example would be how the verb form used can be an adjectival. As

(132) a used car

it is a car which has been used.

In chapter 4 we saw how Annear and Vendler arrived at their classifications of adjectivals using these transformational testing devices.

Annear's rules of adjectival order may be summarized as A adjectives precede those belonging to the class AJ which, in turn, precede those belonging to M. (See Figure D, p. 61).

A precedes Me (measure), Md (nationality), Mc (material), Mb (noun-suffix)

Mf follows the Q(quantifier) and precedes all the other modifiers which are introduced transformationally.

Ma is not accompanied by any other of the M's.

The order among the A's is Ac, Ab, Aa.

The general noun phrase may be roughly described as exhibiting the following order in its adjectival string;

$$\text{Det} + \text{Q} + \text{Mf} + \text{Ac} + \begin{matrix} \text{Ab)} \\ \text{AJ)} \end{matrix} + \text{Aa} + \text{Me} + \text{Md} + \text{Mc} + \text{Mb} + \text{N}$$

Note that Ab and AJ co-occur.

Among the problems we found in Annear's findings is the fact that her Ab and Ac classes are manifold, that is, they contain words which come from several different semantic categories (See p. 64). She also does not provide a comprehensive set of examples to illustrate her classes, and nor is she very clear as to how she arrived at the above formula.

Vendler (1968, p. 127) says that "the natural order of adjectives is a function of the transformational operations appropriate to the various kinds of adjectives". Then he claims that "the order of their application is the order stipulated by the classification of adjectives given from A_1 to A_9 , and within A_1 from Aa to Ax " (See page 70). Thus the order is:

$$A_9 \quad A_8 \quad \dots \quad A_2 \quad A_x \quad A_m \quad \dots \quad Aa \quad N$$

Annear's analysis does not seem to conflict much with Vendler's, Her AJ class precedes Aa colour class just as Vendler's verb-derivatives (Ai, Aj, Ak, Al) also come before his Af colour class. Both Vendler's noun-derivatives and Annear's M's come closer to the noun than their groups of classes Am (underived nouns), A2 and A3 and Ab, Ac, respectively. However, Vendler's classes are generated in terms of the transformations required for the adjectives they contain. In other words, adjectives can be grouped together in one class due to the fact that they are all introduced by the same transformation. Vendler then claims that adjectives are ordered according to the ordering of the transformations.

The point is that both Annear and Vendler's solutions for adjectival ordering seem to be post hoc. Vendler's explanation appears to be circular. First he says that adjective ordering depends on the transformations. However, since he analysed data based on the native speaker's preferred order, it would appear that this natural order influenced his ordering of transformations.

According to Vendler and Annear the adjective-noun combination is the result of a transformational process, and studies which have consisted of attempts to set up classes based on the semantic nature of the adjectives and on the grammatical or semantic relationship between the members of the adjective-noun combination are put aside in favor of a syntactic approach, although Annear admits the possibility of a nonsyntactic account of ordering.

The transformational view recognizes the following considerations:

(i) Most unbroken prenominal strings require a specific order of succession among the members.

(ii) This order is determined by the fact that adjectivals have different transformational links to the noun head.

(iii) The natural ordering of the adjectival is then determined by the transformational operations which transform it into a prenominal adjectival.

It would appear to us that Vendler's decision as to which types of adjectivals have a stronger link with the noun head is partially influenced by the natural order, and not that the natural order is determined by the transformations. While it is easy to follow the line of thought that the more transformations necessary to classify the adjectival, the more specific it is and the closer it will come to the noun head, it is at times unclear as to how Vendler decided that one particular operation is applied before another. For example, how does he decide that a certain adjectival has a stronger transformational link than another? Consider the string:

(133) a big rectangular green Chinese carpet

How does he decide that rectangular has a less important link and therefore comes further from the noun head than Chinese does?

While the transformational grammarians offer some interesting considerations as to the origin of certain adjectivals and the process by which they were transformed into pre-nominal adjectivals, we found the transformational

approach more difficult to follow because of its scientific characteristics and use of formulae. It is not the type of explanation likely to attract and hold the interest either of a non-linguist, or of the typical English teacher. Since they seem to leave unanswered some of the same questions left by the structuralists and traditionalists as to the reason for the subcategories of classes, we find that our search for the answers to the what and why of unbroken prenominal adjectival strings has not yet ended.

The same dichotomy of general to specific recognized by traditionalists and structuralists is also seen on the transformationalists scale, where derived forms are those which have a stronger link. This leads us to some interesting considerations suggested to us by the linguist Crystal. Crystal (1974, p.131) asks how one can establish which adjectivals are more or less general. He supposes that it all depends on subjective evaluation; different attributes strike people in different ways. He says that such ideas as generality fail to explain the grammatical facts at all, and in view of its dependence on all sorts of extraneous factors in the real world, it can hardly be said to have any consistent basis.

5.4. THE SEMANTIC - PSYCHOLINGUISTIC APPROACH

In contrast to the above approaches towards the determination (or rather, the discovery) of the 'normal' adjectival order in prenominal unbroken strings, a few authors have attacked the problem from an experimental viewpoint, attempting to explain the syntactic and semantic order with a theory based on psychology.

Martin (1969, pp.472-473) realized an important difference between adjective ordering and adjective production (utterance). His hypothesis was that adjective

production is habitually the inverse of the order of adjective choice. He gave the following reasons for certain adjectives to be preferred closer to the noun head.

(i) adjectives which are more definite in denotation should be chosen for encoding prior to adjectives which are less definite in denotation because the latter require more nominal context for their appropriate choice than do the former which come closest to the noun (which is chosen first). For example:

(134) a dirty cowboy 'hat

in which cowboy is more definite because it specifies most basically the type of hat, and dirty is less definite because it is a description which depends on a series of contextual comparisons (in order to judge something dirty we must make a mental comparison with something clean) and it is less dependent on the noun head hat.

(ii) Adjectives preferred close to the noun are generally capable of stronger associations with the noun than those preferred further from the noun. Those of stronger association are generally chosen first. For example:

(135) a large red circle

in which red is preferred closer to the noun because it essentially describes what is visualized in isolation, not dependent on context. We see a circle, and the most obvious thing about it is that it is red. We only relate that it is large when we think in terms of other circles.

We can see how closely related these two ideas are. (i) appears to define the quality of indefiniteness, while (ii) emphasizes the stronger association of the adjective chosen first, and being placed closer to the noun head.

Martin conducted experiments measuring the response latencies elicited by drawings exhibiting instances of two adjectival classes (e.g. colour and size) upon presenting the stimulus of naming a particular class. Adjective accessibility (as measured by latency) was found to be strongly correlated with preferred adjectival order, i.e., the response colour was more rapidly chosen whereas size took significantly more deliberation.

In another experiment he showed that adjectival order could be controlled by adjective accessibility as influenced by the association strength between the adjectives and the noun head.

Thus, from these two experiments Martin showed that encoding speed is related directly to accessibility which is, in turn, directly related to preferred adjectival order.

However, in a further experiment, the hypothesis that adjectival order is closely related to the speed of adjective decoding (as measured by the time taken by a subject to decide whether an explicitly named adjective applied to a particular drawing) was not supported. Although this last fact is interesting it is not strictly relevant to our study which is essentially concerned with the encoding process.

Following on from the above study, Martin (1969a, pp.697-704) investigated the correlations between preferred adjective order and a number of non-syntactic dimensions, namely, definiteness, absoluteness, imagery, substantiveness and frequency. Frequency indicating types of adjectives which are used in many different contexts. A typical procedure will now be briefly described for the purposes of illustration.

Twenty pairs of antonyms were used to generate all possible pairs of adjectives with the exception that no adjective was ever paired with itself or its antonym. Each pair was presented to the subjects with the instructions to write the adjectives in their preferred order in front of the noun 'object'. From the data thus obtained, the average proportion of times each adjective had been preferred close to the noun was calculated. The adjectives were then ordered in terms of those proportions and this order constituted the preferred adjective order.

The definiteness of denotation of the adjectives ordered in the above experiment was then estimated by asking the subjects to rate the adjectives on a ten-point scale in terms of the degree to which they were definite in meaning in relation to the class of all nouns. Each adjective was assigned a number based on the mean response given by the subjects. The definiteness scores were correlated with the order scores for all adjectives. The correlation between definiteness of denotation and adjective order was found to be 0.73. Thus, adjectives high in definiteness were preferred closer to the noun than adjectives low in definiteness.

The dimensions of absoluteness, imagery,

substantiveness and frequency were treated in a similar fashion. In summary the results indicated that the most important correlate of adjective ordering in a prenominal string considered which determined the proximity to the noun head was definiteness of denotation, almost the same dimension apparently being defined (i.e. measured) by absoluteness. Imagery and substantiveness were apparently relatively unimportant, but frequency was the most effective predictor of order after definiteness and absoluteness. Frequency was more independent of definiteness, and therefore higher frequency adjectives are placed further from the noun head.

The two separately ordered lists of antonyms were also correlated, and concerning this, Martin notes that, "The correlation between the preferred order of antonyms, 0.92, supported the view that the order classes are essentially semantic classes" (our emphasis) (Martin, 1969a, p.701)

Having conducted the above investigation involving noun-context free modifiers, Martin (1969b, pp.478-479) then goes on to discuss two hypotheses concerning the characteristics of adjectives when not free of noun-context in order to explain the results obtained. In spite of the fact that the adjective strings used in the experiment were noun-context free (in as much as they were associated with the neutral noun-head 'object') and that the hypotheses proposed were not concerned with such freedom, Martin seems to be able to explain many of his experimental results.

His hypotheses were:

(i) Assuming that the sense of the noun is scanned

from the general sense to the particular, and that definiteness is associated with the general sense of the noun, then definite adjectives will usually, be chosen prior to indefinite adjectives and therefore will be more accessible, placed closer to the noun.

(ii) Assuming that the sense of the noun is represented, in part, as a set of standards in terms of which the various adjectives modify the noun, and that adjective absoluteness is defined in terms of the relative number of comparisons required to identify the standard and choose the adjective, then, given that the ordering of adjective accessibility depends upon the time required to retrieve or reconstruct the relevant standard from the recollection of various instances in the denotation of the noun, it is predicted that absoluteness should correlate with accessibility and hence adjective order.

In addition, Martin would explain the significant negative correlation that frequency has with adjective order by arguing that the greater the frequency of the adjective the greater the speaker's sensitivity to its relative character. This would involve a greater latency and therefore a position relatively far away from the noun head.

While we are more interested in this chapter in the principles of ordering in unbroken strings, it is of interest to us to consider Martin's theories in regard to strings which have a preferred order in contrast with those which have a juncture and permit variance in order.

It should be noted in the first place that Martin's theories of the interrelationships of the

adjectives in a string are different from the traditionalists view that adjectives in unbroken strings are left or right-branching and thus accumulative, and those in broken strings are multi-branching. (Chomsky, 1972, p.196). That is:

left - branching: (((((the big)red)brick)'house))
 right - branching: (the big(red(brick('house))))
 multi - branching: ((beautiful)(expensive)('chairs))
 (no internal structure) a ((warm) and (pleasant)(bath))

Martin, however, proposes the opposite. He says that in the broken string the phonetic juncture itself marks the right-branching characteristic. In contrast, he says, the normally ordered phrase (or unbroken string as we have defined it) is multi-branching and each adjective is seen as independently modifying the noun. Consider the following examples:

(136) the large clean red chair

(137) the large red, clean chair

(138) the clean, large red chair

(139) the clean red, large chair

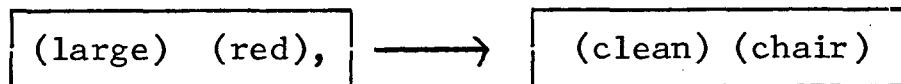
(140) the red, large clean chair

According to Martin, the example (136) is multi-branching

((large) (clean) (red) (chair))

where each adjective may describe the head independently,

whereas the other examples indicate that the juncture creates a right-branching structure within a multi-branching one.



Where the boxes indicate right-branching modification and the parentheses indicate the multi-branching structure within the two cycles. In the first cycle, either large or red may independently modify the second cycle (clean chair), the adjectives in either cycle having no further association among themselves. While we found Martin's theories interesting and perhaps more reasonable than those of the structuralists, a more profound study of the inter-relationships of adjectives in prenominal strings would be necessary to decide if Martin's findings should be used as a basis for re-defining broken and unbroken strings as expressed by our hypotheses in chapter 2 (See p. 26).

However, at the moment we think this is not necessary, because regardless of the adjectives in the strings, Martin also recognizes that there are two kinds of strings: broken - in which the order is flexible; and unbroken - in which the order does not display the same flexibility. Martin's studies about natural order are based on unbroken strings, which is exactly our interest as well.

In another paper Martin and Ferb (1973) are largely concerned with criticising the position taken by Danks and Glucksberg (1971) which would seek to explain preferred adjective ordering in English entirely as a function of context. However, Martin and Ferb's paper is

of interest to us also because it seems to shed some light on Martin's apparently controversial ideas.

Martin and Ferb (1973, pp. 75-77) maintain that there are (at least) three adjectival ordering phenomena. They may be paraphrased as:

- (i) In normal preferred adjective ordering the syntax of the noun phrase is multi-branching and the adjective ordering is determined by factors like definiteness, nounlikeness, or intrinsicness. In normal preferred ordering, junctures do not appear between adjectives and the stress remains constant (or increases slightly) from the first to the last adjective in the phrase.

For the purposes of this study the most important fact is that we are in agreement with Martin that in normal preferred order junctures are absent and the stress remains constant along the string.

- (ii) In contextually constrained preferred adjective ordering the syntax of the noun phrase is right-branching and the adjective ordering is constrained by the contextually determined order of the subclassification of the denotation of the noun. Further, both normal preferred and contextually determined ordering can operate in the same noun phrase when there are three adjectives, as in 'the RED/large clean apple'.

Here Martin gives an example of a prenominal string involving three adjectives of which one is not in preferred order. The interesting fact here is that this adjective (i.e. red) is shown as being stressed as well as being followed by a juncture. Although juncture was discussed in Martin (1970) stress wasn't, which we found puzzling. If Martin meant to lay stress on red in his example, the red, large chair, so producing, the RED, large chair, then we would agree with him that no juncture is required after 'large' and also that the phrase has a right-branching structure. Thus part of our disagreement with Martin might appear to be resolved.

- (iii) The third variety of adjective ordering centres around the special adjectives young, old and little in which the order is neither based on the normal preferred order nor the contextually preferred order.

Martin produces several examples like intelligent young man and argues that the order is not based on the normal preferred ordering because, in the first place, the syntactic analysis is right-branching, so that intelligent describes young man and secondly, that the intonation contour is not that of normal preferred ordering. Martin says that the ordering in intelligent young man is also not contextually constrained preferred ordering because it is not common for the contrastive stress to be placed on the adjective to the left of young, as is common in contextual preferred ordering. Also, the contrastive stress usually appears on young, old or little when they are not placed closest to the noun.

We would agree with Martin, Vendler, Sweet and others that young, old and little may be special cases when they occur close to the noun head. (See chapter 3, p. 36). However, the qualification of right-branching has not been used by us to define broken strings, so we could not at this point accept this qualification as indicating a broken string and there being related to absence of preferred ordering. Indeed, the most obvious explanation to us in this specific example, is that, treating young man as one unit, we have only one modifying adjective (intelligent) and order is no longer the question. Then whether or not it is right-branching is also no longer a question.

Martin's suggestion of the intonation contour will not be discussed in detail here, as we have not considered this factor. However, as stress is related to contour, it would appear that he is right, since the normal stress of an unbroken string would be intelligent young 'man and several native speaker's whom we asked to read the phrase in the frame "He's an" all read:

(141) He's an 'intelligent young man.

To support his point that contrastive stress does tend to appear on young, old or little when they are not placed closest to the noun head, Martin referred us to Chomsky (1972, p.196), whose contrastive pair would seem to prove Martin's point:

(the intelligent (young man))

(the YOUNG (intelligent man))

We agree that these words are special cases that are

neither determined by natural preferred order nor by the contextually preferred order, but because they are semantic units.

The psycholinguists make valuable contributions to the understanding of adjectival ordering because their way of expressing what the adjectives represent suggest to us another part of the mental process - not a cold, analytical expression but a means of communication more deeply related to a theory of human behaviour or meta-communication.

It seems to add another dimension to speech to think in terms of intrinsic qualities, as being closely linked to the noun-head, in contrast to those adjectives which require nominal context, in which the link is weaker because they are not closely related to the noun in itself, but are chosen to represent a particular noun because of our conception of size in general. For example,

(142) a large red 'chair

When we look at the chair we immediately associate it with the colour red. It is the most definite thing that comes to mind. As we consider mentally concepts of size (small, medium, large, for example) we decide that the chair is large.

To us, it seems that this reasoning is of value to the student of English as he considers naturally the thought processes that are involved (and therefore the time element), but must remember that in English the production will be the exact opposite of the choice. So that if our own thought processes are:

chair - blue - battered - big -

we will invert this and produce

(143) big blue battered 'chair.

5.5. SUMMARY

From the material thus far cited in this chapter, we may make the following generalization: The reason for preferred ordering of adjectivals in unbroken prenominal strings must be considered from various viewpoints including semantics, morphology, syntax, and semantic - psycholinguistics.

From the traditionalists through the psycholinguists we have seen a basic dichotomy between specific adjectivals (inherent, intimate, intrinsic) which come closer to the noun head and more general adjectivals (non-inherent, less intimate, contrastive) which are placed further from noun head.

While some structuralists (e.g. Hill, Farsi) and the transformationalists (Annear and Vendler) avoid using semantic categories, the adjectivals in their functional groups and transformationally defined classes, respectively, correspond almost exactly to those types of adjectivals that are called general and specific by traditionalists, structuralists (e.g. Coates, Teyssier) and the psycholinguists Martin and Ferb.

The great unanswered question is how the order is determined when there is more than one adjectival of the general type, or more than one of the specific type, within the same string. This question remains unanswered.

Classes may be determined semantically and adjectivals may be ordered according to the natural preferences of native speakers. We can thus establish, for example, the fact that native speakers prefer the order: size, shape, colour material, origin before a noun head. What no one has been able to analyse and explain completely is why. We can observe what occurs and determine some principles which govern adjectival ordering, but no theory of grammatical analysis has yet been able to determine the reason for the occurrence.

Having considered the question of natural preferred order of adjectivals in prenominal unbroken strings, we will now draw some conclusions, and make some observations about their practical application. This will be the subject of the next chapter.

CHAPTER 6

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6. CONCLUSIONS AND PEDAGOGICAL IMPLICATIONS

In this chapter we will draw some conclusions about prenominal adjectival order in unbroken strings. Then we will attempt to make some observations in the form of suggestions for the teaching of English as a second language.

6.1. CONCLUSIONS

1. Latency tests prove that the mental choice of adjectivals is in inverse order to their spoken or written production.

2. Adjectivals which are more linked to the noun head come closer to it in the string. These usually express inherent qualities.

3. Adjectivals that are derived from nouns or verbs as well as nouns that become adjectives by means of position shift are usually chosen because of some distinctive or innate quality they express about the noun head and thus come closer to it in the string.

4. Adjectivals which express less inherent qualities have a weaker link to the noun and are placed further from it in the string.

5. Modifiers which are not derivatives are generally less specifically related to the noun head.

6. Colour is an intrinsic value. It makes an immediate impact and is not contextual.

7. A predicate adjectival can usually (but not always) be expressed as a prenominal adjectival by performing a transformational process and vice versa. As we know, there are cases in which this mutual correspondence is not possible. For example:

the main point; * the point is main

the man is asleep; * the asleep man

8. An understanding of the origins of the derived adjectivals is made possible by the transformational process. This enriches and deepens the student's knowledge of the language.

9. Order may be changed by introducing juncture of some kind - emphasis, stress, comma, conjunction or the like. Adjectivals from the same class usually require juncture of some kind. Thus coordination is also related to flexible order. Emphasis is usually contextual. Thus in referring to one green desk in a group of new desks of various colours the contrastive stress would usually be on green, as

(144) the GREEN/new desk

In the same way referring to a new desk in a group of green desks, we say

(145) the NEW/green desk

10. Thus it follows that deviation from the natural order is used for special communicative purposes.

6.2. PEDAGOGICAL IMPLICATIONS

With these previously outlined directives in mind, we will now proceed to make some practical suggestions for their application in the teaching program.

Since the approach to language teaching today is not based on translation, but mostly on a synthesis between the direct and structural methods, it is not sufficient for a student to be confronted with a chart which presents adjectival classes in their normal preferred order, and be told to memorize the order and use it as a guide. The obvious result would be a stilted, mechanically produced phrasing.

On the other hand, immersing the student directly in the language without any orientation is equally confusing unless the immersion is complete. That is, unless the student is thrown into an English speaking community. So at some point we must have an explanation of structure, its origin and communicative function. The transformational analyses as well as the psychological concepts of total communication are applicable in order to show the processes of thought and lead the student to deeper insights of the language.

From the previous paragraph it becomes quite obvious that the pedagogical implications for teaching the ordering of adjectivals in unambiguous unbroken strings have to be oriented by a learning theory. However, the choice of a school of psychology for orientation of the learning process cannot be an exclusive one. In any realistic description of the learning process, there should be an eclectic selection and blending of the schools of thought.

In modern language learning we are influenced largely by the stimulus - response and cognitive theories - the stimulus - response theory emphasizes the automatic response especially the training of small units of learning; and the intuitive tendencies of the cognitivists are related to perception, insight and conceptual organization (Houston, 1972, p.27).

Because we recognize the prenominal adjectival strings as a larger and complex unit, it would appear that a more effective learning process for this should be based on cognitive theory. It is not our aim here to debate cognitive theory, but to utilize it. Therefore, we will proceed to an application of the main principles of the Gestalt theory, one of the more defined schools of cognitive thought, to the question of this thesis.

These principles may be summarized as following:

1. The intelligence level of the organism will determine the level of achievement of insight.
2. Experience is also a factor of relative importance to achievement of insightful solutions.
3. Organization, Pattern or Structure are essential to achieving insight.
4. Intelligent searching (trial and error behaviour, but not at random) is a vehicle for achieving insight.

(Houston, 1972, pp. 37,38).

It is obvious from the above two first principles that our teaching and our materials should take into account the individual characteristics of the subjects who

are going to be exposed to our teaching and to our materials. Additionally principle 3 clearly tells us that organization and ways of presenting the materials and different methodologies will have a definite bearing on the learning process. Another conclusion we could come to is related to the active participation of the student in the learning: He is expected to use his whole conceptual framework i.e., his whole previous experience should be used in acquiring the new insight. In other words, we don't believe in random searching in learning, but in perception and intelligent searching.

According to the gestaltists the underlying tendencies which lead to perception are governed by one basic guiding principle of Good Configuration (the Law of Prägnanz) and four subordinate laws of Similarity, Proximity, Closure and Good Continuation (Houston, 1972, p.39).

We might relate the concept of the native speaker's natural tendency for good configuration to a natural need for completeness and closure. The Gestalt theory then confirms our ideas of the necessity of the student understanding the conclusions drawn at the beginning of this chapter. We see a direct relation, for example, between similarity and the division of adjectivals into classes, and between proximity and the ordering of classes. According to the Gestalt theory we conclude that the mere explanation of the conclusions will contribute to the student's understanding of the problem and will help him speak and write more effectively.

The fact being that most non-native speakers have very limited natural conversation practice, the student must grasp a sufficient understanding in the classroom that

will enable him to develop his conversational ability with accuracy and fluency. Because no one grammatical or linguistic school has given a completely satisfactory explanation of the ordering of prenominal adjectivals in English, we must seek to take the best ideas from all the theories. That is what we sought to do in the conclusions enumerated at the beginning of this chapter. We need to be aware that classes exist, that order exists, and that there are some reasons for order.

There is a convergence of syntactic, semantic, phonological, and psychological influences in the ordering process. It is important that students recognize these different types of influences. But how?

In conversational English we would probably all agree that it is not usual to have a long string of prenominal adjectivals. A natural example of Vendler's gargantuan formula (see chapter 4, p.90) would be almost impossible to find in normal speech (as Vendler himself noted!). However, even one prenominal adjectival may provoke confusion on the part of the Brazilian student. Let's consider the following situation.

Using the principles of going from the known to the unknown, predicate adjectives are frequently taught first. In fact, it is very important to notice that by presenting the predicative sentence first we are taking into account that this structure has already been experienced by the student in his mother tongue. In other words, we are putting into practice principle 4 of the cognitive theory that past experience facilitates insightful learning or problem-solving. So, first the student is given the structures:

This is a dress. It's blue.

The dress is blue.

The student then is given a transformation, in order to provoke a natural question and response:

Is the dress blue? Yes, it is.

In a following stage, we frequently find a similar question:

Is Mary's dress blue? No, it's not.

and its transformation possibilities,

Mary's dress is blue.

The blue dress is Mary's.

or

Mary's is the blue dress.

At this point the student has been presented with the structure of the noun phrase: Adjective + Noun Head (=blue dress).

Through the various exercises we will invariably have a contrast like:

Mary's dress is blue. Is Mary's dress blue?

The blue dress is Mary's. Is the blue dress Mary's?

Immediately the student questions: What is the correct order,

dress blue?

or

blue dress?

While we can give a traditional answer explaining the predicate nature of the first example, this in fact does not answer the question, because the first example is not unique for the non-native speaker. It is the prenominal order that the speaker of Portuguese finds unique.

In fact, if we take advantage of the student's previous experience again we can draw a parallel between the above English sentences and the Portuguese sentences:

O vestido de Maria é azul. O vestido de Maria é azul?

O vestido azul é de Maria. O vestido azul é de Maria?

in which the sentence O vestido de Maria é azul does not present any problem for the student because they have the same structure in English as well as in Portuguese. However, the last sentence O vestido azul é de Maria does not. While in Portuguese the adjective usually comes after the noun, in English it comes before.

Yet at this point the student's insight has been facilitated since the teacher has taken into account organization and grading of the material starting from the known to the unknown, from the simple to the more complex.

If the prenominal placing of one adjective can be confusing for the beginner, we may imagine how difficult it is the use of several prenominal adjectivals that must appear in a certain sequence in order to be considered "correct". Normally English texts do not give structures for training this order. We would suggest that a structure be presented such as,

- (146) a long black dress
- (147) a round rubber ball
- (148) an excellent French course

in which students become familiar with the order through oral drills. Then descriptive information could be solicited from the students in the order that comes first to mind. This latency test used by psycholinguists shows an interesting rule. Whereas in English the mental choice of adjectivals in unbroken strings is in inverse order to their spoken or written production, in Portuguese it is not i.e., the order of production is the same as that of mental choice.

If we take into account the mental choice order for Portuguese and English it would be probably the same. For example, by asking the students to order 2 adjectivals according to the order that comes first to mind, we could arrange a string as follows:

shoe brown old
 dress red new
 ball cotton white

and in Portuguese:

sapato marrom velho
 vestido vermelho novo
 bola de algodão branca

When the students see the relatively uniform order in which they have made their mental choices, the explanation of theory of ordering could then be made and applied to the examples, as they are placed in normal preferred order in English.

The teacher could explain the conception of what is inherent or non-inherent to the noun, since adjectivals that come first to mind, and consequently come closer to the noun head in the string, usually express inherent qualities. He could do that by bringing examples with the verbs ser and estar by asking the students the difference between:

O menino é doente.

and

O menino está doente.

Bringing out the difference between essential or permanent characteristics and accidental and temporary characteristics, the teacher could show that these two features are also present in the relationship between adjectival and noun. In other words, things are defined by what they are or what they may be accidentally. In the examples (146) a long black dress or (147) a round rubber ball the adjectivals black and rubber come closer to the noun because they denote characteristics that are inherent to the noun. Rubber indicates the material the thing is made of, and black the colour it has. If we compare them with the other two adjectivals round and long we will notice that these two require more nominal context for their appropriate choice, they are accidental characteristics. The teacher should utilize pairs of adjectivals each time, to find which is more inherent to the noun: size or age? age or colour? colour or material? By doing this he introduces the student to the different classes of adjectivals.

Another step is to show the difference in

branching. Whereas in Portuguese the branching is recursive to the right, in English it is recursive to the left. This is what makes the difference. In Portuguese we would have the same order both for mental choice and production:

Portuguese:	Noun Head	+	Adj.	+	Adj.	+	Adj.
			1		2		3
	Música		popular		brasileira		nordestina

in English the order of production is in inverse order of the mental choice and consequently reversed to the Portuguese order.

English:	Adj.	+	Adj.	+	Adj.	+	Noun Head
	3		2		1		
	Northeastern		Brazilian		popular		music

The learning process can be speeded up if the student is made aware that the English prenominal adjectival string is many times this type of mirror image of the Brazilian structure.

In this way the student will experience the theory and internalize it. It is our hypothesis that this will produce the desired results of a firm basis for a rule learning which results in creative capacity.

While we recognize that substitution drills and habit formation are not completely absent from any learning process, it can safely be said that the ability to generate creative expressions in correct patterns can only be achieved through the understanding of underlying linguistic principles.

In this sense what is normally called the

transformational approach in language teaching such as: Change these affirmative sentences to the negative; Change these statements to questions; Change the active to the passive voice; mainly used to reinforce grammar, is difficult to justify, especially when we refer to language learning as an active communicative process. In the same way to present the derivatives in terms of

ver	noun	adjective	adverb
employ	employment employee employer	employable	
	happiness	happy	happily

where insufficient emphasis is given to the function of the adjective or its syntactic ordering in a prenominal string is inadequate. Even though students are usually given examples of the use of these derivatives, and then asked to form original sentences, no attempt is made to distinguish the different bases from which the adjectivals are derived. An analysis of the origin of the adjectivals would be very useful to make clear the distinction between nominals, participles and adjectives. The teacher could take advantage of the transformations used by Annear (see chapter 4, p.62) to generate the adjectives. Nominals and participles can be explained by means of suffixes or by using Vendler's transformations. Then the teacher could point out that adjectives derived from nouns (Italian, historical) or from verbs (carved, advancing) as well as nouns that become adjectives by means of position shift (country house, silk dress) usually express an innate or inherent quality about the noun head and thus come closer to it in the string. Of course, this distinction between the adjectives, nominals

and participles would be the last step in the learning process considering the prenominal unbroken string due to its complexity.

In this section of chapter 6 we have discussed the pedagogical implications of adjectival ordering in English and this was done through a discussion of a learning theory against which we plotted the findings and the discussions related to adjectival ordering. We have come to the conclusion that grading, organization and ways of presenting the materials, as well as an active participation of the learner are important aspects in teaching a specific grammatical point. We also come to the conclusion that to relate foreign language to the mother tongue facilitates learning.

The above discussions represent only a few of the ways in which we may apply what we have learned about adjectival ordering to language teaching. We emphasize that an understanding of the basic principles in themselves will provoke in the serious student reflective thinking, integration of new concepts and closure.

We have also found that a serious approach to language analysis is dependent on an understanding of the Science of Linguistics and on Learning Theories.

Consequently it could be suggested that the teacher training courses should include in the curriculum information about linguistic principles and learning theories because this information will help to make decisions on how, when, and what adjectivals are more adequate for the classroom.

BIBLIOGRAPHY

- ABBERTON, E. (1977) 'Nominal Group Premodification Structures'. In Forum Linguisticum. Wolf-Dietrich Bald/Robert Ilson eds., pp. 29-71.
- ANNEAR, S.S. (1964) The Ordering of Pre-Nominal Modifiers in English. Project on Linguistic Analysis, Report No.8, Ohio State University Research Foundation, pp. 95-121.
- BOLINGER, D.L. (1967) 'Adjectives in English: Attribution and Predication'. Lingua 18, 1-34.
- BYRNE, B. (1979) 'Rules of Prenominal Order and the Interpretation of "Incompatible" Adjective Pairs'. Journal of Verbal Learning and Verbal Behaviour 18, 73-78.
- CHOMSKY, N. (1968) Aspects of the Theory of Syntax. Cambridge, The M.I.T. Press, pp. 3-62, pp.193-208.
- CHRISTOPHERSEN, P., SANDVED, A.O. (1974) An Advanced English Grammar. MacMillan. (first published 1969), pp. 127-142.
- COATES, J. (1977) 'A Corpus Study of Modifiers in sequence'. In Forum Linguisticum. Wolf-Dietrich Bald/Robert Ilson eds., pp.9-27.
- CROWELL JR., T.L. (1964) Index to Modern English. E.U.A. McGraw Hill Book Co., pp. 428-431.
- CRYSTAL, D. (1974) Linguistics. Penguin Books, pp.128-141.
- DANKS, J.H., GLUCKBERG, S. (1971) 'Psychological Scaling of Adjective Orders'. Journal of Verbal Learning and Verbal Behaviour 10, 63-67.

- DANKS, J.H., SCHWENK, M.A. (1972) 'Prenominal Adjective Order and Communication Context'. *Journal of Verbal Learning and Verbal Behaviour* 11, 183-187.
- FARSI, A.A. (1968) 'Classification of Adjectives'. *Language Learning* 18, 45-59.
- FRANCIS, W.N. (1958) The Structure of American English. New York, The Ronald Press Company., pp. 355-366.
- GOYVAERTS, D.L. (1968) 'An Introductory Study on the Ordering of a String of Adjectives in Present-Day English'. *Philologia Pragensia* 11, 12-28.
- HILL, A.A. (1958) Introduction to Linguistic Structures. New York. Harcourt, Brace and World, pp. 173-190.
- HORNBY, A.S. (1962) A Guide to Patterns and Usage in English. London O.U.P. 9th ed., (first published 1954), pp. 126-174.
- HOUSTON, S.H. (1972) A Survey of Psycholinguistics. The Hague: Mouton, pp. 18-45.
- JESPERSEN, Otto (1951) The Philosophy of Grammar. London George Allen and Unwin, Ltd. (first published 1924), pp. 96-116.
- KRUISINGA, E. (1932) A Handbook of Present-Day English. Part II: English Accidence and Syntax. Vol. 3, 5th, ed., Groningen: P. Noordhoof, pp. 235-261.
- KRUISINGA, E., ERADES, P.A. (1953) An English Grammar. Vol. 1. First Part. Groningen: P.Noordhoof, pp.162-206.

- LANCE, D.M. (1968) Sequential Ordering in Prenominal Modifiers in English: A Critical Review. Austin, Texas: University of Texas. PhD Dissertation, pp. 1-32; pp.126-307.
- LAZARUS, L.M. (1973) 'The Deep Structure of the Prenominal Adjectives in English'. *Linguistics* 102, 41-57.
- LORD, J.B. (1970) 'Sequence in Clusters of Pre-Nominal Adjectives and Adjectivals in English'. *Journal of English Linguistics* 4, 57-69.
- LUCAS, M.A. (1975) 'The Syntactic Classes of Antepnominal Adjectives in English'. *Lingua* 35, 155-171.
- MARTIN, J.E. (1969 a) 'Some Competence-Process Relationships in Noun Phrases with Prenominal and Postnominal Adjectives'. *Journal of Verbal Learning and Verbal Behaviour* 8, 471-480.
- (1969 b) 'Semantic Determinants of Preferred Adjective Order'. *Journal of Verbal Learning and Verbal Behaviour* 8, 697-704.
- (1970) 'Adjective Order and Juncture'. *Journal of Verbal Learning and Verbal Behaviour* 9, 379-383.
- MARTIN, J.E., MOLFESE, D. (1971) 'Some Developmental Aspects of Preferred Adjective Ordering'. *Psychonomic Science* 22, 219-220.
- MARTIN, J.E., FERB, T.E. (1973) 'Contextual Factors in Preferred Adjective Ordering'. *Lingua* 32, 75-81, 1973.
- NIDA, E.A. (1973) A Synopsis of English Syntax. 3rd ed. The Hague, pp. 54-99.

- OLLER, J.W., SALES, B.D. (1969) 'Conceptual Restrictions on English: a Psycholinguistic Study'. *Lingua* 23, 209-232.
- POUTSMA, H. (1914) A Grammar of Late Modern English. Part II. Groningen: P. Noordhoof, pp. 354-364.
- QUIRK, R., GREENBAUM, S., LEECH, G., SVARTVIK, J. (1976) A Grammar of Contemporary English. 6th impression. London, Longman, pp.231 - 267; pp. 902-934.
- RICHARDS, M.M. (1977) 'Ordering Preferences for Congruent and Incongruent English Adjectives in Attributive and Predicative Contexts'. *Journal of Verbal Learning and Verbal Behaviour* 166, 489-503.
- SCHIBSBYE, K. (1970) A Modern English Grammar. London, O.U.P. 2nd ed., (1st published: 1957) pp. 121-147.
- SMITH, C.S. (1969) 'A Class of Complex Modifiers in English', *Language*, 37, 342-365.
- STOCKWELL, R.P. SCHACHTER, P. and PARTEE, B.H. (1973) The Major Syntactic Structures of English, New York. pp. 421-447.
- STRANG, B.M.H. (1970) Modern English Structure. London, Edward Arnold, (1st published 1962), pp.133-140.
- SUSSEX, R. (1974) 'The Deep Structure of Adjectives in Noun Phrases'. *Journal of Linguistics* 10, 111-131.
- SWEET, H. (1931) A New English Grammar Book. Two Parts. Oxford, (1st impression 1898), pp. 1-11.
- TEYSSIER, J. (1968) 'Notes on the Syntax of the Adjective in Modern English'. *Lingua* 20, 225-249.

VENDLER, Z. (1968) Adjectives and Nominalizations. The Hague, Mouton Press, pp. 85-134.

ZANDVOORT, R.W. (1969) A Handbook of English Grammar. Longman, 6th ed., (1st impression 1957) pp. 187-194; pp.201-203; pp. 236-254.