



This is to certify that the

thesis entitled

STRUCTURES OF MODIFICATION
IN CONTEMPORARY AMERICAN ENGLISH

presented by

George Anthony Hough, 3rd

has been accepted towards fulfillment
of the requirements for

Ph. D. degree in English

William S. Heist
Major professor

Date May 12, 1965

ABSTRACT

STRUCTURES OF MODIFICATION IN CONTEMPORARY AMERICAN ENGLISH

by George Anthony Hough, 3rd

This study originated as an attempt to describe the system of modification within contemporary American English as it appears in the columns of the daily newspaper. The study is based on an analysis of 1,200 sentences taken from four newspapers, The New York Times, the New York Herald-Tribune, the Chicago Tribune and the San Francisco Chronicle. The corpus consisted of a four-way sample: (1) initial sentences; (2) selected sentences representing entire news stories; sentences from (3) issues in February of 1894 and from (4) issues in February of 1964. The entire sample consisted of a slightly more than 31,000 words and was considered to be representative of journalistic writing.

The structure of modification is taken to be a sequence of two or more words one of which is a head word and the remaining word or words modifiers. For example, in the sentence The slithy toves went away, the sequence the slithy toves consists of a head word, toves, and two modifiers, the marker the and the word slithy. Toves is identified as the head word by its ability to substitute for the

entire sequence of which it is head. The term modifier has only structural meaning. Modifiers are the words other than head words in structures of modification. Head words were found to consist of nouns, verbs, adjectives, adverbs, and noun markers. Certain sequences also were found to function as head words. These were subject + predicate sequences, noun-headed structures of modification, and prepositional sequences consisting of a preposition + noun or noun substitute. All of these words and structures were found also to function as modifiers.

Analysis of the frequency with which certain words and structures appeared as modifiers revealed some rather startling figures which have not been suggested in previous studies of syntax. The noun and noun sequence (noun-headed structure of modification) appeared most frequently as a modifier in the materials analyzed, about 36 per cent of the time in both lead sentences and representative sentences. Next most frequently appearing modifier was the prepositional sequence, 30 per cent in representative sentences and 32 per cent in lead sentences. Adjectives represented only about 16 per cent of the total number of modifiers, adverbs 8 to 10 per cent, and other modifiers the balance, 7 to 8 per cent.

These figures would indicate that previous studies of syntax and texts on grammar are not placing proper

George Anthony Hough, 3rd

emphasis on use of modifiers: adjectives, adverbs, traditionally regarded as the modifiers in English, are used far less frequently than nouns, noun sequences, and prepositional sequences, hitherto not considered important modifiers.

Analysis also showed that in 70 per cent of all structures of modification the head consisted of a noun or noun-headed structure of modification. Verbs functioned as heads in about 24 per cent of all structures of modification. All other words and structures, adjectives, adverbs, noun markers, subject + predicate structures and prepositional sequences, were heads in only 5 to 6 per cent of all structures of modification. In noun-headed structures of modification, modifiers pre-posed to the heads were nearly twice as frequent as modifiers post-posed to the head word.

Although the study did not reveal any great, over-all differences in structures of modification in the two periods, 1894 and 1964, it did show that there is a tendency toward increased use of nouns as modifiers with a corresponding tendency toward use of fewer prepositional sequences as modifiers. Prepositional sequences appeared more frequently as modifiers in 1894, nouns more frequently in 1964.

The study includes 32 tables summarizing the results of the analysis of seven types of structures of modification.

STRUCTURES OF MODIFICATION
IN CONTEMPORARY AMERICAN ENGLISH

by

George Anthony Hough, 3rd

A THESIS

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

DOCTOR OF PHILOSOPHY

Department of English

1965

ACKNOWLEDGMENTS

This thesis would not have been possible without the help, encouragement, and inspiration of the faculty members under whom I have had the privilege of studying. Most particular thanks are due to Professor Hans Wolff under whose guiding hand this study was begun and to the members of my guidance committee who saw it through: Professors William W. Heist, Huling Ussery, Russel B. Nye, and Herbert Weisinger.

Nor would this thesis have been completed without the patience and understanding of my wife and daughter who for too long put up with the irritations and frustrations of graduate study.

CONTENTS

	Page
ACKNOWLEDGMENTS	ii
LIST OF TABLES	iv
INTRODUCTION	1
Chapter	
I. NOUN-HEADED STRUCTURES OF MODIFICATION	34
Pre-nominal Modification	
Determiners	
Post-nominal Modification	
II. VERB-HEADED STRUCTURES OF MODIFICATION	105
Verb as Head	
Verb and Complement as Head	
III. OTHER STRUCTURES OF MODIFICATION	130
Adjective-Headed Structures	
Adverb-Headed Structures	
Prepositional Sequences as Heads	
Noun Determiners as Heads	
Sentences and Clauses as Heads	
IV. CONCLUSION	177
BIBLIOGRAPHY	196

LIST OF TABLES

Table	Page
1. Distribution of modifiers in pre-nominal position in noun-headed structures of modification	38
2. Various types of nouns appearing in pre-nominal modifying position	41
3. Modifiers of noun-heads and sequence heads by type	69
4. Distribution of noun-markers with noun-headed structures of modification	78
5. Distribution of noun-markers with otherwise unmodified nouns	82
6. Nouns, pronouns, and function nouns appearing without noun markers	83
7. Distribution of marked nouns and other form class words which appear as noun replacements	85
8. Post-nominal modifiers in noun-headed structures of modification	87
9. Prior modification of noun-heads to which are added post-nominal modifiers	88
10. Modifiers of verbs, including verb and complement or object	106
11. Modifiers of verb-heads	115
12. Incidence of single and multiple modification of verb-heads	121
13. Incidence of single and multiple modification of verb-heads	122
14. Modifiers of verb + object or complement	125
15. Incidence of single and multiple modification of verb + object or complement	127

Table	Page
16. Incidence of single and multiple modification of verb + object or complement	129
17. Modification of adjectives	131
18. Distribution of modifiers of adjectives	141
19. Modification of adverbs	147
20. Distribution of modifiers of adverbs	148
21. Modification of prepositional sequences	149
22. Distribution of modifiers of prepositional se- quences	152
23. Modification of noun markers (determiners) . . .	154
24. Distribution of modifiers of noun markers . . .	159
25. Modification of sentences	161
26. Distribution of modifiers of sentences	163
27. Modification of clauses	172
28. Distribution of modifiers of clauses	173
29. Modification of sentences and clauses	175
30. Distribution of modifiers of sentences and clauses	176
31. A comparison of the frequency of modification of various heads in structures of modification	183
32. A summary of the various modifiers appearing with head-words	192

INTRODUCTION

This study is an attempt to shed some light on one type of linguistic structure, that structure which is sometimes called a structure of modification.¹ It is based on a fairly limited but statistically ample corpus of 1,200 sentences from four metropolitan daily newspapers for the two years 1894 and 1964. The study is purely descriptive.

From various sources a catalog of the various forms that modification may take was compiled and the sentences in the corpus were examined to see whether these structures did occur, in what ways, and how frequently. Sentences taken from the newspapers were selected as the corpus for several reasons. First, because of the writer's long association with newspapers and interest in the problems of writing newspaper copy; second, because it is a contention of the writer that the syntax of newspaper copy is distinctive and has its own style and its own idiosyncrasies; third, in the expectation that if some of the facts about newspaper

¹Charles Carpenter Fries, The Structure of English (New York and Burlingame: Harcourt, Brace & World, Inc., 1952, reprinted 1961), hereafter cited as Fries, pp. 202-239, and W. Nelson Francis, The Structure of American English (New York: The Ronald Press, 1958), hereafter cited as Francis, pp. 292 and 297 ff.

syntax could be established, further studies might result and comparisons could be made with other writing styles--fiction, magazine articles, and the spoken language.

Linguists have paid very little attention to the style of newspaper writing. Newspapers are often a source of lexical items, and quite often oddities in newspaper headlines are picked up by a linguist and used as a point of departure for some point he wishes to make about language in general or some particular form.² However, as far as the writer has been able to determine, no studies have been made of grammar based entirely on materials taken from the newspapers.

The Newspaper Sample

The sample or corpus on which this study is based is drawn from four major metropolitan daily newspapers: the New York Times, the New York Herald-Tribune, the Chicago Tribune, and the San Francisco Chronicle.³ All four are

²See Barbara M. H. Strang, Modern English Structure (New York: St. Martin's Press, 1962), hereafter cited as Strang, p. 94, and Stuart Robertson, revised by Frederic G. Cassidy, The Development of Modern English (Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1954), pp. 211-212, and Fries, p. 62.

³The New York Times, Feb. 1894, Feb. 1964; the New York Tribune, Feb. 1894; the New York Herald-Tribune, Feb. 1964; the Chicago Daily Tribune, Feb. 1894, Feb. 1964; the San Francisco Chronicle, Feb. 1894, Feb. 1964. Available on microfilm. See George A. Schwegmann, Jr., ed., Newspapers on Microfilm (Washington, D. C.: Library of Congress, 1963), pp. 27, 55, 134, and 137. The Herald-Tribune files include the files of the New York Tribune from 1841-1924.

well-edited newspapers with high standards. They rank well in the estimation of editors and professors of journalism, and writing in these newspapers can be considered a good standard form of informal American English.

The Times is frequently called the nation's leading newspaper. In a survey conducted in 1960 by Edward L. Bernays, the public relations counselor, the Times rated first in a list of the top ten daily papers in this country.⁴ It received 91 per cent of the votes cast by the newspaper publishers who participated in the poll.

In the same poll, the Herald-Tribune ranked tenth and the Tribune and Chronicle were in a list of runners-up which missed the first ten places. A poll conducted by the Saturday Review in 1961, this time among teachers of journalism, found the Times, Herald-Tribune, and Tribune all in the first ten.⁵ The Chronicle was in the list of runners-up. Time in its own list of the top ten dailies in 1964 listed the Times among its choices.⁶ None of the other three papers used in this study were included in Time's list.

⁴Anon., "The Top 10 Dailies Almost Same as in 1952 Poll," Editor and Publisher, April 9, 1960, 66.

⁵John R. Tebbel, "Rating the American Newspaper," Saturday Review, May 13, 1961, 60-64.

⁶Anon., "The Top U. S. Dailies," Time, Jan. 10, 1964, 58.

The Times

The New York Times was founded in 1851 by Henry J. Raymond, George Jones and Edward B. Wesley. It was a penny paper and, Frank Luther Mott considered, unusually well-edited.⁷ For a generation, the Times was vigorous and under expert direction, but by the early 90's the paper was in difficulties. By 1896 when it was sold to Adolph S. Ochs, circulation had fallen to 9,000 and the paper was losing \$1,000 a day. Ochs started the Times back on the long road which led eventually to superiority. Today the Times is probably the most complete newspaper published anywhere in the world and it is at least as well-edited, if not better edited, than any other newspaper in the world. Circulation figures for the Times:⁸

	<u>1893</u>	<u>1964</u>
daily	45,000	603,574
Sunday		1,283,785

⁷ Source of the historical data on the four newspapers is Frank Luther Mott, American Journalism (New York: The Macmillan Company, 1962), passim.

⁸ Circulation for 1893 came from The S. H. Parvin's Sons Co. Newspaper Directory 1893-94 (Cincinnati: The S. H. Parvin's Sons Co., 1893), pp. 64, 83, and 108, and for 1964 from the Editor and Publisher International Yearbook 1964 (New York: Editor and Publisher, 1964).

The Herald-Tribune

The Herald-Tribune is the descendent of two distinguished New York newspapers, Horace Greeley's Tribune, which was founded in 1841, and the Herald, founded in 1935 by the elder James Gordon Bennett. The Tribune came into the hands of Whitelaw Reid in 1873, after Greeley's death, and although still somewhat sensational, had, according to William Cullen Bryant, taken over some of the Evening Post's reputation as a paper for gentlemen and scholars. It was lively, well-edited, and vigorous. For a time John Hay, the biographer of Lincoln, was an assistant editorial writer for the Tribune. The Tribune acquired the Herald in 1924 from Frank Munsey for \$5,000,000. The combination of two faltering dailies proved successful, and the Herald-Tribune was a close competitor of the Times through the 1920's and 1930's. The Times pulled ahead in the post-World War II period, but in the past two or three years, since the sale of the Herald-Tribune to John Hay Whitney, the paper has blossomed again. It is today very carefully edited and extremely well-written although it is nowhere near as voluminous as the Times. Circulation figures for the Herald-Tribune:

	<u>1893</u>	<u>1964</u>
daily	80,000	282,000
Sunday		363,384

The Tribune

The Tribune was founded in 1847 and struggled for survival until it was purchased in 1855 by Joseph Medill, a few years later one of the principle backers of Abraham Lincoln's candidacy. The Tribune, firmly managed by Medill, grew into one of the four great newspapers published in Chicago just before the turn of the century. In the mid-90's, Medill surrendered control of the paper to his son-in-law, Robert W. Patterson, and later, under the direction of Medill's grandson, Robert R. McCormick, the Tribune grew in circulation, power, and prestige. Calling itself, modestly, the World's Greatest Newspaper, the Tribune achieved a circulation of a million copies a day just before World War II. Since McCormick's death in 1955, the paper has been published by the Tribune Company under management of McCormick's editorial heirs, Chasser M. Campbell and J. Howard Wood. Circulation figures for the Tribune:

	<u>1893</u>	<u>1964</u>
daily	78,000	831,904
Sunday		1,138,268

The Chronicle

The Chronicle was the great West Coast newspaper of the generation after the Civil War. Founded in 1865 by two teen-age brothers, it soon became a vigorous, newsy and profitable newspaper. One of the owners, Charles De Young, was

shot and killed in 1880 as a result of the paper's feud with the Workingmen's Party; his brother, M. H. De Young, supervised the paper's operations until his death in 1925. Today the Chronicle is the only independent daily newspaper in San Francisco and its only competition comes from the Hearst papers, the morning and Sunday Examiner and the evening News-Call-Bulletin. Circulation figures for the Chronicle:

	<u>1893</u>	<u>1964</u>
daily	61,156	330,225
Sunday		352,138

The 70 Years from 1894 to 1964

In the history of a language, 70 years is not an appreciable span of time, but in the recent history of journalism, 70 years is an age. In 1894 the Gilded Age of the Greeleys, the Bennetts, the Danas, the Medills, and the other giants of journalism was over. The Linotype had come into the composing room in 1886; engraving of photographs had begun in the early 1880's; in 1889 Hoe's sextuple press fed by three rolls of newsprint turned out 48,000 copies an hour of a twelve-page paper for the New York Herald. The great Joseph Pulitzer had just established himself in New York and the new World building was one of the sights of the city. Telephone and typewriter were new in the city room and the press associations were just beginning to pour

world and national news onto the telegraph editor's desk.

Newspapers in 1894 were stepping out of their infancy and into their young manhood. It was the beginning of the period of mass circulation, cheap newsprint, and yellow journalism. It was a period of growth and excitement and the daily newspaper was just on the threshold of the modern age. The newspaper was just past the crest of success won by vigorous, personal editorial direction and they were just poised on the threshold of the period of great mechanical progress which lasted from the late 1890's to the end of World War II.

In 1964 newspapers had reached maturity. They had achieved mass circulation and financial success thanks to the mechanical production methods available in the 1890's and since perfected, and thanks, also, to the great growth this nation experienced from the 1890's on. Today the newspaper, like the rest of society, is in the early days of the nuclear and electronic age, facing new problems and great changes. The computer and the communications satellites promise to alter newspapers in the next seventy years even more than the Linotype and the web-perfecting press did in the seventy years after the 1890's.

If ever differences existed, they exist between the American newspaper of the 1890's and of the 1960's. The newspaper of today is produced differently, it is edited by a new kind of journalist, it is read by a new kind of American.

Today's newspapers are as different as black is from white from the newspapers of the 1890's.

Whether there are any differences in the way news was written in the 1890's and the way it is written today--grammatical differences, that is--is one of the questions this study has set out to determine. As we shall see later, some differences do exist. There is, for example, a definite trend toward a greater use of nouns as modifiers of other nouns. Examination of the summary tables in the final chapter will show in more detail the shifts in usage of the various types of modifiers over the seventy-year period under examination. Whether these shifts are part of a general shift going on throughout the language or are peculiar to newspaper writing will have to be determined by further studies.

Methodology

The corpus, 1,200 sentences, is a four-way sample of the writing of staff members of four American daily newspapers. The newspapers were selected because they were available in the two years 1894 and 1964 and because they represent a good, high-quality form of journalism. All four papers had a reputation in 1894 and all have a reputation today. They are all, by coincidence, morning newspapers, and they represent the geographical differences between East

Coast, Middle West, and the Far West.⁹

The month of February was selected as the sample month as a recent month in 1964 and a period for which microfilm copies of the 1964 newspapers were already available. The fourth week of the month was selected with the aid of a table of random numbers as the six-day period from which the materials of the corpus were to be drawn. Daily issues, Monday through Saturday, were used in drawing the sample. The issues were those of Thursday, February 22; Friday, February 23; Saturday, February 24; Monday, February 26; Tuesday, February 27; and Thursday, February 28 in 1894. In 1964 the issues were those of Saturday, February 22, Monday February 24; Tuesday, February 25; Wednesday, February 26; Thursday, February 27; and Friday, February 28.

Sentences were drawn from locally-written news stories spread as much as possible through the entire issue of the paper. Only locally-written stories were used. No press association copy, no syndicated material, no stories written by correspondents and originating outside the city of publication, no editorials, no columns, and no sports or

⁹The four newspapers were selected on the basis of criteria cited above. In content analysis it is seldom the practice to draw titles on a random basis. For a discussion of the problem of selecting titles for content analysis, see Richard W. Budd and Robert K. Thorp, An Introduction to Content Analysis (Iowa City: School of Journalism, State University of Iowa, 1963), pp. 4-9.

women's page stories were included. Content or subject matter of news stories was not otherwise considered, and it is proposed that these exclusions left the sample representative of general, not specialized, newswriting.

Two sets of sentences were drawn from seventy-five different news stories in each of the four newspapers for each of the two years. The first set of sentences was the initial sentence in each news story and these sentences will be referred to hereafter as lead sentences. From the four newspapers 300 lead sentences were drawn, seventy-five from each paper for 1894 and the same number from each paper in 1964, 600 lead sentences in all. The second set of sentences, another 600, represent as nearly as possible the entire news story. For this sample, sentences were selected in rotation from the first, second, third, and fourth quarters of the news story, the first full sentence in each quarter being selected in each instance. These sentences will be referred to hereafter as representative sentences.

Three comparisons are possible from this sample: (1) between newswriting in general and the lead sentence, (2) between the four newspapers, and (3) between writing in two different years separated by a span of seventy years. Comparisons between features in the four newspapers are based on too small a sample to have much validity, but comparisons between the 300-sentence sample in the two years and between lead and representative sentences should have validity.

Sentences were drawn as much as possible from the entire newspaper. Selection was made beginning on page one and with the outside left hand column starting at the top of the page. The first local story was chose from the first column, and if there was no local story in the first column, then the first local story was taken from the second column. The second story selected was the first local story in the left hand column on page two and so on in order.

Issues of the four papers in 1894 were usually of ten or twelve pages and the sample pretty well represents something from every page. In a few instances it was necessary to start back through the paper a second time, this time taking the second local story from each page.

This was a systematic random sample rather than an unrestricted random sample. It is intended to be representative of the universe from which it was taken and to be large enough to present reasonably accurate data.¹⁰ The 300 sentences from the two years and representing lead sentences

¹⁰Gustav Herdan maintains that any sample of language is random unless one just picks out the items one is looking for. See The Calculus of Linguistic Observations ('s-Gravenhage: Mouton & Co., 1962), p. 25, where he says that, "My contention is that the linear sequences of linguistic forms in written texts or speech are random series with respect to certain quantitative characteristics, and any sampling procedure, be it by disconnected units, or by continuous pieces of text, by pages, chapters, etc., will give a random sample of such quantitative characteristic; that is, provided it does not consist in a direct or indirect selection of categories of just such characteristics we are sampling for."

and representative sentences is large enough a sample to avoid undue error, and, according to standard tables, standard error in a sample this size would be approximately 5 percentage points, plus or minus. To reduce the possibility of error by as much as 1 percentage point would require that the size of the sample be increased from 300 to 600 sentences.¹¹ The increase in accuracy thus achieved would hardly be worth the amount of effort involved. Altogether, the sample of 1,200 sentences ran to more than 31,000 words. The sample:

	<u>1894</u>	<u>1964</u>	
lead sentences	300	300	
representative sentences	<u>300</u>	<u>300</u>	
total	600	600	1,200

Structures of Modification

This study is an analysis of the various structures of modification in a particular sample of present-day American English. Structures of modification are linguistic units consisting of at least two words, a head and a modifier. All structures of modification must consist of these two immediate constituents. Either the head or the modifier may

¹¹See David J. Luck, Hugh G. Wales and Donald A. Taylor, Marketing Research (Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1961), p. 197.

be a single word or a sequence of related words. The following are examples of structures of modification:

the slithy toves
man of letters
 deep in the wabe

The head, underlined, is that part of the structure of modification which can replace the whole structure in a sentence. For example, We saw the slithy toves could be changed to read We saw toves. The expendable words in the sequence the slithy toves are the and slithy, and these two words are, by process of elimination, modifiers. What remains, the word toves, is the head. Modifiers are that part of a structure of modification which cannot be substituted for the head. In the sentence below, note the identification of the head and modifier on the basis of elimination:

We found ourselves deep in the wabe.

We found ourselves in the wabe.

In the underlined structure of modification, deep can be eliminated and is, hence, the modifier, while in the wabe can substitute for the entire structure and is, hence, the head. The entire structure of modification consists of a head and a modifier. Note, too, that the head here is not a single word, but a sequence of three words.

This study follows Trager and Smith in defining a word as a base with or without one or more affixes and with a superfix.¹² Trager and Smith cite taker and Plato as examples of words. In the structures above, man, toves, deep, in, the, and letters are all words, to cite only a few examples. A sequence is merely a group of two or more related words organized into a meaningful entity: old man, in the woods, down here, way off, this afternoon. Without need for analysis, any native speaker would recognize these as meaningful. Francis terms such entities grammatical structures.¹³ Hockett refers to them as constructs.¹⁴ They are sometimes called phrases or groups, and here, following Wolff, they will be referred to as sequences.¹⁵

Single words or sequences may serve as heads in structures of modification. Modifiers may, in the same way, be single words or sequences. Heads, we will find, may be nouns, verbs, adverbs, adjectives, function words, prepositional sequences, noun sequences, clauses, verb sequences,

¹²George L. Trager and Henry Lee Smith, Jr., An Outline of English Structure (Washington, D. C.: American Council of Learned Societies, 1957, fifth printing), pp. 55-57.

¹³Francis, p. 223.

¹⁴Charles F. Hockett, A Course in Modern Linguistics (New York: The Macmillan Company, 1958), p. 164.

¹⁵Hans Wolff, Structural Highlights of American English (typescript, n.d., in the possession of the author, now at Northwestern University, Evanston, Ill.), p. 141.

verbs and their complements and entire sentences. Modifiers may consist of nouns, verbs, adverbs, adjectives, function words, prepositional sequences, noun sequences, clauses, verbs and their complements, and entire sentences.

Analysis of structures of modification must depend, first of all, on identification of a given sequence as a structure of modification, and, second, on classification of the modifier and head. Sequences had, first, to be classified by type: noun-headed structure of modification, adjective-headed, adverb-headed, and so on. Then the various modifiers of each class of structure had to be identified as to type: noun-modifier, adjective-modifier, and so on.

Once a sequence had been identified as a structure of modification consisting of a head and a modifier, it remained only to identify the head and to assign the structure to its proper class: noun-headed structure, adjective-headed structure and so on. Analysis of the modifier involved four points: (1) what kind of modifier, noun-modifier, adjective-modifier, prepositional-sequence-modifier, and so on; (2) what position did the modifier occupy in relation to its head; (3) with what frequency did each type of modifier appear; and (4) in some instances, did the modifier appear alone with its head or in company with other modifiers?

Position of the modifier presents little problem. If the head is a single word, the modifier will normally be either pre-posed or post-posed. Very occasionally the modifier will appear in some other position, for example, in a noun-headed structure of modification the prepositional sequence which modifies the noun-head is normally post-poned, but will sometimes appear pre-posed. If the head is a sequence instead of a single word, modifiers may be included within the sequence as, for example, an adverb-modifier which may appear either pre-posed or post-posed to a single-word verb-head, but which may also appear between a verb-head and its auxiliary.

Determining the frequency with which a given modifier appeared with a given type of head and in a given position presented no problem except that of tedium. All heads and modifiers were listed on tally sheets according to the type of head, position and type of modifier, and relation to other modifiers. Each tally sheet was double checked for accuracy of each item and the tally sheets were totalled. Totals from each tally sheet were carried over to summary sheets so that totals for each newspaper and each year could be obtained and the final figures transferred to tables.

Identification of Heads and Modifiers

Proper identification of heads and modifiers and of the various structures already mentioned, depended in large

part on identification of the four form class words: nouns, verbs, adjectives, and adverbs. In most instances identification was simple and obvious. In a few instances, however, ambiguity existed for one or more reasons. Sometimes the various syntactic signals were missing; sometimes the word in question had the same morphemic form as a word normally associated with another form class; sometimes the word was out of normal position; sometimes the word was a replacement for a member of another form class.

In the main, however, identification of heads or modifiers as nouns, verbs, adverbs, or adjectives was readily accomplished by simple comparison of the five signals of syntactic structure cited by Francis.¹⁶ These are characteristic position in a sentence or sequence, inflection, regular appearance with specified function words, derivational contrast, and prosodic contrast.

Identification of Nouns

Most nouns were readily identified by these syntactic signalling devices, and usually more than one signal of identification was found. Many nouns, for example, will appear in characteristic position and also show noun inflection and be paired with function words associated only with nouns.¹⁷

¹⁶See Fries, pp. 65-141, and Francis, pp. 229-290. This discussion basically follows Francis who is somewhat more succinct than Fries.

¹⁷Francis, pp. 237-252.

Francis considers noun markers, those characteristic function words found only in association with nouns, as the most important device for identifying a word as a noun. The noun markers consist of seven groups of function words: the definite article the; the indefinite article a/an; the various personal pronouns; the specifiers this/that and their plural forms these/those; the cardinal numbers; the negative no; and a fairly long list of function nouns. A more complete discussion of noun markers appears in Chapter I.

Noun inflection is the second significant signal identifying nouns. Nouns show two types of inflection: first, the suffix 's which indicates possession; second, the suffixes -s or -es which indicate more than one. For example:

possessive inflection	boy/boy's
	wife/wife's
	man/man's
plural inflection	boy/boys
	wife/wives
	house/houses
	tree/trees

Irregular plurals appear fairly frequently, but their identification poses few problems. No one is likely to mistake man/men, tooth/teeth, medium/media simply because they are irregular plurals.

Derivational contrast also serves to signal that a word is a noun. Nouns derived from verbs, adjectives, other nouns, or built up from bound bases show characteristic derivational suffixes like -age, -ee, -cy, -ist, -dom, and -ity:

breakage
employee
intricacy
violinist
facility
freedom

A few noun suffixes are ambiguous, the -ing of run-ning, parking, smoking, for example, but where there is such ambiguity other means of identification are often present.

Characteristic position also serves to identify nouns and Francis cites the chief position filled by nouns as the position immediately before a verb, that is the subject position in a sentence with normal word order. A test frame can be constructed to determine whether a given word will fit this position and is, thus, a noun by definition:

(the) _____ leaves the depot daily
train
bus
passenger
dispatch

Finally, some nouns show prosodic contrast with identical words, that is, words with the same morphemic form, which belong to another form class. For example, the words subject, a noun, and subject, a verb, which are morphemically identical, but can be differentiated because they have

different stress: they contrast prosodically. For example:

The súbject is not to be discussed. (noun)

I don't want to subjéct you to that. (verb)

A number of examples of this type of prosodic contrast between nouns and verbs can be found: imprint, suspect, contract, object, and others.

These various signals of syntactic structure are valid only in context, however, for the syntactic value of a given word depends on number of simultaneous and related factors. Identifying signals valid in isolation may have no validity when actual instances of use are considered. The word today, for example, may be a noun in one context, but an adverb in another. The fact that today can be inflected for possession and the plural when it appears in subject position does not alter the fact that it cannot be so inflected when it appears in a position characteristic of adverbs.¹⁸

Identification of Verbs

Verbs can be readily identified in most instances by the five signals of syntactic structure already cited.

¹⁸ There is a difference between a word's morphological class and its syntactic class and where there is a conflict, morphology accedes to syntax. Position is the more significant factor. See Fries, p. 141.

Verbs have characteristic position in the sentence, they have characteristic inflection, they appear with certain readily identifiable function words, they show derivational contrast, and they show prosodic contrast.¹⁹

For verbs, characteristic position in the sentence is, according to Francis, between two nouns, as in the following examples from the materials examined in this study:

these men deserve the gratitude
the effigy had black-painted features

Inflection readily serves to identify verbs. Verb inflection is by means of the suffixes -s, -ed, -en, and -ing differentiates between present tense, past tense, past participles, and present participles:

present	- <u>s</u> in the third person singular
	tests results
past	- <u>ed</u> in all persons in both singular and plural
	filed asked aimed explained
participle	- <u>ed</u> in most verbs and <u>-en</u> in some
	was donated were greeted was swollen had been beaten

¹⁹Francis, pp. 252-268.

present participle -ing in all cases
 is acting
 replacing
 calling

Function words are useful in identifying irregular verb forms although from a practical standpoint the irregular verbs are familiar enough to most speakers. Function words associated with verbs are the various forms of the verb to be and the verb to have and the modal auxiliaries. For example, with the function words underlined:

was hit
have seen
were going
will give
can go

Derivational contrast provides another syntactic signal for identification of verbs, but this seldom provides the only means of identification. Derivational suffixes like -ate, -ize, -ish, and -en appear on verbs like irrigate, digitize, extinguish, and broaden.

Prosodic contrast also serves to identify verbs, but the number of verbs with forms morphemically identical with words of other form classes is small.

There is seldom a serious problem in identifying verbs when they appear in a sentence or clause in characteristic subject + verb relationship. In such instances not

only position, but inflection, pairing with function words also identify the verb. However, when a verb appears in other positions identification is another matter. When verbs appear as modifiers they have no accompanying function words to serve as markers and they are frequently unflected--as is the case of the infinitive--or they have the ambiguous suffixes -ed or -ing. In such cases other means of identification are necessary: probable relationship to a head-word, relationship to a direct object, relationship to a modifier or to some other structure.

Identification of Adjectives

Position, according to Francis, is the most useful means of identification of the adjective.²⁰ If a word can fit both blanks in the test frame below, it is an adjective. If the word can fit the first blank, but not the second it is not an adjective. The test frame:

the _____	thing seems very _____
strong	strong
relaxed	relaxed
interesting	interesting

Nouns, verbs, and adverbs can fill the first blank, but not the second. For example:

²⁰Francis, pp. 268-291.

the _____ leader is very _____

school	<u>nouns</u>
labor	
swimming	

murdered	<u>verbs</u>
injured	
retiring	

aged	<u>adjectives</u>
charming	
wise	

then	<u>adverb</u>
------	---------------

In this study, this test, the ability of an adjective to pair with very and sometimes with quite, proved a useful means of differentiating between adjectives and verbs with the suffixes -ed and -ing

In addition to the test of position, it is possible to identify adjectives by the other syntactic signals: inflection, pairing with certain function words, derivational contrast and prosodic contrast.

Adjectives are inflected for comparison with the suffixes -er and -est:

fine	finer	finest
sharp	sharper	sharpest
nice	nicer	nicest

Certain adjectives are compared periphrastically by means of a pre-posed more or most:

desirable	more desirable	most desirable
recent	more recent	most recent

A few other adjectives are compared irregularly, like good with its comparative better and superlative best.

Adjectives are frequently derived from nouns, verbs, and bound bases by means of derivational suffixes, many of which are exclusive to adjectives and hence provide an easy means of identifying a word as an adjective. A few derivational suffixes are -y, -al, -able, and -ful found on adjectives like leafy, fatal, adaptable, and hopeful. Some adjective suffixes are ambiguous, particularly the -ed and -ing of adjectives like respected and interesting.

Prosodic contrast sometimes serves to differentiate between verbs, nouns, and adjectives. For example, contrast:

He entered the <u>running</u> race.	noun
He entered the <u>running</u> stream.	verb
He was <u>interesting</u> as usual.	adjective
He was <u>interesting</u> his students.	verb

Finally, adjectives are sometimes paired with a group of function words which Fries and Francis refer to as qualifiers.²¹ Qualifiers are primarily adverbs, but a few are marked nouns. Their use is somewhat limited in the written language, as reference to later tables will show,

²¹Francis' list of qualifiers will be found on p. 278; Fries lists qualifiers, his Group D function words, on pp. 92-94.

but Fries and Francis report that qualifiers are in extensive use in the spoken language. Qualifiers include such words as very, quite, a little, a lot, more, most, and less.

Identification of Adverbs

Francis suggests that the most useful test for an adverb is that of position.²² Any word, according to Francis, that can appear in sentence final position after a noun or nouns, as in the test frame below, is an adverb:

the man told (us) his story _____

hopefully
aloud
somehow
over
again
today

This may well be, as Francis says, the primary structural criterion for adverbs, but it is not particularly helpful in analysis of structures of modification in actual sentences. As we shall see in Chapter II, the position Francis posits is far more likely to be filled by one or more prepositional sequences than by an adverb, and adverbs, it turns out, are far more likely to appear post-posed to the verb they modify and before rather than after the noun or nouns which are objects of the verb.

²²Francis, pp. 281-288.

Adverbs are easily recognized in most instances by their derivational suffixes, the most common of which is -ly which forms adverbs from adjectives: visibly, remarkably, woodenly, traditionally, seriously, critically. A few other affixes form adverbs from nouns, verbs, adjectives and bound stems:

a-	aloud aboard	-wise	lengthwise sidewise
-s	nights evenings	-wards	backwards homewards

A small group of adverbs is identical with certain prepositions: in, on, out, up, down, and others. Another group is composed of nouns and function words combined with the noun markers some, any, every and no:

somewhere	anywhere	someplace
nowhere	everywhere	anyplace

Adverbs are also inflected like adjectives for comparison and employ the same inflectional suffixes, -er and -est. Only a few adverbs, the so-called base adverbs, are inflected in this manner. Derived adverbs are inflected periphrastically, like adjectives, with a pre-posed more or most.

hard	harder	hardest
long	longer	longest
loudly	more loudly	most loudly
openly	more openly	most openly

A few adverbs are irregular, for example, well with its comparative better and its superlative best.

Adverbs are also identified by their association with certain function words, qualifiers, many of which are identical with the qualifiers already identified as adjective markers:

very well
quite easily
a lot better
right past
still more easily

Another useful test of adverb identity is the substitute group. Adverbs may be divided into three substitute groups depending on whether they may be replaced by then, there, or by thus or so:

then	today yesterday	daily now	seldom later
there	outside down	ahead back	indoors downstairs
thus/so	easily critically	slowly aloud	sideways queerly

A cataloging of the various syntactic signals by which nouns, verbs, adjectives, and adverbs may be identified is deceptive. In actual practice they serve well probably 90 per cent of the time, but in the other 10 per cent difficulties arise. Morphological signals are sometimes ambiguous, as in the case of the suffixes -ing and -ed. The

syntactic signal of position is sometimes ambiguous. In the case of adjectives and adverbs, the function words that serve as markers seldom appear when they would be most helpful. The language is so flexible that almost any word or structure may show up in any position in a sentence, however unlikely the possibility might be. For example, the position between the noun marker the and the noun is generally described as an adjective position, but it is commonly filled by nouns, not infrequently by a verb, and on rare occasions by an adverb.

In most doubtful cases identification was possible with the aid of lists of function words, derivational suffixes, and substitute groups compiled from the sources already cited.

Nouns, verbs, adjectives, and adverbs are defined, then, as words which can be identified by the various syntactic signals just described. Function words are words which are not nouns, verbs, adjectives, or adverbs, and which have a syntactic function in sequences, clauses, and sentences. Fries lists fifteen separate groups of these words.²³ For the purposes of this study the most important function words were Fries Group A, noun markers; Group B, verb markers; Group F, prepositions; and Group J, called

²³Fries, pp. 87-109.

variously adverbs, conjunctions and includers.²⁴

In conclusion, identification of form class words was dependent on test frames for position; derivational contrasts with members of other form classes; various lists of identifying function words; and, to a lesser extent, inflection. Prosodic contrast seldom was of any assistance. Occasionally substitute groups provided some assistance. Where no other criteria would do, it was found useful to compare the word or structure in question with the catalog of possible structures of modification in Nida and Francis.²⁵

Form class words, as this study will show, are not the only heads, nor the only modifiers, in structures of modification. Sentences, clauses, absolute constructions, prepositional sequences, and noun-headed structures of modification appear both as heads and as modifiers. The nature of these various structures and the criteria for identifying them will be discussed in later chapters where these structures first appear.

²⁴For an exhaustive list of prepositions and conjunctions, see Harold Whitehall, Structural Essentials of English (New York and Burlingame: Harcourt, Brace & World, Inc., 1956, reprinted 1961), pp. 62-63, and pp. 72-73.

²⁵Francis, pp. 229-290, cited above, and Eugene A. Nida, A Synopsis of Modern English, edited by Benjamin Elson (Norman, Okla.: Summer School of Linguistics, 2d. ed., 1962), hereafter cited as Nida, passim.

Limitations of the Study

This study is not intended as a net to dredge up every possible occurrence of a particular type of head or modifier, nor as an inventory of all the heads and modifiers in the language. Nida has what may well be an all-inclusive inventory of the possible types of modifiers in his Synopsis and he includes a substantial number of examples.²⁶ The question this study seeks to answer is not what is possible, but what actually occurs in a given sample of the language.

Use of the various structures of modification is, basically, a matter of stylistics, of choice.²⁷ Given a wide range of possible structures to choose from, which will a speaker or writer use, how often will he use certain structures, and in what environments?

The writer has no hypothesis to prove. This study is based on the notion that language is analyzable and that any sample of language may have its own characteristics as well as the broader characteristics, or grammar, of the

²⁶Previously cited.

²⁷Hill defines stylistics as "all those relations among linguistic entities which are statable, or may be statable, in terms of wider spans than those which fall within the limits of the sentence." And he further defines style as "all the choices of equivalent items which the language offers the user in each linguistic situation." See A. A. Hill, Introduction to Linguistic Structures (New York: Harcourt, Brace and Company, 1958), p. 406.

language of which it is a part. The characteristics of newspaper syntax, at least as far as modification is concerned, will be set forth in the pages that follow. Whether this particular sample of newspaper writing has idiosyncrasies of its own, and whether it differs from other types of writing must depend on further comparisons.

CHAPTER I

NOUN-HEADED STRUCTURES OF MODIFICATION

Pre-Nominal Modifiers

In a structure of modification in which the head is a noun, modifiers may appear before the noun-head or after the noun-head. Nouns appearing before the noun-head may be said to be pre-posed or in pre-nominal position, and those appearing after the noun-head may be said to be post-posed or in post-nominal position.

The Pre-Nominal Position

The pre-nominal position is the position described by Fries as the characteristic position of his Class 3 words, in this study to be referred to as adjectives, which appear between the noun determiner the and the Form Class 1 word, a noun, indicated in the test frame below:¹

D	3	1	2	3
(The)	good	_____	is/was	good.

¹Fries, p. 82.

Nida says that attributives to the subject-head, that is, modifiers of the noun-head, precede the subject-head.² He presents examples like the following (modifiers underlined):

the good man

the poor woman

This is the position also identified by Francis as one of the characteristic adjective positions in his test frame.³ The pre-nominal modifier appears in the position occupied by the blank in the test frame between the determiner the and the noun, here the word man. The second blank represents another adjective position of no moment here.

the _____ man seems very _____

Francis and Fries both refer to this pre-nominal position as an adjective position and Nida refers to it as an attributive position. In this study this position, between the determiner and a noun, will be considered an unrestricted modifying position and it will be seen that in addition to adjectives various form class words and sequences can appear in this position. The test frame is:

²Nida, p. 58.

³Francis, p. 268.

D modifier head
(the) _____ + NOUN

This test frame represents a structure of modification whose constituents are a noun-head and a modifier or modifiers. The modifiers identified in this study as being usual modifiers of nouns include adjectives, nouns, verbs, adverbs, various determiners, and other structures including noun-headed structures of modification and structures of coordination.

No attempt will be made in this study to examine the meaning of the various modifiers or the manner in which they modify the meaning of their heads. The task here is only to identify the various modifiers and to note their distribution and frequency.

As a first step in this analysis, every noun in the corpus of 1,200 sentences was identified as a noun on the basis of one or more of the syntactic signals described previously. Noun-headed structures of modification were listed separately from nouns appearing with no modification other than the various noun markers. In the noun-headed structures of modification the noun-heads were identified on the basis of the substitution test.

Nouns fell into several distinct groups: (1) nouns unmodified except for the various noun markers; (2) nouns with a zero marker; (3) nouns with modifiers as heads of structures of modification; (4) nouns with post-nominal

modifiers; and (5) nouns with both pre-nominal and post-nominal modifiers.

The types of modifiers found in pre-nominal position with noun-headed structures of modification are shown in Table 1.

Adjectives as Modifiers

Adjectives represent from 35 to 40 per cent of the modifiers appearing in the pre-nominal modifying position in noun-headed structures of modification, as we can see from Table 1. Examples of adjective modifiers as given in Francis, Fries, and in Nida, include:⁴

Francis	strong
	interesting
	relaxed
Nida	good
	rich
	holy
Fries	empty
	large
	foreign

In the newspapers examined in this study, typical examples of adjectives as modifiers included:

⁴Francis, p. 268; Fries, p. 82; Nida, p. 60.

Table 1.--Distribution of modifiers in pre-nominal position in noun-headed structures of modification in lead sentences and representative sentences in all newspapers in 1894 and 1964.

Modifiers	Complete Stories				Leads Only			
	1894		1964		1894		1964	
	No.	%	No.	%	No.	%	No.	%
Nouns	520	54.8	715	56.0	738	52.3	888	54.9
Adjectives	383	40.4	439	34.4	557	39.5	573	35.4
Adverbs	2	.1	2	.1	2	.1	2	.1
Verbs	15	1.6	19	1.6	15	1.1	30	1.9
total	920	96.9	1175	92.1	1312	93.0	1493	92.3
Sequences	29	3.1	101	7.9	99	7.0	124	7.7
total	949	100.0	1276	100.0	1411	100.0	1617	100.0

Times	current
	new
	criminal
	broad
Herald-Tribune	sexual
	old
	explosive
	general
Tribune	main
	last
	substantial
	northern
Chronicle	initial
	usual
	own

These modifiers (underlined in the examples below) appeared in such noun-headed structures of modification as:

<u>criminal</u> charges	its <u>current</u> showing
<u>general</u> counsel	no <u>new</u> experience
<u>broad</u> fields	a <u>special</u> meeting
<u>last</u> year	

Nouns as Modifiers

As Table 1 shows, nouns make up somewhat more than 50 per cent of the modifiers appearing in pre-nominal position in noun-headed structures of modification. These nouns fall into three distinct groups: (1) noun adjuncts; (2) nouns with the possessive suffix 's; and (3) appositives.⁵

⁵Francis, p. 299.

Table 2 shows the distribution of these three types of modifiers in the materials examined in this study.

Noun Adjuncts

Noun adjuncts are base nouns and nouns with the plural suffix -s/es. They represent transforms of post-nominal structures of modification like the following:

a doctor <u>who is a woman</u>	a <u>woman</u> doctor
plans <u>for war</u>	<u>war</u> plans
laws <u>regulating elections</u>	<u>election</u> laws
a meeting <u>set for Tuesday</u>	a <u>Tuesday</u> meeting

As Table 2 shows, this is a common pattern in newspaper stories and in the newspapers examined in this study the use of noun adjuncts as modifiers of noun-heads increased substantially between 1894 and 1964. Examples of this type of modification from Francis, Nida, and Fries, include:⁶

Francis	a <u>father</u> image
	the <u>day</u> shift
	the <u>women</u> doctors
Nida	a <u>steel</u> weld
	the <u>silk</u> hat
	a <u>customs</u> official
Fries	a <u>paper</u> knife
	an <u>eye</u> shade
	a <u>student</u> advisor

⁶Nida, p. 62; Francis, p. 299; Fries, p. 210.

Table 2.--Various types of nouns appearing in pre-nominal modifying position in noun-headed structures of modification in all newspapers in 1894 and 1964.

Modifiers	Complete Stories				Leads Only			
	1894		1964		1894		1964	
	No.	%	No.	%	No.	%	No.	%
Noun Adjuncts	257	49.4	464	64.9	438	59.3	591	66.6
*Other Adjuncts	9	1.7	13	1.8	6	.9	14	1.5
total	266	51.1	477	66.7	444	60.2	605	68.1
Possessives	13	2.5	37	5.2	26	3.5	54	6.1
total	279	53.7	514	71.9	470	63.7	659	74.2
Appositives								
titles	120	23.1	77	10.8	101	13.7	58	6.5
names	118	22.7	120	16.8	155	21.0	169	19.0
other	3	.6	4	.5	12	1.6	2	.3
total	241	46.3	201	28.1	268	36.3	229	25.8
total	520	100.0	715	100.0	738	100.0	888	100.0

*Function nouns.

In the newspapers examined in this study the following examples are representative of noun adjuncts:

Tribune	<u>city</u> hall
	<u>bomb</u> threats
	<u>guest</u> speakers
Times	the <u>water</u> shortage
	<u>faculty</u> members
	the <u>election</u> trials
Herald-Tribune	<u>color</u> television
	two <u>grain</u> elevators
	the <u>city</u> banks
Chronicle	the <u>state</u> council
	the <u>insolvency</u> act

Nouns with Possessive Suffix -'s

Distinct from noun adjuncts are the nouns in pre-nominal position in structures of modification which have the possessive suffix -'s. These nouns represent transforms of post-nominal structures of modification. For example:

a doctor <u>who treats women</u>	a <u>women's</u> doctor
a candidate <u>of the people</u>	a <u>people's</u> candidate
a book <u>that belongs to John</u>	<u>John's</u> book

Hill cites structures of modification like John's book and the people's candidate as characteristic of the system of modification in English.⁷

⁷Hill, p. 142.

Examples of this type of pre-nominal modification taken from Francis, Nida and Fries, include:⁸

Francis	<u>child's</u> play
	a <u>dog's</u> life
	a <u>day's</u> work
Nida	a <u>man's</u> affair
	a <u>people's</u> man
	a <u>children's</u> language
Fries	a <u>lady's</u> handkerchief
	his <u>mother's</u> support
	my <u>father's</u> house

In the newspapers examined for this study, the following examples are representative of nouns with the possessive suffix -'s as modifiers:

Tribune	a <u>master's</u> degree
	the <u>doctor's</u> bookkeeper
	the <u>world's</u> production
Times	the <u>society's</u> rooms
	<u>today's</u> market
	the <u>earth's</u> atmosphere
	<u>men's</u> fertility
Herald Tribune	four <u>week's</u> illness
	the <u>Lord's</u> prayer
	the <u>city's</u> department
	the <u>Yankee's</u> loss

⁸Francis, p. 299; Fries, p. 210; Nida, p. 63.

Chronicle

Boy's Brigadethe Lord's taskGray's harbor

Names as Modifiers

Neither Francis nor Nida makes any special mention of names, geographical, personal, or names of things, although Nida lists several as examples of noun adjuncts:⁹

the Shaw playsthe Roosevelt backera Boston tea-party

In this study, names of persons, geographical names, names of animate and inanimate things traditionally considered proper nouns and usually capitalized will not be differentiated from other nouns. It should be noted that proper nouns make up a very large number of all nouns appearing as modifiers in pre-nominal position in noun-headed structures of modification. Some examples:

Tribune

Chicago stadiumMay streetRiverdale section

Time

Brooklyn projectSteinway hallWooster street

⁹Nida, p. 62.

Herald-Tribune	<u>Monmouth</u> Park
	<u>Syracuse</u> University
	<u>Chickering</u> Hall
Chronicle	<u>Market</u> Street
	<u>Missouri</u> River

Several examples of names as noun-modifiers are included in the list of possessive modifiers on pages 43 and 44.

Appositives

So far we have identified two noun-headed structures of modification: one in which the modifier is an adjective, and one in which the modifier is a noun. Where the modifier is a noun, the noun may be either a noun adjunct or a noun with the possessive suffix -'s.

With either adjective modifiers or noun modifiers, the modifier is readily distinguished from its noun head on the basis of substitution. The noun-head can, in a test sentence, be substituted for the entire structure of modification which it heads. The modifier cannot substitute for the entire structure of which it is a part.

For example, in the following noun-headed structure of modification, the war party, the noun-modifier and the noun-head are readily distinguished by substitution:

The war party elected all its candidates.
The party elected all its candidates.

The modifier war is not an acceptable substitute for the noun-headed structure of modification the war party. A sentence, the war elected the candidates, would not be readily accepted as meaningful.

A somewhat different situation presents itself, however, when one of the nouns is head and the other is an appositive, for in this type of structure of modification both the noun-head and the other noun, the appositive, may freely substitute for the entire structure of modification.

Francis and Nida cite the following examples of this type of structure:¹⁰

Francis	the poet Chaucer
	the disease poliomyelitis
	the product cellophane
Nida	the steamer America
	the word aesthetic

In this type of structure either noun may substitute for the entire structure because, as Fries points out, they have the same referent.¹¹ In the first example, the poet Chaucer, both the poet and Chaucer are the same person. Either the poet or Chaucer may be substituted for the entire structure of modification:

¹⁰ Francis, p. 301; Nida, p. 101.

¹¹ Fries, p. 195.

The poet Chaucer wrote "The Canterbury Tales."

The poet wrote "The Canterbury Tales."

Chaucer wrote "The Canterbury Tales."

Another way of showing that the appositive and the noun-head have the same referent is to show that the same pronoun may be used as a substitute for both nouns:

the poet/he

Chaucer/he

The two pronouns fall together when we substitute the pronouns for the appositive and its noun-head. There is no loss of meaning and no necessity for making any other changes in the test sentence:

He wrote "The Canterbury Tales."

There is a clear difference between the relationship of noun-appositive and its head and noun-adjunct and its head. For example, in the noun-headed structure of modification the aircraft carrier, the noun aircraft is an adjunct, not an appositive. The adjunct aircraft and the noun-head carrier are obviously not the same thing. An aircraft is a plane and a carrier is a ship. This structure, an aircraft carrier, fails the substitution test, too, for only carrier, the noun-head, will fit the blank in the test frame:

(the) _____ is a big ship
 carrier

Aircraft, a noun-adjunct and modifier, fails to make sense in the test frame. Another appositive, the steamer America, however demonstrates the equality of appositive and head. Either steamer or America will fit a test frame:

(the) _____ is a ship
 steamer
 America

The appositive thus provides us with a third type of noun to fill the pre-nominal modifying position between determiner and noun-head in a structure of modification:

(the) _____ + NOUN

adjunct	the <u>election</u> fraud
	our <u>war</u> plans
	<u>color</u> television
possessive	my <u>father's</u> house
	a <u>day's</u> journal
	<u>week's</u> end
appositive	the <u>steamer</u> America
	the <u>word</u> ism
	my <u>sister</u> Eileen

Table 2 shows the breakdown of these three types of noun-modifiers of noun-headwords. In 1964 in both representative sentences and lead sentences adjuncts made up more than 70 per cent of the noun-modifiers. Possessive nouns account for some 5 to 6 per cent, and appositives of

various types somewhere between 25 and 30 per cent.

Examples of appositives from the newspaper materials examined for this study include:

Tribune	the <u>Battleship</u> Illinois
	the <u>planets</u> Venus and Jupiter
Times	the <u>Prince</u> Stigliani
	the <u>Hotel</u> deLagerot
Herald-Tribune	the <u>Hotel</u> Savoy
	a <u>hero</u> policeman
Chronicle	the <u>tug</u> Relief
	the <u>steamer</u> Panama
	the <u>tug</u> Fearless

This is not a common pattern in newspaper stories, as Table 2 indicates. More common are the structures in which the appositive is a name or a title:¹²

Henry Smith
 Walter Main

 Governor Rockefeller
 Mayor Wagner

These structures meet our test for the appositive. The first noun, the appositive, and the second, the noun-head, have the same referent and either appositive or noun-head

¹²Nida, p. 100.

may replace the entire structure of modification in a test sentence:

Mayor Wagner is a public official.

Wagner is a public official.

The mayor is a public official.

Nida and Francis cite these examples of title + name appositives:¹³

Nida	Professor Johnson
	Saints Peter and Paul

Francis	Professor Jones
	Vice-President Johnson

Neither Nida nor Francis mentions name + name structures in their discussion of appositives, but Miss Strang and Curme each cite one example:¹⁴

Strang	Jane King
Curme	John Smith

Names make up a class of nouns which does not have pre-posed markers except in such sentences as He is the Professor Jones where particular stress is laid on specificity of the marker. This incompatibility of names and markers

¹³Francis, p. 302; Nida, p. 101.

¹⁴See Strang, p. 82, and George O. Curme, A Grammar of the English Language: Vol. III Syntax (New York: D. C. Heath, 1931), pp. 91-92.

extends to sequences consisting of a title + name. However, when the title--an appositive--replaces the name--the head--it requires a marker in most instances:

Governor Rockefeller	the Governor
Mayor Wagner	the Mayor
Judge Smith	the Judge

In direct address, of course, the title does not require a marker:

Doctor, may I ask a question?

Names in appositive structures are probably more common in newspaper stories than in any other type of written English, although as far as the writer knows there are no figures available to confirm this. Table 2 shows that names and their appositives make up somewhere around 40 per cent of all noun + noun structures of modification. Examples of titles as appositive-modifiers in the materials examined in this study:

Tribune	Alderman Noble
	Lieut. Commander Schaffner
	President Wilson
Times	Governor Rockefeller
	Mayor Wagner
	Saint Paul

Herald-Tribune	Judge Burnett
	Princess Ann-Marie
	Captain Sinclair
Chronicle	Saint David
	President Kennedy
	Dr. Long
	Judge Henshaw

Examples of names as appositive-modifiers in the materials examined in this study:

Tribune	William Rummel
	D. F. Garrett
	Charles H. Percy
Times	Keith Waterhouse
	Saul Levy
	Emil Clemens
Herald-Tribune	Meade Johnson
	George W. Carr
	John Reisenweber
Chronicle	Edward Mulvey
	C. C. Morris

Newspapers insist on complete identification and prefer that wherever possible first name and middle initial be used. However, there are a number of instances of different usage:¹⁵

¹⁵For an authoritative statement on this journalistic usage, see Robert E. Garst, ed., Style Book of the New York Times (New York: The New York Times Company, 1956), pp. 2-3.

first name and middle initial (standard)

George W. Carr

John F. Kennedy

first initial and middle name

T. John Lesinski

two initials

C. C. Morris

D. F. Garrett

For the sake of simplicity, all these forms consisting of first names and initials will be considered as belonging to a single class: first names.

One difficulty arises, however, in assigning appositives as we have defined them, to a class of structures whose other members consist of a modifier + head. Although we have carefully avoided any discussion of the meaning of the relationship between head-word and modifier, it is perfectly clear that by the very nature of the structure of modification the modifier plays a secondary role. In appositives this is not so, for in appositives both nouns are equal. Both have the same referent, both can replace the entire structure of which they are a part. If the two nouns are equal which is head (superior) and which modifier (subordinate)?

Decision to refer to the second noun as head and the first as the appositive-modifier may seem somewhat arbitrary, but actually it is not. First of all, in newspaper

W

T

S

L

A

V

M

C

P

usage, the second noun is more likely to be used as a replacement for the entire structure, a fact which gives it some color of superiority, and, in the second place, there is a contrast between the appositives we have already examined and another type of appositive which will be examined when we take up post-nominal modifiers.

First reference in newspaper stories requires complete identification, structures of modification consisting of appositive + noun: name + name, title + name, title + name + name:

John C. Smith
 President Johnson
 Governor George Romney

In second and later references, the second noun is more likely to be employed as a replacement for the structure of modification than is the first:

John C. Smith	Smith
President Johnson	Johnson
Governor George Romney	Romney

Even where the second reference is itself a structure of modification, the head is most likely to be the head of the first structure:

President Johnson	Mr. Johnson
-------------------	-------------

In a typical newspaper story of approximately 800 words, for example, first references included:¹⁶

Eugene F. (Stormy) McDonald III

Miss Joyce E. Shank

Dr. Joseph Beeman

Mrs. Susan Tanner

John B. Haeberline

Subsequent references were McDonald, 17; Miss Shank, 4; Mrs. Tanner 2; Dr. Beeman, 1; and Haeberline, 1. Appositives which are first names are never used as replacements for the noun-head in structures of modification consisting of a first name + last name except in references to young children or to persons well-known and popular where familiarity is desired:

Christopher Robin	Christopher
-------------------	-------------

Soapy Williams	Soapy
----------------	-------

Where the appositive is a title, it is frequently used in a second and later references to replace the noun-head:

President Johnson	the President
-------------------	---------------

Governor Romeny	the Governor
-----------------	--------------

Mayor Wayner	the Mayor
--------------	-----------

5. ¹⁶Chicago Tribune, Friday, Feb. 12, 1965, p. 1, col.

Another reason for considering the second noun in these appositive structures to be the head is the contrast between structures like these:

- (a) Mayor Wagner
Judge Thompson
Senator McNamara
- (b) Wagner, the mayor, who said . . .
Thompson, the judge, said he would . . .
McNamara, a senator, was arrested . . .

There is contrast, too, between appositives like the poet Chaucer and Chaucer the poet:

- (a) the writer Conrad
the boy Lincoln
the rat Grip
- (b) Conrad the writer
Lincoln the boy
Grip the Rat

There is also contrast between the following structures in which the first set consists of adjective-modifier + noun-head and the second of noun-head + noun-appositive modifier:

- (a) the eighth Henry
the great Alfred
the younger Dumas

- (b) Henry the Eighth
 Alfred the Great
 Dumas the younger

A number of linguists consider that stress in structures like election fraud, an adjunct + head-noun, and the steamer America, an appositive + head-noun, is the same, and that both show secondary + primary stress:¹⁷

ele`ction fráud
 the steàmer Améri`ca

We have, then, two types of appositives: pre-posed to the noun-head and post-posed to the noun-head:

Group 1 (pre-nominal) (appositive + head)

(the) NOUN + NOUN

the steamer America
 President Johnson
 Mr. Smith
 the writer Conrad

Group 2 (post-nominal) (head + appositive)

(the) NOUN + (the) NOUN

the attorney, Smith,
 the baker, Johnson,

¹⁷See Einar Haugen, "On Reading the Close Appositive," American Speech, XXVIII (1953), pp. 165-170; Hill, p. 179; and Curme, pp. 91-92.

Smith, the Democratic candidate,
 Conrad the writer
 Grip the Rat

Verbs as Modifiers

Verbs are relatively infrequent as pre-nominal modifiers, and since the verbs employed as modifiers are indistinguishable from adjectives on the basis of derivational suffixes, they are frequently mistaken for adjectives. However, on the basis of the test frame suggested by Francis, we can readily differentiate adjectives and verbs with the suffixes -ing and -ed:¹⁸

(the) _____ NOUN is very _____

Adjectives like interesting, convincing, loving, or worried, determined, confused fit both blanks in the test frame. Verbs like pursuing, visiting, closing and written, alleged, and strayed will fit only the first blank in the test frame. Francis and Nida cite the following examples of verbs as pre-nominal modifiers in noun-headed structures of modification:¹⁹

Francis	<u>racing</u> yacht
	<u>trotting</u> horse
	<u>rotting</u> table

¹⁸Francis, pp. 303-304.

¹⁹Francis, pp. 303-304; Nida, pp. 65-68.

Nida	<u>floating</u> stick
	<u>following</u> example
	<u>investigating</u> committee
	<u>paid</u> bill
	<u>written</u> apology
	<u>reserved</u> section

Examples of verbs as pre-nominal modifiers in the materials examined for this study include:

Tribune	<u>assessed</u> valuation
	<u>pursuing</u> detectives
Times	<u>alleged</u> members
	<u>preceding</u> week
	<u>consulting</u> pediatrician
	<u>corresponding</u> week
Herald-Tribune	<u>written</u> instrument
	<u>marked</u> men
	<u>strayed</u> sheep
	<u>alleged</u> hit and run
Chronicle	<u>Harmonized</u> Melodies
	<u>Receiving</u> Hospital

As Table 1 shows, verbs form less than 2 per cent of the modifiers of noun-heads in noun-headed structures of modification. This is a somewhat lower figure than Francis found in a count of noun-modifiers in two magazine pieces.²⁰

²⁰Francis was apparently counting both pre-nominal and post-nominal modifiers. He says, "In a count of 816

1.

2.

3.

4.

5.

Adverbs as Modifiers

There is some disagreement as to whether adverbs do appear in the pre-nominal modifying position. Nida cites examples, Fries does not mention such a possibility, and Francis states flatly that adverbs always come immediately after the noun-head.²¹

Nida cites as examples:

the above statement

the outside job

the down stroke

The present study indicates that while adverbs are relatively rare as pre-nominal modifiers, they do appear occasionally. For example:

an upstairs hideaway

More common than this kind of modification, however, is the obligatory use of an adverb as modifier of a function noun:

noun-modifiers in two pieces in the February, 1955, issue of Harper's Magazine, one an article and the other a short story involving considerable dialogue, adjectives made up about 71 per cent of the total. The other figures were: Nouns, 20 per cent; Verbs 7½ per cent; Adverbs, 1½ per cent. There were about twice as many noun-determiners (1551) as there were noun modifiers." Francis, p. 298.

²¹Nida, pp. 64-65; Francis, pp. 304-5.

absolutely nothing

nearly 90

Function nouns are a special and limited list of words which frequently take characteristic noun positions in sequences or sentences, but which have other functions, and in many cases lack some or all of the morphological characteristics of nouns. Many are also noun markers: all, any, both, his, my, this/these, that/those, few, either, each, another, the cardinal numbers, and a few others.²²

Numbers as Modifiers

Numbers seldom get extensive treatment in studies of syntax, usually being listed as noun markers and then abandoned. However, in a discussion of the syntax of written English as it is used in newspaper stories, numbers are of some importance. They have several functions and while not as numerous as, say, adjectives, they are interesting because of their flexibility.

Numbers appear, first of all, as noun markers in sentences like:

One day is all he asked for.

His report listed 10 discrepancies.

²²Francis, pp. 246-249.

Numbers also appear as modifiers in pre-nominal modifying position in noun-headed structures of modification where they appear between a determiner and the noun-head:

That's the one thing I wanted for Christmas.

The 11 days preceding the election were busy.

Nida cites examples of numbers in this modifying position, but he lumps them with what he calls limitation adjectives: many, most, such, last, former.²³ He includes in this category both cardinal numbers like one, two, three, four, and the ordinal numbers, first, second, third, fourth, and so on. This classification ignores some of the functions of numbers and the different distribution of cardinal and ordinal numbers. In the present study cardinal numbers will be treated separately from the ordinal numbers on the basis of distribution and the derivational contrast between the suffixes -th, -rd, -nd, and -st of the ordinal numbers which contrast with the un-suffixed cardinal numbers.

Ordinal numbers appear much less frequently than the cardinal numbers, and since their distribution is that of adjectives they will be regarded as adjectives in this study. Examples of ordinal numbers as noun-modifiers:

on third base

the tenth month

²³Nida, p. 61-62.

Ordinal numbers, of course, may appear in noun positions as nouns, but they do so on the same basis as other adjectives:

He is the best.

He is the third.

Ordinal numbers regularly appear in three positions: in noun marker position ahead of all other modifiers of the noun-head, in modifier position between a noun marker and the noun-head, and in noun positions with or without markers and other modifiers.

As a noun marker:

10 days

10,000 dollars (written, however, as \$10,000)

1125 Grand River

As noun-modifier:

the six presidents

his five indictments

As a function noun in characteristic noun positions:

They came here in 1964. (in prepositional sequence)

He asked for one. (in prepositional sequence)

Two will be enough. (in subject position)

He gave me two. (in object position)

Examples of the use of numbers in the materials examined in this study include:

Tribune	the <u>1964-65</u> agenda any <u>one</u> country
Times	the <u>1948-49</u> season the <u>five</u> contenders the <u>ten</u> employes
Tribune	over <u>200</u> tons the <u>two</u> men

Numbers are counted as noun markers and their frequency and distribution is shown in Tables 4 and 5. When numbers appear in noun position or in modifying position between a noun marker and noun-head they are considered function nouns and included in totals of function nouns in the various tables where function nouns are shown separately.

Sequences as Modifiers

Noun-headed structures of modification may also consist of a noun-head and a modifier which is itself a noun-headed structure of modification.²⁴ For example:

²⁴Francis treats only simpler structures of modification, but says, p. 297, that "Both the head and the modifier which are the immediate constituents of a structure of modification may themselves be structures of more or less complexity." Nida gives various examples of more complex modifiers, pp. 69-88, but his examples are mostly of modifiers with their own modifiers. He cites only one example of a complex head, structures of coordination like the man and his wife, p. 42.

(the) _____ + NOUN

machine shop

army engineers

school board

election laws

guided missile

These noun-headed structures of modification which function as modifiers differ in no way from the noun-headed structures of modification already described. They consist of the same types of modifiers already described and of a noun-head. In the position shown in the test frame above, these structures are merely replacements or substitutes for single word modifiers.

These larger structures are, like the two-word noun-headed structures of modification, transforms of a structure consisting of a noun-head followed by a prepositional phrase:

camp for army engineers

army engineers camp

election for the school board

school board election

silo for a guided missile

guided missile silo

site for a machine shop

machine shop site

Examples of this type of noun-headed structure of modification taken from the materials under examination include:

Tribune

(collective bargaining) memorandum

(political science) department

(school board) nominations

	(welfare <u>department</u>) <u>trainee</u>
	(Dr. <u>Clark</u>)'s <u>music</u>
	(George <u>Williams</u>) <u>College</u>
Times	(manual <u>training</u>) <u>school</u>
	(last <u>week</u>)'s <u>market</u>
	(machine <u>shop</u>) <u>skills</u>
	(woman <u>suffrage</u>) <u>convention</u>
	(Brooks <u>Atkinson</u>) <u>theater</u>
Herald-Tribune	(thirty-first <u>floor</u>) <u>suite</u>
	(supreme <u>court</u>) <u>decision</u>
	(Justice <u>Culler</u>)'s <u>opinion</u>
	(Sheriff <u>Clancy</u>)'s <u>death</u>
Chronicle	(electric <u>fountain</u>) <u>display</u>
	(Main <u>Street</u>) <u>wharf</u>
	(several hundred <u>dollars</u>) <u>worth</u>
	(Beale <u>Street</u>) <u>bunkers</u>
	(H. K. <u>Byer</u>)'s <u>death</u>

In the structures above, the noun-heads are underlined and the modifying noun-headed structure of modification is enclosed in parentheses. Table 3 shows the distribution of this type of modifier.

Miscellaneous Modifiers

Noun-headed structures of modification may also consist of a noun-head with more than one modifier in the prenominal position between the determiner and the head. The modifier may be more than one single word, more than one

sequence, or a combination of single words and sequences. This is a relatively small class, but nevertheless an interesting one. In it we find such mixed and miscellaneous modification as:

More than one single-word modifier

4-story, high stoop, brown-stone dwelling
 great, big fat blank
 second annual, 25-mile handicap
 the city's 5,000 owner-driver cabbies

Structures of coordination

May and December wheat
 gay and social element
 TV and radio stations
 news and book dealers
 active and specific interest
 New York Geneological and Biographical Society
 Community and Social Agency employees

Modifiers which are themselves modified

April (14) balloting
 attorney (general)'s office
 last night's Friends (of Live Music) program
 less (than happy) outcome

Single word modifiers and sequences as modifiers

Long Island university students
 acting Queen's County judge
 emergency stomach ulcer operation
 railroad work rules controversy

American Newspaper Publishers Association
 estimated 1,000 Southwestern Cook County
Republicans
 Illinois Fair Employment Practices Commission
 Chicago blood donor service

Table 3 shows that most modifiers of single-word noun-heads are single words, sequences make up a small percentage of modifiers, and that all other variations or combinations represent only a fraction of modifiers of noun-heads. While extreme variation is possible, actual usage is quite conservative.

Sequences as Head

Noun-headed structures of modification consisting of a modifier and a noun-head may themselves be modified. In such cases the head is a noun-headed structure of modification and the modifiers include the same modifiers that appear in noun-headed structures of modification. Modifiers fill the position between the determiner and the head in the following test frame:

head
 (the) _____ NOUN + NOUN

In the following examples, taken from the materials under examination, the head is underlined:

Tribune	oldest <u>past potentate</u>
	rare <u>public appearance</u>

Table 3.--Distribution of modifiers of noun-heads and sequence-heads by type in all newspapers in 1894 and 1964.

	Complete Stories				Leads Only			
	1894		1964		1894		1964	
	No.	%	No.	%	No.	%	No.	%
Noun Head								
Single word	575	75.6	589	66.2	761	70.5	708	63.4
Sequence	30	4.0	42	4.7	89	8.2	63	5.6
Miscellaneous	29	3.6	59	6.6	59	5.5	93	8.3
total	635	83.2	690	77.6	909	84.2	864	77.4
Sequence Head								
Single word	106	13.9	147	16.5	137	12.7	171	15.3
Sequence	10	1.4	24	2.7	19	1.8	31	2.7
Miscellaneous	12	1.9	28	3.1	15	1.4	50	4.5
total	128	16.8	199	22.3	171	15.8	252	22.6
total	763	100.0	889	99.9	1080	100.0	1116	100.0

	city <u>election board</u>
	West <u>59th Street</u>
	Miss <u>Eva Clark</u>
	Dr. <u>Aver Friedman</u>
	the three <u>area leaders</u>
Times	municipal <u>nursing school</u>
	different <u>political faith</u>
	nationally-known <u>classics scholar</u>
	Chinatown <u>apartment house</u>
	Philadelphia <u>luggage salesman</u>
	Gov. <u>John B. Connally</u>
	Judge <u>J. Wolfe Chasson</u>
Herald-Tribune	first <u>half century</u>
	various <u>election districts</u>
	automotive <u>production facilities</u>
	East <u>79th Street</u>
	Col. <u>Edmund Glenn</u>
	Undersheriff <u>John B. Sexton</u>
Chronicle	official <u>opening days</u>
	old <u>Pythian Hall</u>
	state <u>Horticultural Society</u>

Modifiers of noun-headed structures of modification
may also consist of noun-headed structures of modification.
For example:

Tribune	citizen band <u>radio operation</u>
	north side <u>burglary detail</u>
	police superintendent <u>O. W. Wilson</u>

Times	North Avenue <u>elevated train</u> district attorney Frank D. O'Connor Young Men's <u>Christian Association</u>
Herald-Tribune	Grace Metallious' <u>last piece</u> former President <u>Herbert Hoover</u> Number 264 <u>Columbus Avenue</u>

Modifiers of noun-headed structures of modification may consist of any of the modifiers that we have already found as modifiers of single word heads in noun-headed structures of modification. And, like the single-word heads, the noun-headed structure of modification may be head of a number of modifiers.

For example, more than one single word modifier:

Tribune	a syndicate bookie <u>counting house</u> Chicago's second <u>school budget</u>
Times	a short, silver-haired <u>Pentagon</u> <u>Admiral</u> the Bayaniban Philippine <u>dance</u> <u>company</u> the second annual <u>gymnastic</u> <u>entertainment</u>
Herald-Tribune	rococco old <u>Brooklyn Paramount</u>
Chronicle	gay, gaudy and glittering <u>international pageant</u>

Structures of coordination as modifiers of noun-headed structures of modification:

Times sordid and dismembered open space

Modifiers may also consist of modifiers which are themselves modified:

Times Attorney (General) Louis J. Lefkowitz
 an average (of two) bomb threats
 assistant chief (of police)
 John S. King

Various combinations of single word modifiers and structures of modification and coordination may also modify noun-headed structures of modification:

Times Bing Crosby-Bob Hope "Road" movies
 Central Young Men's Christian Assn.

Table 3 shows the distribution of the two types of heads: single word noun-heads and noun-headed structures of modification as heads. In 1894 single-word heads represented about 83 to 84 per cent of the total and the noun-headed structure of modification as head represented about 16 per cent of the total. In 1964, however, there is an increase in the more complex structure in which the head is itself a noun-headed structure of modification from about 16 per cent of the total to about 22 per cent. Single-word modification of single-word noun-heads, while somewhat lower than the 70 to 75 per cent in 1894 is still roughly two-thirds

of all modification where the head is a noun or a noun sequence.

It is interesting to note also that while in representative sentences there was a slight increase in the amount of modification of both types of heads, that in lead sentences there has been a slight drop in the amount of modification of single-word heads and of the total number of single word heads from 1894 to 1964.

Conclusions

Analysis of Tables 1, 2, and 3 will show some interesting things about noun-headed structures of modification.

First of all, the distribution of the various modifiers as shown in Table 1 shows that nouns make up more than 50 per cent of all modifiers of noun-heads, adjectives make up about 40 per cent, and adverbs and verbs together represent only a little more than 2 per cent of all modifiers. Noun sequences, that is noun-headed structures of modification, make up about 7 per cent of the total of all modifiers of single-word noun-heads in 1964 in both representative sentences and lead sentences. In 1894 there were more than twice as many sequences as modifiers in lead sentences as there were in representative sentences, but in 1964 there was practically no difference between representative sentences and lead sentences.

Table 2 gives a breakdown of the various types of nouns that make up the 50 per cent of all modifiers of

noun-heads in noun-headed structures of modification. In 1964 noun adjuncts accounted for about two-thirds of the noun modifiers, and function nouns as adjuncts accounted for roughly another 1 per cent. Possessives represent only 5 to 6 per cent of the total in 1964, a fact which suggests that the possessive suffix -'s is not a very useful means of identifying nouns.

Appositives represent about one-quarter of all noun-modifiers in lead sentences and about one-third of all noun-modifiers in representative sentences in 1964, totals which are slightly lower than those of 1894.

If we look at the breakdown of appositives by type, Table 2, we see an across-the-board drop in the use of titles from 1894 to 1964. This is probably at least in part accounted for by a less frequent use of Mr. with names today. Use of first names in both categories and in both years is fairly consistent, although there is something of a drop in representative sentences in 1964.

What is most interesting is the increase in the total number of noun-headed structures of modification from 1894 to 1964, shown in the totals in Table 1, and the increase in the total number of noun-adjuncts from 1894 to 1964, reflected in Table 2. The increase is seen, too, in both representative sentences and lead sentences. In representative sentences the increase in use of adjuncts was about 15 per cent and in lead sentences it is about 8 per cent.

In number, however, adjuncts in representative sentences increased by 211, and in lead sentences adjuncts increased by 161. Total increase in all nouns in modifying position in noun-headed structures of modification was 195 in representative sentences and 150 in lead sentences. Since the number of sentences in each category of the sample was the same in 1894 and in 1964, and the total number of words in each year was very much the same, the increase in noun-adjuncts from 1894 to 1964 seems significant.²⁵

As Table 1 shows, other modifiers did not increase significantly, although there was a slight increase in adjective modifiers in representative sentences in 1964, and although in percentages adjective modifiers decreased slightly.

Table 3 shows the simplicity of the noun-headed structure of modification. The greatest number of modifiers of both single-word noun-heads and noun-headed structures of modification are single words. Sequences of two words are the next largest group and make up a very small part of the total number of modifiers. More involved modification represents a very small part of all modification.

²⁵ Totals for the two years were:

	<u>Representative</u>	<u>Leads</u>
1894	8563	7593
1964	<u>8485</u>	<u>7021</u>
	- 83	-572

Noun Markers

While noun markers, or determiners, are associated with nouns, Fries' Form Class 1 words, and with sequences and other words which replace nouns in characteristic noun positions, they are an optional feature, not an obligatory one. Their distribution is determined by lexical meaning, not by structure.

Table 4 shows the distribution of the various markers with noun-headed structures of modification, and Table 5 shows the distribution of noun markers with all other nouns, that is, with nouns not otherwise modified.

Noun markers fall into eight main groups: the; a/an, the various personal pronouns; the specifiers this/that and their plural forms these/those; cardinal numbers; the negative no; a fairly extensive list of what Francis terms function nouns; and the zero marker.

Francis divides the noun markers into only two groups, six words that serve only as noun markers and nineteen that have other functions.²⁶ A more exhaustive examination is possible, however, if the markers are divided into the eight groups suggested here. All the noun markers except the articles the and a/an and the pronouns my, your, our,

²⁶Francis, p. 237.

27

38

3

0

2

and their have other functions as well.²⁷ A more detailed description of the noun markers follows.

Group 1 consists of the definite article the:

the road
the depression

Group 2 consists of the indefinite article a and its sandhi form an:

a depot
an office

Group 3 consists of pronouns. Four of these appear only as noun markers: my, your, our, their. Three others, his, her, its, appear also as function nouns:

his work
its solution
her lecture
their honeymoon
our guests

Group 4 consists of the specifiers, this and that, and their plural forms, these and those:

this meeting
that day
these securities

²⁷Francis, pp. 243-252; Nida, pp. 49-54.

Table 4.--Distribution of noun markers with noun-headed structures of modification in all newspapers in 1894 and 1964.

Markers	Complete Stories				Leads Only			
	1894		1964		1894		1964	
	No.	%	No.	%	No.	%	No.	%
the	267	35.0	243	27.3	418	38.7	280	25.1
a/an	74	9.7	125	14.1	88	8.1	195	17.5
pronoun	24	3.1	32	3.6	22	2.0	36	3.2
specifier	3	.4	2	.2	4	.4	4	.4
numbers	11	1.4	46	5.2	23	2.1	66	5.9
negative	7	1.0	7	.7	3	.4	1	.1
other	10	1.3	4	.5	11	1.0	9	.8
total	396	51.9	459	51.6	569	52.7	591	53.0
zero	367	48.1	430	48.4	511	47.3	525	47.0
total	763	100.0	889	100.0	1080	100.0	1116	100.0

Group 5 consists of all cardinal numbers. These may be expressed as Arabic figures or as words, depending upon the arbitrary rules of usage, but any number from one up into the millions or billions is a marker. Fractions are also considered markers:

50 dollars (usually writtern \$50)

one item

60,000 dollars

10,000,000 dollars

nine schools

1/8 cent

Group 6 consists of the negative particle no:

no basis

no way

Group 7 consists of a number of function nouns. Francis, Nida, Strang, and Fries all list a number of these, and there are some differences in their lists.²⁸ For purposes of the present study, a check list was compiled of all the marker-function nouns listed by Francis, Nida, Strang, and Fries. Not all, of course, showed up in the materials under examination. Typical function nouns appearing as markers include:

²⁸Francis, pp. 237-238 and 246-249; Nida, pp. 49-54; Strang, pp. 109-115; Fries, pp. 88-89.

many bosses
several conferences
each day
any proposal
much discussion
all nations
few people

Group 8 consists of only one marker, zero. Zero, of course, is not a marker, but the absence of a marker. To say that a noun has a zero marker is merely a handy way of stating the structural fact that certain nouns never have a marker and other nouns, depending on lexical and structural circumstances, may not have a marker:²⁹ Names of people and certain geographical names do not have markers, for example, nor do some function nouns like each or any or all. In the materials examined in this study the following nouns of various types appeared without markers, that is, with a zero marker:

proper nouns

Illinois
 Henry
 April
 Faust

Pennsylvania
 Henneberry's

²⁹ Leonard Bloomfield gives a brief and clear picture of English noun classes based on whether they appear with markers or without. Language (New York: Holt, Rinehart and Winston, 1933, reprinted April 1962), p. 205.

common nouns

steps	police
pupils	labor
steamers	capital
strikes	wheat
saloons	death
thought	property
society	nature

function nouns

these	few
that	some
one	each
other	

noun substitutes (pronouns)

we	he
it	themselves
us	

Table 5, which shows the distribution of markers with otherwise unmodified nouns, reveals that in 1964 in both representative and lead sentences more than 50 per cent of the unmodified nouns had a zero marker. These nouns, then, must be identified by some other signal than markers: position, possessive or plural inflection, derivational suffixes, or prosodic contrast. Table 6 presents a breakdown of these unmarked nouns and shows the number that are full nouns, function nouns, and noun substitutes, that is pronouns.

Table 4 shows the same general distribution of markers with noun-headed structures of modification. Here slightly less than 50 per cent of the structures have a zero marker.

Tables 4 and 5 also show the relative frequency of

Table 5.---Distribution of noun markers with otherwise unmodified nouns in all newspapers in 1894 and 1964.

Markers	Complete Stories				Leads Only			
	1894		1964		1894		1964	
	No.	%	No.	%	No.	%	No.	%
the	421	33.7	257	22.5	419	34.3	211	22.1
a/an	77	6.2	107	9.3	110	9.1	95	9.9
pronoun	64	5.1	48	4.2	55	4.5	43	4.4
specifier	40	3.2	19	1.7	20	1.6	10	1.0
numbers	62	4.9	77	6.7	57	4.7	69	7.2
negative	12	.9	6	.5	3	.2	1	.1
other	34	2.7	21	1.8	36	2.9	17	1.7
total	710	56.7	535	46.9	700	57.3	446	46.7
zero	541	43.3	605	53.1	521	42.7	510	53.1
total	1251	100.0	1140	100.0	1221	100.0	956	100.0

Table 6.--Distribution of nouns, pronouns, and function nouns appearing without noun markers in all newspapers in 1894 and 1964.

	Complete Stories				Leads Only			
	1894		1964		1894		1964	
	No.	%	No.	%	No.	%	No.	%
Nouns	358	66.2	449	74.2	428	82.1	416	81.5
Pronouns	129	23.8	106	17.5	56	10.7	60	11.8
Function Nouns	54	9.9	50	8.3	37	7.1	34	6.7
total	541	99.9	605	100.0	521	99.9	510	100.0

12

13

14

15

16

17

18

19

20

the various markers. Zero outnumbers all other markers, the definite article the marks about one-quarter of all noun-headed structures of modification and unmodified nouns. All other markers appear relatively infrequently.

Table 7 shows the distribution of form class words other than nouns which appear in noun positions and are marked by nouns with markers other than zero. These are words like best and latest which are members of another form class, but substitute for a noun in certain circumstances. This is a relatively rare occurrence.

Post-Nominal Modifiers

Noun-headed structures of modification frequently consist of a noun-head, with or without pre-nominal modifiers, and with one or more modifiers appearing in a position after the noun-head. In the examples below, typical post-nominal modifiers, underlined, are shown with single-word noun-heads. The whole is a structure of modification.

man of the hour
 a boy who likes candy
 a book the same color
 the attorney general

In the post-nominal modifying position we find some of the modifiers already identified as pre-nominal modifiers: nouns, verbs, adjectives and adverbs. We also find some

Table 7.--Nouns not otherwise modified (including function nouns) and other form class words marked by noun markers in all newspapers in 1894 and 1964.

	Complete Stories				Leads Only			
	1894		1964		1894		1964	
	No.	%	No.	%	No.	%	No.	%
Nouns	701	98.7	532	99.4	696	99.4	440	98.7
Other								
Adjectives	3	.4	2	.4	2	.3	6	1.3
Adverbs	2	.3	1	.2	-	-	-	-
Verbs	4	.6	-	-	2	.3	-	-
total	9	1.3	3	.6	4	.6	6	1.3
total	710	100.0	535	100.0	700	100.0	446	100.0

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

26

27

28

29

30

31

32

33

34

new structures and single words: prepositional sequences, noun sequences, verb + complement and object sequences, adjective + post-adjectival modifiers, and reflexive pronouns.

Table 8 shows the relative frequency and distribution of the various post-nominal modifiers in noun-headed structures of modification. Table 9 gives details as to the patterns of modification of noun-headed structures of modification with post-posed modifiers.

Adjectives as Post-Nominal Modifiers

Adjectives appear as post-nominal modifiers in structures like the following:³⁰

Nida	money <u>due</u>
	God <u>Almighty</u>
	time <u>immemorial</u>
Francis	court- <u>martial</u>
	grace <u>abounding</u>
	fee <u>simple</u>
	darkness <u>visible</u>

Sometimes the modifying adjective has its own modifiers as in these examples where the modifiers are post-adjectival:³¹

³⁰Nida, p. 88; Francis, p. 298.

³¹Nida, p. 89.

Table 8.--Distribution of post-nominal modifiers in noun-headed structures of modification in all newspapers in 1894 and 1964.

Modifiers	Complete Stories				Leads Only			
	1894		1964		1894		1964	
	No.	%	No.	%	No.	%	No.	%
Nouns								
appositives	38	5.4	78	10.3	56	5.7	94	10.4
numbers	16	2.3	25	3.3	16	1.6	32	3.5
other	21	3.0	45	6.0	40	4.1	51	5.6
total	75	10.7	148	19.6	112	11.4	177	19.5
Adjectives	18	2.6	8	1.1	12	1.2	19	2.9
Adverbs	7	1.0	5	.7	7	.7	10	1.1
Verbs								
present part	10	1.4	18	2.4	8	.8	14	1.5
past part	30	4.3	28	3.7	46	4.7	26	2.9
infinitive	12	1.7	19	2.5	12	1.2	19	2.1
total	52	7.4	65	8.6	66	6.7	59	6.5
Clauses	68	9.7	69	9.1	94	9.6	66	7.3
Prepositional Sequences	480	68.6	461	61.0	693	70.4	576	63.5
total	700	100.0	756	100.0	984	100.0	907	100.0

Table 9.--Prior modification of noun-heads to which are added the various post-nominal modifiers shown in Table 8.

Prior Modification	Complete Stories				Leads Only			
	1894		1964		1894		1964	
	No.	%	No.	%	No.	%	No.	%
No pre-modifiers	402	57.4	360	47.6	549	55.8	382	42.1
Pre-modifiers	215	30.7	272	36.0	322	32.8	385	42.4
Post-modifiers	63	9.0	63	8.3	65	6.6	64	7.1
Pre-modifiers and post-modifiers	20	2.9	61	8.1	48	4.9	76	8.4
total	700	100.0	756	100.0	984	100.1	907	100.1

Nida a person desirous of a job
 a man anxious to get ahead

In the four newspapers examined in this study, adjective modifiers like the following were found:³²

Governor John B. Connally Jr.
 F. C. Carlucci 3rd
 60 years old
 bid sufficiently high
 those present
 scores more
 diseases incident to old age
 consol general
 attorney general
 a city government Republican in all its branches
 profits other than lawful interest

Adverbs as Post-Nominal Modifiers

Adverbs occur as post-nominal modifiers, but not in any great number as Table 8 shows. Nida and Francis cite these examples:³³

³² Examples from this point on will be merely representative of the whole sample of 300 sentences in each year and each category rather than representative of the individual newspapers. The fact that in so many instances the number of examples is relatively small and not distributed evenly across all four newspapers makes this a simpler means of citing examples.

³³ Nida, p. 89; Francis, p. 305.

Nida	the space <u>below</u>
	the arc <u>above</u>
	this man <u>here</u>
Francis	the heavens <u>above</u>
	Europe <u>now</u>
	the temperature <u>outside</u>

In the four newspapers examined in this study, the following examples appeared:

the campaign for social integration here
 with his fur aflame
 prices generally
 any day now
 the interview yesterday
 his defeat three years ago
 2,430 apiece

Verbs as Post-Nominal Modifiers

Verbs as post-nominal modifiers may take three forms:
 (1) the present participle; (2) the past participle; and
 (3) the marked infinitive. These post-posed verb-modifiers
 may appear alone or they may have their own modifiers.

Present participles as post-nominal modifiers,
 (2) alone, and (b) with their own modifiers:³⁴

³⁴Nida, p. 90; Francis, p. 303.

- (a) Nida no man living
 the wisest man breathing
- (b) Nida the person trying to get this done
 the boys wishing to go
- Francis the water running in the street

Past participles as post-nominal modifiers, (a) appearing alone, and (b) with modifiers:³⁵

- (a) Nida the sum required
 the text used
 the results obtained
- (b) Nida a man accustomed to this
- Francis potatoes baked slowly

Marked infinitives as post-nominal modifiers, (a) appearing alone and (b) with a complement:³⁶

- (a) Nida the time to go
- Francis money to burn
 the man to see
- (b) Nida no examples
- Francis

³⁵Nida, p. 90; Francis, p. 303.

³⁶Nida, p. 92; Francis, p. 303.

In the four newspapers examined in this study verbs appeared as post-nominal modifiers in structures like the following:

present participles

resolutions expressing doubt
 a map showing the connections
 evidence regarding the cigarettes
 procession beginning at 9:25 a.m.
 complaint charging police brutality

past participles

trials interrupted week before last
 charges made
 a journal devoted to all outdoor sports
 a suit brought by Estelle Pellit
 meetings being held
 indictment found against him
 four men exposed to severe radiation

marked infinitives

anything to keep John Y. McKane out of Sing Sing prison
 an heroic effort to save itself
 bills to stimulate the construction
 devices to catch speeders
 organization to coordinate the campaign

It will be noted that several of the verb-modifiers above have direct objects rather than modifiers: to stimulate

100

01

20

20

W

0

S

f

construction, to catch speeders, for example.

Clauses as Post-Nominal Modifiers

Included clauses are structures that have the same form as statement sentences.³⁷ These sentences are preceded by a function word which we can call an includer, a word which serves to link the sentence to other structures or words. Included clauses consisting of an includer + sentence may be used to modify words and other structures including sentences and included clauses.

Included clauses used to modify nouns in noun-headed structures of modification are pretty much limited to those clauses whose includer is one of a small list of function words often called relative pronouns. Included clauses introduced by adverbial includers like after, before, since, till, until, while may occur as post-nominal modifiers, but they are not common.³⁸

In the materials examined for this study, the most frequently appearing includers were who with its variants whom and whose, and which and that. Others appearing occasionally were where, why, and when.³⁹

³⁷See Francis, pp. 389-95 for a discussion of included clauses. Francis' definition of a statement sentence on which it is based depends on a number of structural patterns which he discusses on pages 379-80.

³⁸Nida, pp. 99-100.

³⁹For a more complete list of relative includers, see Nida, pp. 93-4, and Francis, p. 393.

Examples of this kind of modification cited by Nida and Francis include:⁴⁰

Nida the man who failed to see it⁴¹
 the day that I left

Francis the fact that it is raining
 the woman whom he pointed out

In the four newspapers examined in this study, included clauses appeared as modifiers in noun-headed structures of modification like the following:

Henry Mancini, whose songs have won the Academy Award . . .
suggestions that the first trip to the moon may have to be delayed
 the likelihood that there are other worlds
 golfers who played at the Army-Navy club
 hundreds whom the blizzard had kept indoors
 a man whom he did not know

In some instances, the includer is preceded by a preposition as in:⁴²

Nida the man to whom he gave the bill
 the story to which he alluded

⁴⁰Nida, pp. 94-97; Francis, pp. 319 and 394.

⁴¹The relative includer frequently serves as both an includer and substitute for the noun-subject of the clause. See Francis, pp. 393-4.

⁴²Nida, p. 93; Francis, p. 394.

Prepositions, not before defined in this study, are a class of function words preposed to nouns, primarily, to link nouns to other words or structures. Fries, Francis, Nida, and Whitehall all contain lists of these function words.⁴³ In the present examples, the preposition appears preposed to a noun substitute, a relative pronoun, which is itself an includer linking a modifying structure to a head.

Examples of preposition + includer as a link between clause and head from the four newspapers examined in this study:

the case in which a Park Avenue businessman has been accused of killing his bookmaker

art for which this is the teaser

banquet to which 225 sat down

Paige's hotel into which he was taken from the street

the way in which modeling is suggested

hideaways along which were stationed servants

a description of which appeared in the Tribune

Quite often the clause is introduced by a zero includer:⁴⁴

Nida the paper I noticed

⁴³Fries, pp. 95-96; Francis, pp. 305-311; Nida, pp. 205-6; and Whitehall, pp. 62-63.

⁴⁴Nida, p. 94; Francis, pp. 398-9.

Francis a place he goes in summer
 the man he told his story to

In the newspapers examined for this study, the zero includer appears in structures like the following:

the wound he received when President Kennedy was assassinated
 strength it displayed
 kindnesses she had received
 paper you read
 all there is of the old Republican organization

Nouns and Noun Sequences as Post-Nominal Modifiers

Noun-headed structures of modification frequently consist of a noun-head or a noun-headed structure of modification modified by a single noun or a noun-headed structure of modification in post-nominal position. Like the nouns that appear in pre-nominal position these post-nominal modifiers may be either a simple modifier or an appositive.

Francis and Nida give these examples of nouns or noun-headed structures of modification as post-nominal modifiers. In both instances, the sequences are appositives:⁴⁵

Nida Jones, the baker
 Francis Mr. Jones, the art critic

⁴⁵Nida, p. 100; Francis, p. 301.

Francis gives no examples of noun-headed structures of modification or nouns as post-nominal modifiers not appositives and Nida lists only those few which he calls quantitative or temporal modifiers:⁴⁶

Nida	an animal <u>this size</u>
	a tree <u>that height</u>
	a woman <u>her age</u>
	the paper <u>this morning</u>

Single word nouns marked by a determiner, like Nida's examples of appositives and modifiers, are not as common in post-nominal position as are noun-headed structures of modification. Examples of the single word modifiers, appositives and simple modifiers, that do appear follow. Appositives:

Vera Tischoff, pianist
 another of his compositions, "Charade"
 Glass, a fireman
 Coleman and Wakefield, agent
 Olshan and Gruendman, attorneys

We also find in post-nominal position what Nida calls semi-predicate attributives.⁴⁷ These are the reflexive

⁴⁶Nida, pp. 91-2.

⁴⁷Nida, p. 103.

27
28
29

h
a

s
t

pronouns like myself, himself, herself which appear in post-nominal position, but may also appear in other positions in the sentence:

Nida I myself will try it
 I will myself try it
 I will try it myself

These reflexive pronouns are noun substitutes and here function as appositives. In the four newspapers examined examples like the following occur:

the piece itself
 work itself

Single word nouns, simple modifiers not appositives, also appear in post-nominal position. Examples from the four newspapers examined include:

the Good Government Club East
 Central Park West
 the Eighth Ward, Brooklyn
 Salem, Mass.
 Riverdale, the Bronx
 Easton, Pennsylvania

Function nouns also appear as single-word post-nominal modifiers. The most common is a number. In the four newspapers examined in this study we find examples like:

Article 11.3

Local 233

March 14

Smith, 35

Much more common as post-nominal modifiers are noun-headed structures of modification. These may be either appositives or simple modifiers and may consist of noun-heads with pre-nominal modification, with post-nominal modification or with both. Examples from the four newspapers follow.

Appositives:

Joseph F. Blaut, ex-president of the Madison Square Bank

counsel, Gen. Benjamin F. Tracy

wife, the former Jeanne Jacoby

Rolf Hochhuth, author of "The Deputy"

Evelyn Gamble Webster, the wife of Burton C. Webster

Thursday, the day before a threatened mass resignation

several amenities as a performer: a strong left hand, a firm tone, a sweeping command of rhythm and, at times, a welcome sense of inner involvement

Noun-headed structures of modification as simple modifiers, not appositives, include:

Governor John B. Connally, of Texas, his right arm in a cast from the wound he received when President Kennedy was assassinated

the Parc Vendome, 340 West 57th Street
 two masked men, one carrying a submachine gun
 the discontent of New York's night clubs the
past New Years Weeks
 a scandal, the first in its history
 a holdup . . . yesterday afternoon
 George D. Hall, 65 years old
 the loss of the World Series last October
 a witness last fall
 Paige's hotel, 301 West Street
 photographs, some in full color

It should be noted that the post-nominal modifiers described above, single-word nouns and noun-headed structures of modification--some of which are appositives--are of two kinds: first, modifiers set off by commas from the head and the rest of the sentence, and, second, those without any intervening punctuation. The comma represents a distinct pause, a terminal juncture, in the spoken language which stands in distinct contrast to lack of such a pause in some structures.⁴⁸ Note the contrast in these examples:

the Parc Vendome, 340 West 57th Street, where . . .
 a witness last fall said that . . .

⁴⁸For a discussion of juncture, see Francis, pp. 155-57, and Trager and Smith, pp. 41-52.

One rather peculiar structure of modification remains to be dealt with. This is a sequence consisting of yesterday or tomorrow as head with a post-posed noun modifier like morning or afternoon. For example:

yesterday morning
 tomorrow afternoon
 tomorrow night

These sequences are seldom further modified, although they may be, they never have a pre-posed marker, and they almost always appear in a sentence in an adverb position rather than in a noun position.

Tomorrow and yesterday without a post-posed modifier are clearly adverbs, but they may appear in noun-subject position as nouns and in this position be inflected like a noun. In this study we will follow Miss Strang in considering tomorrow and yesterday as noun-like words which have been derived from temporal adverbs.⁴⁹ This gets around the obvious difficulty that adverbs ordinarily are modified by nouns which are pre-posed, not post-posed. If yesterday and tomorrow are nouns--at least in situations like this--then post-posed modifiers like afternoon, morning, and night are perfectly ordinary modifiers of nouns like the post-nominal modifiers just analyzed.

⁴⁹Strang, pp. 97-98.

Having taken this position, the noun-headed structures of modification yesterday + noun-modifier and tomorrow + noun-modifier will be considered later as nouns when the various modifiers of verbs are analyzed.

Total number of these structures is not great. In 1894 there were thirty in lead sentences and eight in representative sentences. In 1964 there were twelve in lead sentences and five in representative sentences.

Prepositional Sequences as Post-Nominal Modifiers

The most common post-nominal modifier in noun-headed structures of modification is the sequence consisting of a preposition + a noun or a noun-headed structure of modification. Nida and Francis cite these examples:⁵⁰

Nida	<u>a piece of bread</u>
	<u>a man in white</u>
	<u>the place across the water</u>
Francis	<u>above suspicion</u>
	<u>under water</u>
	<u>after dinner</u>
	<u>from the beginning</u>
	<u>like a thunderbolt</u>

⁵⁰Nida, pp. 90-91; Francis, p. 309.

Prepositional sequences may consist of a preposition and a single-word noun or noun-headed structure of modification. Or the place of the noun may be taken, upon occasion, by a verb, an adjective, or adverb, a function noun or pronoun, or by a prepositional sequence.⁵¹

Examples of prepositional sequences as post-nominal modifiers in the four newspapers examined in this study include:

one of the six presidents
 section of the city
 witness in his murder trial
 trial upon an indictment
 dogs in Madison Square Garden
 ten years at hard labor
 building at Twenty-Third Street
 floor of the assembly

Post-nominal modification has some interesting aspects. First of all, it shows a radical departure from pre-nominal modification where the principal modifier, referring back to Tables 1 and 2, were single words. In post-nominal modification, as Tables 8 and 9 show, more than two-thirds of the modifiers are prepositional sequences, structures of several words and varying complexity rather than a single

⁵¹Francis, pp. 305-311; Nida, pp. 205-207.

word. As we shall see later in analyses of other structures of modification, the prepositional sequence is the most-used of all modifiers in present-day English. Secondly, it is interesting to note what a small part all other modifiers play. Nouns amount to roughly 20 per cent of the post-nominal modifiers in 1964, a substantial increase over their use in 1894. All other modifiers, verbs, adjectives, adverbs, and clauses, represent less than 20 per cent of modifiers post-posed to noun-heads.

The increase in nouns as post-posed modifiers of noun-heads in 1964 newspapers is countered by a roughly similar decrease in the number of prepositional sequences in use in 1964 newspapers.

Table 9 shows that somewhat better than one-third of all noun-heads which have a single post-posed modifier also have pre-posed modifiers. About the same number have no pre-posed modifiers except markers and only a single post-posed modifier. Some 7 or 8 per cent of the noun-heads have more than one post-posed modifier, but no pre-posed modifiers, and about 8 per cent have pre-posed modifiers and more than one post-posed modifier.

CHAPTER II

VERB-HEADED STRUCTURES OF MODIFICATION

In a structure of modification in which the verb is head, the various modifiers may appear in three positions adjacent to the verb-head; pre-posed, post-posed, or within the verb sequence between the auxiliary and the main verb. Verb modifiers also appear, but less frequently than they appear in the positions just mentioned, in a position separated from the verb-head by the object or complement of the verb-head.

Table 10 shows the distribution of modifiers in these positions in the materials examined for this study. As the table shows, more than twice as many modifiers appear adjacent to the verb-head as appear separated by an object or complement. This is true in all the newspapers examined and for both years, and also holds true for both representative sentences and lead sentences. The proportion of modifiers that appear pre-posed to the verb or within the verb sequence is smallest of all, as Table 10 shows.

Modifiers Adjacent to the Verb-Head

Modifiers appearing pre-posed to the verb-head, as cited by Francis and Nida:¹

¹Francis, p. 315; Nida, p. 138.

Table 10.--Position of modifiers of verbs, including verb and complement or object, in all newspapers in 1894 and 1964.

Position	Complete Stories				Leads Only			
	1894		1964		1894		1964	
	No.	%	No.	%	No.	%	No.	%
Pre-verb	30	4.7	40	6.0	47	5.8	41	4.6
Within the Verb Sequence	49	7.6	23	3.4	44	5.4	23	2.6
Post-verb	388	60.2	409	60.4	484	59.6	527	59.5
total	467	72.4	472	69.7	575	70.8	591	66.7
Post Complement or Object	178	27.6	205	30.3	237	29.2	295	33.3
total	645	100.0	677	100.0	812	100.0	836	100.0

Francis successfully tried
 slowly drove

Nida continually wanted
 accidentally shot

Modifiers appearing within the verb sequence between the auxiliary and the main verb, as cited by Francis and Nida:²

Francis has sometimes seen
 has seldom been heard

Nida were actually compelling
 had never ridden

Modifiers appearing post-posed to a verb-head, as cited by Francis and Nida:³

Francis works successfully
 stepped inside

Nida sat reading
 stared fascinated

These last, modifiers post-posed to the verb-head, appear actually in three different environments: (1) after

²Francis, p. 315; Nida, p. 138.

³Francis, p. 314; Nida, p. 157.

a

of

re

23

at

1

a transitive verb and before the direct object or indirect object or both; (2) sentence-final after an intransitive verb; and (3) after a linking verb and before the complement. Examples of post-posed modifiers of transitive verb-heads where the modifier appears between the verb-head and the verb's object:⁴

He felt keenly his inability.

He studied attentively the program of procedure.

The post-posed sentence-final modifier of an intransitive verb-head:⁵

They came back wounded.

He went off a happy man.

The post-posed modifier of a linking verb-head appearing between the linking verb and its complement:⁶

He is naturally a very timid person.

She is sometimes quite charming.

After the Complement or Object

Quite frequently, as Table 36 shows, modifiers of the verb appear after the complement of a linking verb or

⁴Nida, p. 139.

⁵Nida, pp. 157-58.

⁶Nida, p. 139.

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

26

27

28

29

30

31

32

33

34

35

36

37

after the object of a transitive verb: In the following example, cited by Francis, after a linking verb and its complement:⁷

It is dark ahead.

After the object of a transitive verb, as cited by Nida:⁸

They saw them frequently.

They planned it carefully yesterday.

There may be some ambiguity when modifiers appear after a complement or object, but it probably can be assumed that the modifier is following a head consisting of a verb and complement or object. In the sentence, It is dark ahead, Francis says that the adverb ahead modifies the linking verb and its subjective complement together.⁹ And although he does not specifically say so, Francis' diagrams of transitive sentences indicate that he considers modifiers in this position to modify both head and object.¹⁰ Nida calls all modifiers of verb-heads, no matter what their position, "3rd

⁷Francis, p. 321.

⁸Nida, pp. 139-40.

⁹Francis, p. 321.

¹⁰Francis, p. 314.

type attributives [modifiers] of the verb-head."¹¹ He nowhere mentions the problem of the intervening object or complement in sentences like those just cited. In this study it is assumed that the modifiers appearing after a verb and its object or complement are somewhat different from modifiers appearing in positions adjacent to the verb-head. These two types of heads, verb-head and verb + complement or object-head, are tabulated separately, (see Tables 11 and 13) but essentially they differ only in position of the modifier and in the fact that in one instance the modifier modifies the verb and perhaps some other modifiers, in the other it modifies the verb and a complement or object.

Modifiers of Verb-Heads

Modifiers of verb heads when they appear in positions adjacent to the verb-head include adjectives, adverbs, verbs, clauses, prepositional sequences, and nouns and noun sequences. Examples of nouns as modifiers of verb-heads, as cited by Francis and Nida, include:¹²

Francis	lived <u>a year</u>
	saw <u>a mile</u>
Nida	<u>this year</u> exceeded our limit
	died <u>a beggar</u>

¹¹Nida, p. 136.

¹²Francis, p. 317; Nida, p. 143.

Examples of adjectives as modifiers of verb-heads as cited by Francis and Nida include:¹³

Francis	ran <u>true</u>
	went <u>crazy</u>
	fell <u>flat</u>
Nida	talks <u>big</u>
	stop <u>dead</u>
	sweep <u>clean</u>

Examples of adverbs as modifiers of verb-heads as cited by Francis and Nida include:¹⁴

Francis	drives <u>rapidly</u>
	stepped <u>inside</u>
Nida	<u>continually</u> wanted
	were <u>actually</u> compelling

Examples of verbs as modifiers of verb-heads as cited by Francis and Nida include:¹⁵

Francis	came <u>running</u>
	eat <u>sitting</u>
	lives <u>to eat</u>
	came <u>to scoff</u>

¹³Francis, p. 318; Nida, p. 156.

¹⁴Francis, p. 134; Nida, p. 137.

¹⁵Francis, p. 318; Nida, pp. 156-59.

Nida	went <u>equipped</u>
	stared <u>fascinated</u>
	came back <u>wounded</u>
	came <u>running</u>
	went on <u>working</u>
	lay <u>gasping</u>
	ache <u>to think of it</u>
	aspire <u>to see him</u>
	get <u>to go</u>
	grow <u>to be a man</u>

Examples of clauses as modifiers of verb-heads, as cited by Francis:¹⁶

Francis	came <u>after I left</u>
	will go <u>wherever you go</u>

Nida says that clauses may modify verb-heads in any of the positions already mentioned, but his examples represent only what in this study is taken to be a different kind of modification: modification of sentence-heads. This type of modification will be discussed in the next chapter.¹⁷

¹⁶Francis, p. 318.

¹⁷Nida, p. 145.

Prepositional sequences as modifiers of verb-heads,
as cited by Francis and Nida:¹⁸

Francis	spoke <u>about his work</u>
	entered <u>into the game with gusto</u> <u>after dinner</u>
Nida	will <u>by all means</u> undertake the work
	is <u>in general</u> quite pleased

Modifiers of Verb and Object

All the modifiers just cited, nouns and noun sequences, adjectives, verbs, clauses and prepositional sequences, may appear in final position in the sentence where they are separated from the verb-head by the verb's object or complement. For example:

killed two employes last year
will address a special meeting tomorrow night

Since the modifiers appearing in this position are the same modifiers already described, there is no need to cited further examples as models.

Table 11 shows the distribution of these various modifiers of verb-heads in all newspapers in both 1894 and 1964 in both lead sentences and representative sentences.

¹⁸ Francis, p. 319; Nida, p. 136.

The table shows a modest increase in the total number of modifiers in representative sentences from 1894 to 1964 and a slightly larger, though still modest, increase in the modification of verb-heads in lead sentences over the same period.

There are so few modifiers of each type that it is difficult to draw conclusions. The relatively large number of adverbs is to be expected, but again the prepositional sequence ranks ahead of all other modifiers. The increase in the number of adverbs and noun sequences in lead sentences in 1964 can be accounted for by an increased use of adverbs like today and yesterday and noun sequences like last night in lead sentences.

Examples from the Newspapers

In the materials examined in this study most modifiers of verb-heads appeared post-posed, as Table 10 shows. Examples of modifiers in this position will be given first, followed by examples of modifiers preposed and within the sequence. Examples of modifiers appearing post-posed to the verb and its object or complement will follow.

Modifiers of verb-heads post-posed:

(nouns and noun sequences)

flew this week

sold last week

will travel each day

Table 11.--The various modifiers of verb-heads in all newspapers in 1894 and in 1964.

	Complete Stories				Leads Only			
	1894		1964		1894		1964	
	No.	%	No.	%	No.	%	No.	%
Nouns and Noun Sequences	24	5.2	26	5.5	59	10.3	45	7.6
Adjectives	12	2.5	7	1.5	9	1.5	-	-
Adverbs	135	28.9	146	51.3	148	25.7	230	38.7
Verbs								
present part	4	.8	2	.4	3	.5	5	.8
past part	-	-	2	.4	-	-	2	.3
infinitive	8	1.7	14	2.9	8	1.3	15	2.5
total	12	2.5	18	3.8	11	1.9	22	3.7
Clauses	20	4.2	17	3.6	15	2.6	19	3.2
Prepositional Sequences	264	56.5	258	54.7	333	57.9	267	45.2
total	467	99.8	472	99.9	575	99.9	591	98.6

115

last 50 minutes
 was killed last Tuesday
 filed yesterday morning

(adjectives)

pleaded guilty
 keeping silent
 has kept hush-hush

(adverbs)

was arrested yesterday
 has been seen here
 warned here
 will be put into operation today
 played a few days ago

(verbs)

can radio to have the motorist arrested
 sat up Sunday night to attend his sick wife
 gathered to celebrate the 25th anniversary
 went there to collect \$25,000

were going around the ward yesterday begging
votes . . .

will be presented beginning March 4
 is confined suffering from a fractured ankle

was found stabbed to death
 was found raped and beaten

(clauses)

received when President Kennedy was assassinated

flew into New York as another of his compositions was named . . .

was performed while she was under the influence of a drug

has been living quietly since she came from France

is obtained when she stands up

(prepositional sequences)

can be found in New York

were announced by the Health Department

has been pulsing with steady business

died at Lenox Hill Hospital

responded like an old firehorse

will be celebrated until today's sunset

In the newspapers examined in this study, modifiers of the verb-head appeared pre-posed in instances like the following:

(nouns and noun sequences)

last right said

last Saturday night was critically injured

last year decided

yesterday morning heard

(adjectives)

first gave

(adverbs)

yesterday criticized
still lack
any day now may reach
firmly grounded
then spent

(verbs)

no examples

(clauses)

exactly as he foretold drew

(prepositional sequences)

by so doing attracted
with permission of relatives removed
in the Court of Common Pleas handed down
of a somewhat different nature have been
through his counsel pleaded
behind batteries of champagne on St. Patrick's
Day boast
on a southern reef is moldering

Examples of modifiers appearing within the verb sequence are less frequent, but the following were found in the materials examined in this study:

(adverbs)

can be unreservedly congratulated
 have long remembered
 is not coming

would soon become
 appeared yesterday to be setting
 may also send

(prepositional sequences)

was according to the records of the box office
 visited

was at once arrested

was at last settled down

would in no way advance

was at first supposed

As some of the examples cited above indicate, more than one modifier frequently modifies a single verb-head. For example, a verb-head with a post-posed modifier may also have a pre-posed modifier or a modifier within the verb sequence:

are not entitled to the aid

is not coming to the United States

was well received at a public hearing

can not say definitely

firmly grounded in no-nonsense mud

ever seen West of Chicago

not to go outside the theater

last Saturday evening was critically injured

Where the verb-head is modified only by post-posed modifiers, it is common to have two or more such modifiers. Three post-posed modifiers modifying a single verb-head is not uncommon, more can be found occasionally, but multiple modification is generally limited to two modifiers or three modifiers:

ran back and forth between the terminals in large, shrieking groups

howled dismally through the ruins yesterday

was found by police hanging from a flagpole in the Civic Center near Grove and Park streets about 3:15 a.m. yesterday

met yesterday with Clair M. Reddiwig to discuss the civil rights boycott in a secret session

worked 14 years for the Lerner newspapers also

was found dead in bed in his room at No. 826 Milwaukee Avenue last evening

responded like an old firehorse yesterday to the sound of an alarm

Table 12 shows the distribution of multiple modifiers in the materials examined. Multiple modification, as the table shows, is much less frequent than modification of a verb-head by a single modifier.

Table 13 shows that even where there is more than one modifier the range is extremely limited. In by far the greatest number of instances of multiple modification, the verb-head has only two modifiers. Three modifiers are less frequent and in only a few instances do we find four or more modifiers of a verb-head.

Table 12.--Incidence of single and multiple modification of verb-heads in all newspapers in 1894 and in 1964.

	Complete Stories				Leads Only			
	1894		1964		1894		1964	
	No.	%	No.	%	No.	%	No.	%
One Modifier	156	58.6	150	56.0	183	54.1	187	53.0
Two Modifiers	75	28.3	75	28.0	93	27.5	137	38.8
Three Modifiers	28	10.6	34	12.7	46	13.7	48	13.6
Four Modifiers	4	1.5	7	2.6	10	2.9	9	2.5
More Than Four Modifiers	2	.8	2	.7	4	1.1	2	.6

121

Table 13.--Incidence of single and multiple modification of verb-heads in all newspapers in 1894 and in 1964.

	Complete Stories		Leads Only	
	1894	1964	1894	1964
Total Heads	265	268	338	353
Total Modifiers	467	472	575	527
Single Modifiers	156	150	183	187
Multiple Modifiers	109	118	155	166

Verb and Object as Head

Somewhere between a quarter and a third of all modifiers of verb-heads appear in a position apart from the head and separated from it by the verb-head's object or objects or its complement. Examples of the various modifiers appearing in this position in the materials examined in this study follow:

(nouns and noun sequences)

will address the monthly meeting Wednesday
 took place this morning
 took over classrooms last week
 killed two employes last year
 will address a special meeting tomorrow night
 took part February 3
 cut revenue \$13 million

(adjectives)

no examples

(adverbs)

resumed an inquiry yesterday

picked up the telephone yesterday

slugging it out

gave some things away

afflicting the South now

made a surprise raid two weeks ago

has been a good demand recently

(verbs)

induces children to stay out of school

were offered \$20,000 to turn their backs

has been raising funds to restore the old theater

asked police to get back his \$200

to have the marriage annulled

was fourth lapped on Lucinda

was a prisoner charged with disorderly conduct

found himself fighting a blaze of scandal

(clauses)

to stage a work stoppage should a Senate filibuster break out

was declared a deserter after he left Fort Bragg

would assist the strike if it were called

to tell anything when she saw him

kept the adrenalin gushing until she was recalled
stabbed a woman friend to death because he was
executing the will of God
was an awful tomboy when I was a little girl
was dead before the doctor could be of any help

(prepositional sequences)

taking sides in a preliminary contest
driving a stolen car across the state
to keep themselves in power
was fresh snow on the ground
returned the ordinance without his approval
asking \$200,000 for alleged alienation

Table 14 shows the distribution of the various modifiers of verb-heads when they appear apart from the head and following the verb-head's object or complement. During the seventy year period from 1894 to 1964 there was a significant increase in the total number of modifiers of verb-heads in this position in both lead sentences and representative sentences, an increase that was somewhat greater than was found among modifiers appearing in positions adjacent to the verb-head.

Among representative sentences most of the modifiers showed some increase, but there was a slight drop in the number of adverbs appearing as modifiers. Among lead sentences the modifiers which gained the most were adverbs,

Table 14.---The various modifiers of verb + object or complement-heads in all newspapers in 1894 and in 1964.

	Complete Stories				Leads Only			
	1894		1964		1894		1964	
	No.	%	No.	%	No.	%	No.	%
Nouns and Noun Sequences	6	3.4	9	4.4	33	13.9	30	10.2
Adverbs	29	16.3	23	11.2	33	13.9	62	21.0
Verbs	-	-	-	-	1	.4	2	.6
present part	-	-	-	-	-	-	-	-
past part	2	1.1	-	-	1	.4	-	-
infinitive	8	4.5	14	6.8	5	2.1	17	5.8
total	10	5.6	14	6.8	7	3.0	19	6.4
Clauses	16	9.0	15	7.3	15	6.3	19	6.4
Prepositional Sequences	117	65.7	144	70.2	149	62.9	165	56.0
total	178	100.0	205	99.7	237	100.0	295	100.0

125

nearly doubled in use, and infinitives. Prepositional sequences in both lead sentences and representative sentences gained slightly. All these increases were too large to be accounted for by chance.

It is interesting to note that here again the most common modifier is the prepositional sequence that in both lead sentences and representative sentences in both years equals or exceeds in number all other modifiers combined. This is particularly interesting in the light of statements in Francis that the position here dominated by the prepositional sequence is the typical adverb position.¹⁹ Francis calls this utterance-final position after a noun or nouns the principal adverb position. Ability to fill this position is the primary structural criterion for adverbs, Francis says.²⁰ As a matter of fact, as a comparison of Tables 11 and 14 will show, prepositional sequences outnumber adverbs as modifiers of verb-heads in every position and that there are from four to five times as many adverbs post-posed to verb-heads as appear in Francis' typical adverb position after the verb-head and its object or complement.

At least in the materials examined in this study it would appear that the structurally most significant

¹⁹Francis, p. 281.

²⁰Francis, p. 281.

adverb position is the position immediately after the verb-head. More adverbs are found in this position than in any other.

Table 15.--Incidence of single and multiple modification of verb + object-complement heads in all newspapers in 1894 and in 1964.

	Complete Stories		Leads Only	
	1894	1964	1894	1964
Total Heads	128	172	155	183
Total Modifiers	178	205	237	295
Single Modifiers	86	126	95	98
Multiple Modifiers	42	46	60	85

It is quite common to find more than one modifier of the verb-head and its object or complement occupying this utterance-(sentence-) final position as Table 15 and 16 show. Table 15 shows that single modifiers are commoner than multiple modification in representative sentences, but that in lead sentences there is a trend toward multiple modification. As Table 16 shows, two modifiers are most common. More than two are infrequent.

Examples of multiple modification of the type summarized in Table 15 and 16 include:

helped Jews and other refugees in a skylight apartment in Rome during the German occupation

stabbed his teacher in the back with a penknife
yesterday morning before the start of classes

opened his second season last night at the new
hall in 40th Street near Broadway

There is some question in these instances of multiple modification whether the succeeding modifiers are independent modifiers of the head or whether they modify the head and the intervening modifiers. Probably both situations exist and although there is some structural ambiguity here, meaning is usually quite clear.

Table 16.--Incidence of single and multiple modification of verb + complement or object-heads in all newspapers in 1894 and in 1964.

	Complete Stories				Leads Only			
	1894		1964		1894		1964	
	No.	%	No.	%	No.	%	No.	%
One Modifier	86	67.2	126	73.3	95	61.3	98	53.6
Two Modifiers	34	26.6	40	23.3	44	28.4	62	33.9
Three Modifiers	8	6.2	5	2.9	12	7.7	20	10.9
Four Modifiers	-	-	1	.6	3	1.9	2	1.1
Five Modifiers	-	-	-	-	-	-	1	.5
More Than Five Modifiers	-	-	-	-	1	.6	-	-

129

CHAPTER III

OTHER STRUCTURES OF MODIFICATION

Adjective-Headed Structures

Adjectives, like nouns and verbs, may be head of a structure of modification. However, as Table 17 shows, such adjective-headed structures of modification are few in number and the range of modifiers is more restricted than is the case where the head of a structure of modification is a noun or a verb.

The principal modifiers of adjectives are adverbs and prepositional sequences. Adjectives may also be modified by verbs, by clauses, and occasionally by nouns. In the materials examined for this study, no other modifiers appeared.

Modifiers of adjectives appear pre-posed and post-posed to their head, as the examples which follow will show. Pre-posed modifiers may include adverbs, nouns, verbs and other adjectives, according to examples cited by Nida and Francis. Examples of adverbs as modifiers of adjective-heads:¹

¹Nida, p. 163; Francis, pp. 320-21.

Table 17.--Modification of adjectives in all newspapers in 1894 and in 1964.

Modifiers	Complete Stories				Leads Only			
	1894		1964		1894		1964	
	No.	%	No.	%	No.	%	No.	%
Adverbs	18	43.9	16	45.7	22	42.3	19	43.2
Verbs	3	7.3	2	5.7	6	11.5	3	6.8
Clauses	3	7.3	1	2.8	4	7.7	-	-
Prepositional Sequences	17	41.5	15	42.8	19	37.5	21	47.7
total	41	100.0	35*	99.8	52*	100.0	44*	100.0

*Includes one function noun.

131

Francis (the) _____ famous singer

exceedingly
somewhat
always
still

Nida about sick
 absurdly fanciful
 quite right
 less appealing

In the materials examined in this study, the following examples appeared:

personally liable
much excited
too severe
sharply higher
better known
not guilty
utterly dead
increasingly still
very dormant

Several of the modifiers noted here, very, too, much, and there are others, are on Fries' list of Group D function words, function words he calls degree words and which Francis refers to as qualifiers.² Structurally, these

²Fries, pp. 92-94.

degree words do not differ from other adverbs (in some instances from nouns) and there are so few of them in the materials examined in this study that it was decided not to consider them apart from other adverbs. They will appear again as modifiers of adverb-heads and the same situation exists there.

Nouns, appearing alone or marked by determiners, and noun sequences also appear as modifiers in adjective-headed structures of modification. Nida and Francis cite the following examples:³

Francis	<u>stone</u> cold
	<u>sea</u> green
	<u>bone</u> dry
Nida	<u>that</u> young
	<u>that</u> sick
	<u>a few months</u> old
	<u>many times</u> finer

Only three examples of this type of modification appear in the materials examined in this study:

a bit difficult
100 per cent better
8 centuries old

³Nida, p. 164; Francis, p. 321.

Verbs also appear as modifiers in adjective-headed structures of modification, but again, this is not a common pattern. Nida and Francis cite the following examples:⁴

Francis	<u>freezing</u> cold
	<u>boiling</u> hot
	<u>hopping</u> mad
Nida	<u>passing</u> fair
	<u>chilling</u> cold

Not a single instance of a verb as pre-posed modifier of an adjective-head was found in the materials examined in this study.

Francis also cites examples of adjectives as modifiers in adjective-headed structures of modification, structures like icy cold, but none were found in this study.⁵

Modifiers in post-adjective position were more common in the materials examined in this study and these post-posed modifiers included verbs, prepositional sequences and clauses. Examples of verbs as post-posed modifiers of adjective-heads, as cited by Nida and Francis:⁶

⁴Nida, p. 165; Francis, p. 321.

⁵Francis, p. 322.

⁶Francis, p. 322; Nida, p. 165.

Francis hard to get
 beautiful to see
 easy to know

Nida able to do it
 accustomed to see
 ambitious to get it done

Examples of this type of modification appearing in the materials examined in this study include:

able to order
convenient to let him
curious to see
sufficient to cause another cent break
unwilling to render the slightest assistance

Neither Francis nor Nida cited an example of an adjective-head with a post-posed participial modifier, but one example appeared in the materials examined in this study:

worth relating

The adverb enough may appear as a post-posed modifier of an adjective, as in true enough, but no example was found in the materials examined in this study.⁷

⁷Nida, p. 163.

The prepositional sequence appears almost as frequently as the adverb as a modifier of adjective-heads. In the materials examined in this study, seventy-six adverbs appeared as modifiers of adjective-heads and seventy-two prepositional sequences appeared as modifiers of adjective-heads. The adverbs were all pre-posed modifiers and the prepositional sequences were all post-posed modifiers. Examples of prepositional sequences as adjective modifiers, as cited by Francis and Nida:⁸

Francis	easy <u>on the eyes</u>
	good <u>for nothing</u>
	stronger <u>than ever</u>
Nida	glad <u>of it</u>
	short <u>in stature</u>
	inferior <u>to him</u>
	dependent <u>upon him</u>

In the materials examined in this study, the following examples of prepositional sequences as modifiers of adjective-heads appear:

devoted to the interests
 liable for any debt
 consistent with the interests

⁸Francis, p. 322; Nida, p. 167.

larger than that
 incident to old age
 last of the "Flying Farnums"
 overburdened with lands
 city-wide in membership

Occasionally an adjective-head is separated from its modifier, as in these examples cited by Nida.⁹ The adjective-head is underscored twice and the modifying prepositional sequence is underscored once:

very similar propositions to these
 a very different matter from applause

One example of this variant type of adjective-headed structure of modification appeared in the materials examined in this study:

a rare accolade for an author

The clauses that appear as modifiers in adjective-headed structures of modification are of several types. First is the clause marked by the includers what, that, if, when, where, who, how, why, which, whether and by zero. Nida cites the following examples:¹⁰

⁹Nida, p. 91.

¹⁰Nida, p. 166.

I am afraid he is here.

He was so boastful that he could do it.

Some were uncertain whether they should go.

In the materials examined in this study, the following examples of clauses as post-posed modifiers of adjective-heads were found:

to make sure (that) they do not support firms that discriminate

became so much excited that he took measures . . .

The security . . . is so tight that for nearly three years it has kept hush-hush a crime . . .

The adjective-head in structures of modification like these is frequently conditioned or marked by a pre-posed adverb, so:¹¹

so dense that the diners were forced to leave the room

so meager that almost no business was possible

so tight that for nearly three years it was kept hush-hush

Than or as also serve as markers for clauses modifying adjective-heads. Nida cites the following examples:¹²

¹¹Nida, pp. 166-67.

¹²Nida, pp. 166-67.

better than we thought
such as these men described

In the materials examined in this study, the following examples of this type of adjective-headed structure of modification were found:

such as we desired
greater than characterized the plays

In some instances when the modifying clause is introduced by than or as, the adjective-head has a preposed conditioner or marker. When the modifying clause is introduced by as, the conditioner or marker is either as or so:

as _____ as
good
bad

so _____ as
nice
fine

When the modifying clause is introduced by than, the conditioner or marker is more or less or an adverb inflected with the comparative suffix -er:

more _____ than
____-er _____ than

Nida cites the following examples of this type of modification of adjective heads:¹³

more thoughtful than the others
as quiet as Dick

Examples of this type of adjective-headed structure of modification found in the materials examined in this study include:

as controversial as the first
as significant as it was unique

As Table 18 shows, slightly more than half the modifiers of adjective-heads are post-posed. The largest group of modifiers, adverbs, are pre-posed, except for the adverb enough. The second largest group of modifiers, the prepositional sequence, always is post-posed.

Adverb-headed Structures

Adverb-headed structures of modification are similar to the adjective-headed structures of modification. Modifiers appear pre-posed and post-posed and include nouns and noun sequences, adverbs, clauses, verbs and prepositional sequences. Adjectives do not appear as modifiers of adverb-heads.

¹³Nida, pp. 166-67.

Table 18.--Distribution of modifiers of adjectives in all newspapers in 1894 and in 1964.

Position	Complete Stories				Leads Only			
	1894		1964		1894		1964	
	No.	%	No.	%	No.	%	No.	%
Pre-adjective	16	38.1	15	42.9	22	43.1	17	38.6
Post-adjective	26	61.9	20	57.1	29	56.9	27	61.4
total	42	100.0	35	100.0	51	100.0	44	100.0

The pre-posed modifiers are adverbs, nouns and noun sequences like the following examples cited by Nida and Francis.¹⁴ First, adverbs as modifiers:

Francis	<u>unusually</u> eagerly
	<u>far</u> away
	<u>sometimes</u> below
	<u>rather</u> slowly
Nida	<u>extremely</u> hard

In the materials examined in this study, the following examples of adverbs as modifiers of adverb-heads were found:

early yesterday
still on
as quickly
shortly thereafter
not easily
again yesterday
once again
just exactly
certainly not

Some of these adverb-modifiers appear on Fries' list of Group D degree words: just, still, for example, but so

¹⁴Nida, pp. 141-43; Francis, p. 323.

f

1

f

few of the Group D words appear as modifiers that they are lumped here with other adverb-modifiers.

Nouns and noun sequences frequently appear as modifiers of adverb-heads:¹⁵

Francis	<u>a foot</u> away
	<u>that</u> easily
	<u>some way</u> up
Nida	<u>a lot</u> better
	<u>a great deal</u> sooner
	<u>ten feet</u> further

Examples of this type of modification appearing in the materials examined in this study include:

a year ago
a shade lower
a short time ago
seconds later
all day yesterday
a couple of blocks away
share and share alike
a year later

Post-posed modifiers of adverb-heads include prepositional sequences and clauses. Nida cites examples of

¹⁵Francis, p. 323; Nida, p. 141.

verbs as post-posed modifiers of adverb-heads, structures like sufficiently to be noticed, but none were found in the materials examined in this study.¹⁶ Examples of prepositional sequences as post-posed modifiers of adverb-heads, as cited by Francis and Nida include:¹⁷

Francis	away <u>for a week</u>
	behind <u>in his work</u>
	outside <u>in the cold</u>

Nida	luckily <u>for him</u>
	far <u>from here</u>
	near <u>to the place</u>

Examples of this type of modification as found in the materials examined in this study include:

out of classes
 unfortunately for him
 ahead of Sacramento
 back to their kennels and home
 here within reach
 out of the city
 later on in the day

¹⁶Nida, p. 143.

¹⁷Nida, p. 143; Francis, p. 323.

hea

c

t

v

Clauses also may appear as modifiers of adverb-heads as the following examples from Nida indicate:¹⁸

here where the church stood
once when the preacher coughed
so frequently that he completely destroyed the
power of resistance
as fast as he could
more frequently than the rest

Clauses modifying adverb-heads pattern like the clauses that modify adjective-heads.¹⁹ Examples of this type of modification as found in the materials examined in this study include:

so much as they were
as effectively as it sells a product
as rapidly as some climb
so slow that some clubs are only open weekends
so far out that he makes the new math look like
old stuff
more factually than it has been abroad

No examples of structures like Nida's here where the church stood were found.

¹⁸Nida, p. 142.

¹⁹Nida, p. 142.

fi

ce

no

in

he

s

t

l

a

r

Table 19 shows the distribution of the various modifiers of adverb-heads. Adverbs represent nearly 50 per cent of the modifiers and the distribution of nouns and noun sequences, clauses, and prepositional sequences appearing as modifiers is relatively even. For the first time, however, we find prepositional sequences trailing. Prepositional sequences represent no more than 25 per cent of the modifiers of adverb-heads in some categories and as little as one-seventh of the modifiers in other categories.

Table 20 shows the distribution between pre-posed and post-posed modifiers. Pre-posed modifiers, as the table indicates, are more common than post-posed modifiers of adverb-heads.

Prepositional Sequences as Heads

Prepositional sequences which appear so frequently as modifiers may also be the head of a structure of modification. This is not, as Table 21 shows, a frequent occurrence, but instances appear regularly.

Modifiers of prepositional sequences include nouns and noun-sequences, adjectives, adverbs, and other prepositional sequences. Nida and Francis cite examples as follows:²⁰ Nouns and noun sequences as modifiers of prepositional sequences:

²⁰Francis, p. 324; Nida, pp. 212-13.

Table 19.--Modification of adverbs in all newspapers in 1894 and in 1964.

Modifiers	Complete Stories				Leads Only			
	1894		1964		1894		1964	
	No.	%	No.	%	No.	%	No.	%
Nouns and Noun Sequences	6	21.4	10	41.7	7	30.4	8	22.8
Adverbs	12	42.8	10	41.7	10	43.5	16	45.7
Clauses	6	21.4	2	3.2	-	-	5	14.3
Prepositional Sequences	4	14.3	2	3.2	6	26.1	6	17.1
total	28	99.9	24	100.0	23	100.1	35	99.9

147

Table 20.--Distribution of modifiers of adverb-heads in all newspapers in 1894 and in 1964.

Position	Complete Stories				Leads Only			
	1894		1964		1894		1964	
	No.	%	No.	%	No.	%	No.	%
Pre-adverb	15	53.6	18	75.0	17	74.0	22	62.8
Post-adverb	13	46.4	6	25.0	6	26.0	13	37.1
total	28	100.0	24	100.0	23	100.0	35	99.9

Table 21.--Modification of prepositional sequences in all newspapers in 1894 and in 1964.

Modifier	Complete Stories				Leads Only			
	1894		1964		1894		1964	
	No.	%	No.	%	No.	%	No.	%
Nouns and Noun Sequences	1	7.1	-	-	14	51.8	8	42.1
Adjectives	1	7.1	-	-	1	3.7	-	-
Adverbs	12	85.7	11	78.6	9	33.3	11	57.9
Prepositional Sequences	-	-	3	21.4	3	11.1	-	-
							149	
total	14	99.9	14	100.0	27	99.9	19	100.0

Francis	<u>a bit</u> under the weather
	<u>a mile</u> off shore
	<u>a long way</u> off base
Nida	<u>a little</u> over 10
	<u>a mile beyond</u> the hill

Nouns and noun sequences as modifiers of prepositional sequences appear both pre-posed and post-posed in the materials examined in this study:

\$84,064.09 in arrears
minutes before death
this time for a letter to the editor
a little at sea
six months after the slaying
\$13 million below expectations

 at the American premier tomorrow night
 at the Columbus theater last night
 from the same period last year
 during the annual winter discontent the past few weeks

Francis cites one example of an adverb as a post-posed modifier of a prepositional sequence:²¹

on the mark exactly

²¹Francis, p. 324.

In the materials examined in this study a number of adverbs appeared as post-posed modifiers of prepositional sequences:

for some time now
 from 2 to p.m. daily
 until sundown yesterday

Neither Nida or Francis cite an example of adjectives as modifiers of prepositional sequences, but one example appeared in the materials examined in this study:

fresh from the hands of the builders

Prepositional sequences may also modify prepositional sequences, although this is a less common occurrence than other types of modification. Nida and Francis cite no examples, but the following examples appeared in the materials examined in this study:

at 1 a.m. on Saturday
 at the opening in Philadelphia
 in his sermon in the Bloomingdale church

Table 21 shows the distribution of the various modifiers of prepositional sequences and Table 22 shows the distribution of the modifiers in relation to the head.

Noun Markers as Heads

Noun markers or determiners, Fries' Group A function words, may appear as heads in structures of modification.

Table 22.--Distribution of modifiers of prepositional sequences in all newspapers in 1894 and in 1964.

Position	Complete Stories				Leads Only			
	1894		1964		1894		1964	
	No.	%	No.	%	No.	%	No.	%
Pre-posed	9	64.3	11	78.6	12	44.4	13	68.4
Post-posed	5	35.7	3	21.4	15	55.6	6	31.6
total	14	100.0	14	100.0	27	100.0	19	100.0

They may have both pre-posed and post-posed modifiers, but modification is limited and not frequent. Only nouns, adverbs and prepositional sequences appear as modifiers of noun markers in the materials examined in this study, as Table 23 shows.

Francis cites the examples below as typical of marker-headed structures of modification.²² He limits modifiers to adverbs, qualifiers, and prepositional sequences, but some of his qualifiers are adverbs and one is a noun.²³ His examples:

adverbs	<u>very</u> many people
	<u>not</u> a few friends
function noun	<u>much</u> more money
prepositional sequence	more <u>than enough</u> money

Nida cites examples of pre-posed modifiers of noun determiners, but no examples of post-posed modifiers. His examples:²⁴

²²Francis, p. 324.

²³See Francis, p. 279: rather, somewhat, still, much are adverbs; a little, a lot, a bit, lots, a good deal, a mite, are nouns and noun sequences.

²⁴Nida, pp. 82-83.

Table 23.--Modification of noun markers (determiners) in all newspapers in 1894 and in 1964.

Modifiers	Complete Stories				Leads Only			
	1894		1964		1894		1964	
	No.	%	No.	%	No.	%	No.	%
Nouns	13	50.0	3	17.6	9	25.0	-	-
Adverbs	9	34.6	8	47.1	25	69.4	9	69.2
Prepositional Sequences	4	15.4	6	35.3	2	5.6	4	30.8
total	26	100.0	17	100.0	36	100.0	13	100.0

adverbs nearly a pint
 not a man
 just these two
 such a man

function nouns
 both the people

Nida gives no other examples of usage, but cites a lengthy list of pre-determiner modifiers, including a number of adverbs with the derivational affix -ly; the adverbs about, twice, also; the function nouns many, all, what and half; and the prepositional sequence at least.²⁵

In the materials examined in this study, the examples below appeared in pre-determiner position:

nouns and function nouns
 number 7
 25 times more
 a little more than one third
 half the city's school population
 all the union men
 many a day

adverbs about 4
 almost 5

²⁵Nida, p. 82.

156

just 7

nearly 4

not less than 15,000

scarcely any

so much

as many

but two

possibly 5

approximately 125,000

fully 15,000

not a member

such a long trip

only the toleration

almost a year

often the object of criticism

about a mile

earlier this month

prepositional sequence

at least two police officers

at least eight centuries old

We have two types of modification here: (1) preposed modifiers of the determiner; and (2) preposed modifiers of a sequence consisting of a determiner and noun or noun sequence. In the following examples, the determiner is the head:

a little more

25 times more

fully 15,000

at least two police officers

In the following examples the whole sequence is the head of the structure of modification:

earlier this month

all the union men

many a day

half the city's school population

often the object of criticism

Where the determiner is also a function noun, the pre-posed modifier stands in modifier relationship only to the determiner:

only 3

possibly 5

Where the determiner is a definite or indefinite article, a personal pronoun or a specifier, the pre-posed modifier stands in modifier relationship to the entire sequence:

many a day

all the union men

earlier this month

half her salary

Where the modifier is post-posed to the determiner, the modifier stands in modifier relationship only to the determiner. Of course, the whole sequence of determiner and modifier or modifiers then stands in modifier relationship to the noun which the determiner marks. Post-posed modifiers of determiners are limited to prepositional sequences and adverbs:

more than social
 less than happy
 more than 500 million
 as many as 50
 one more

Table 23 shows the distribution of noun determiners in all four newspapers in the two years under study and in lead sentences and representative sentences. As the table indicates, there appears to be a lessening of the use of nouns and adverbs as modifiers of determiners and an increase in the use of prepositional sequences. However, the occurrence of this type of modification is so limited that the figures are not particularly significant. Table 24 shows the distribution of pre-posed modifiers and post-posed modifiers. Pre-posed modifiers outnumber by far the post-posed modifiers.

Table 24.--Distribution of modifiers of noun markers (determiners) in all newspapers in 1894 and in 1964.

Position	Complete Stories				Leads Only			
	1894		1964		1894		1964	
	No.	%	No.	%	No.	%	No.	%
Pre-determiner	22	84.6	11	64.7	32	88.9	10	76.9
Post-determiner	4	15.4	6	35.3	4	11.1	3	23.1
total	26	100.0	17	100.0	36	100.0	13	100.0

Sentences and Clauses as Heads

So far we have examined structures of modification in which nouns, verbs, adjectives, adverbs, noun markers, prepositional sequences, and noun sequences were the heads. Sentences may also be the head of a structure of modification, and it is to the sentence-headed structure of modification that we now turn.

Sentence-headed structures of modification consist of a sentence and various modifiers which may be pre-posed, occur within the sentence, or be post-posed to the sentence. Modifiers of sentence-heads include nouns and noun sequences, adjectives, adverbs, verbs, clauses, prepositional sequences, and a modifier which we find in use nowhere else--the absolute construction. The frequency and distribution of these various modifiers is shown in Table 25.

The sentence-head in most cases consists of one of the sentence types described by Fries in which there is a contrast between a Class 1 word (a noun) and a Form Class 2 word (a verb).²⁶ This is the subject + predicate relationship of the normal English sentence. However, in a written corpus such as the one used in this study, other independent structures appear which do not show this contrast. These may be structures like the response, call, or exclamation

²⁶Fries, pp. 144-45 ff.

Table 25.--Modification of sentences in all newspapers in 1894 and in 1964.

Modifiers	Complete Stories				Leads Only			
	1894		1964		1894		1964	
	No.	%	No.	%	No.	%	No.	%
Nouns and Noun Sequences	1	1.3	2	4.5	1	1.7	1	3.3
Adjectives	1	1.3	1	2.3	1	1.7	-	-
Adverbs	15	20.0	8	18.2	-	-	1	3.3
Verbs								
present part	7	9.3	5	11.4	4	6.8	4	13.3
past part	-	-	-	-	-	-	1	3.3
infinitives	1	1.3	-	-	1	1.7	1	3.3
total	8	10.6	5	11.4	5	8.5	6	20.0
Clauses	15	20.0	8	18.2	19	32.2	10	33.3
Prepositional Sequences	35	46.7	20	45.5	27	45.8	11	36.7
Absolute Constructions	-	-	-	-	6	10.2	1	3.3
total	75	99.9	44	100.1	59	100.1	30	99.8

161

sentences described by Francis.²⁷ Most of the sentences which appear as heads of structures of modification, however, will be structures consisting of a subject + predicate and the various modifiers associated with the two.

Modifiers of sentences, as it has already been noted, may appear in one of three positions: pre-posed to the head; within the sentence-head; and post-posed to the sentence-head. This distribution is shown in Table 26.

Pre-posed modifiers are most common and represent 50 per cent or more of the sentence modifiers in every instance. There are fewer post-posed modifiers and the appearance of modifiers within the sentence-head, usually between the subject and the predicate is least common of all as Table 26 shows.

Examples of the various types of sentence-modifiers are given below. Included clauses as sentence-modifiers, as cited by Francis and Nida:²⁸

Francis	<u>When he comes</u> , we will go. <u>If it rains</u> , close the window.
Nida	They will never get it right, <u>which after all will be to our advantage somewhat.</u> I told them I thought so too, <u>which didn't make the slightest difference to them.</u>

²⁷Francis, pp. 374-389.

²⁸Francis, p. 400; Nida, p. 188.

Table 26.--Distribution of modifiers of sentences in all newspapers in 1894 and in 1964.

Position	Complete Stories				Leads Only			
	1894		1964		1894		1964	
	No.	%	No.	%	No.	%	No.	%
Pre-sentence	48	64.0	32	72.7	30	50.8	17	56.7
Within	10	13.3	4	9.1	8	13.5	-	-
Post-sentence	17	22.7	8	18.2	21	35.6	13	43.3
total	75	100.0	44	100.0	59	99.9	30	100.0

163

Prepositional sequences as sentence modifiers, as cited by Francis and Nida:²⁹

Francis	He is innocent, <u>in my opinion</u> . <u>At the corner</u> , a policeman was directing traffic.
Nida	<u>On the contrary</u> , I believe . . . <u>In consequence</u> , do you believe . . .

Verbs as sentence-modifiers as cited by Francis and Nida include both present participles and infinitives.³⁰ Past participles may also serve as sentence-modifiers, but none were cited by Francis or Nida. Their examples:

Francis	<u>To be sure</u> , he didn't mean it. <u>To drive well</u> , you must always be alert. <u>Continuing our story</u> , the next chapter is a sad one.
Nida	<u>To tell the truth</u> , this is not . . . <u>To be honest</u> , this thing is too shaken to . . .

Adverbs as sentence-modifiers, as cited by Francis and Nida:³¹

²⁹Francis, p. 403; Nida, p. 187.

³⁰Francis, pp. 401-402; Nida, p. 188.

³¹Francis, p. 403; Nida, pp. 186-87.

- Francis Obviously, he was lying.
 Naturally, I am opposed to war.
- Nida Undoubtedly, this preposition will
 mean a great deal.
 Altogether, this is most unfortunate.

Nida cites the following examples of nouns or noun sequences as sentence-modifiers:³²

- Nida Sympathy or no sympathy, I wanted
 to go . . .
 All the same, this is going . . .

Nida also cites what he refers to as parenthetical expressions and which Francis calls clauses with a zero includer.³³ These are expressions like I thought, I think, I suppose, which appear within a sentence or post-posed. The examples which appeared in the materials examined in this study were lumped with other clauses.

Absolute constructions are the only modifiers which have not appeared as modifiers of other heads. No examples are cited by Nida, but Francis gives the following illustrations:³⁴

³²Nida, p. 187.

³³Francis, p. 404; Nida, p. 189.

³⁴Francis, pp. 400-401.

Francis the vans having arrived, we were ready
 to move
 work finished, we went home
 the rain over, we went indoors
 Stalin dead, the way was clear for
 Malenkov

Francis defines these absolute constructions as noun-headed structures of modification with a post-posed modifier consisting of a participle, either present or past, and sometimes other modifiers as in his example: the rain over.³⁵

Pre-posed Modifiers

In the materials examined in this study, the following examples of pre-posed modifiers of sentence-heads were found:

(Nouns and noun sequences)

The next morning, they decided to drive right on through to Sunnyvale--the men taking turns at the wheel.

Just two months before the opening of the New York World's Fair, on April 23, the Fair is a fanciful never-never land firmly grounded in no-nonsense mud.

(adjective)

And, third, Mr. Kennedy saw the need to provide an adequate space program.

³⁵Francis, p. 401.

(adverbs)

Fourteen years ago, Mr. Beckman and his wife, the former Jeanne Jacoby, took part in the inauguration in Israel of the Technion's 300-acre campus.

Two years later, he was named Acting Queen's County Judge in the Appellate Division of the Supreme Court and remained in that post until becoming fire commissioner.

(verbs)

Reversing himself with a suddenness that caught many civil rights leaders by surprise, the Rev. Milton A. Galamison announced yesterday that a second school boycott would be held here on March 6.

(clauses)

When you want a thin idea spun out into an attenuated play, apply to Keith Waterhouse and Willis Hall.

If Frank Charles Carlucci 3rd, the new United States charge d'affairs in Zanzibar finds things a bit difficult in his new post, it will be no new experience.

(prepositional sequences)

Since 1949 the service has pursued an anti-discrimination policy, Bernstein said.

At his Yerba Buena home, he was serenaded by school children.

(Absolute constructions)

His dander up, Governor Rockefeller lashed out yesterday at American "secrecy" in Viet Nam and took sharp issue with President Johnson's suggestion that foreign policy is a sacred cow as far as politics is concerned.

Modifiers Within the Head

As Table 26 shows, there are fewer instances of modification of sentences where the modifier is placed within the sentence-head. A few examples from the materials examined in this study:

(adverbs)

Mr. Davis, therefore, had to refuse to accept the bail.

The concessionaires, too, are deserving of praise for their courtesy to the children.

(clauses)

Mr. Healy, when seen by a reporter for the New Times, admitted that the appointment was a surprise.

Abraham Reimer, nine-years-old, of No. 47 Morrell St., Williamsburg, was run over and, it is thought, fatally injured by trolley car No. 1,913 of the Graham Ave. line, yesterday afternoon.

(prepositional sequence)

It was hit, for instance, for \$1,050 last may; \$900 in March of 1962; twice in 1961 for \$1,000 and \$1.975; and for \$624 in 1958.

Erastus Wiman, through his counsel, Gen. Benjamin F. Tracy, in the Court of General Sessions, before Judge Martine, yesterday pleaded not guilty to two indictments found against him last week for forgery in the second degree.

Post-posed Modifiers

In the materials examined in this study, as Table

26 shows, a limited number of instances of post-posed modifiers of sentence-heads appear. Some examples:

(verbs)

An explosion shattered a storage room in the Chicago stadium, 1800 Madison st., late yesterday afternoon, injuring Robert Horton, 32 of 6117 May st., a porter.

The June 2 primary election in California will be crucial for Goldwater and Rockefeller, Nixon said, terming it "a sudden-death play-off in which both of them will be toe-to-toe, slugging it out."

(clauses)

The executive board of the Chicago Teachers union voted unanimously to postpone a strike vote yesterday, after the board of education approved a "collective bargaining memorandum" with the union.

Nikolai Okhlopkov, a leading theatrical director of the Soviet Union, is not coming to the United States, although he, the State Department and the Soviet Ministry of Culture had approved the six-week visit.

(prepositional sequences)

Four men exposed to severe radiation in an accident at Oak Ridge, Tenn., in 1958, seem to have recovered from radiation-caused sterility, according to a report published yesterday.

(absolute constructions)

The Roby bookmakers had a breathing spell yesterday, but two favorites winning.

The course of yesterday's wheat market was gratifying to the bulls, the price selling up 1½ cents for Wednesday's official close and holding much of the advance.

The structure we have defined as a sentence-head appears not only alone as an independent linguistic form, but it appears quite frequently as one of the structures making a larger independent linguistic form. These larger independent linguistic structures may consist of two sentences linked by conjunctions, and, but, or or, for example. Francis defines these as compound sentences:³⁶

The spring has come, but the weather is cold.

In other instances, the sentence is used as modifier of a noun, verb or other head, including sentence-heads, by means of a linkage provided by words like because, after, since, although, who, which, that or zero, words which are frequently referred to as includers.³⁷ Sentences thus brought into other structures by means of includers have already been identified as included clauses.

As we have already seen, included clauses appear as modifiers of nouns, verbs and other words and as modifiers of sentences:

news that the war is over
 came after I left
 stronger than he was before
when he comes, we will go

³⁶ Francis, pp. 115-16.

³⁷ See Francis, p. 389 ff.

The point to be stressed here is that included clauses and sentences are basically the same structure and both show the same characteristic contrast between noun and verb described by Fries in his discussion of sentence types. The sentence and the clause, essentially the same linguistic structure, are modified in essentially the same way. As Tables 22 and 28 show, sentence modifiers are also clause modifiers and they appear in the same characteristic positions.

Since both clauses and sentences are modified in the same way and by the same modifiers there is no reason to cite further examples of the modifiers from Nida, Francis or the newspapers examined. Comparison of Tables 25 and 27 show that there is considerably less modification of clauses than of sentences and that the frequency with which certain modifiers appear is somewhat different. Comparison of Tables 26 and 28 show somewhat the same pattern of distribution for modifiers of sentences and modifiers of clauses.

Information contained in Tables 27 and 28 and in Tables 25 and 26 is combined in Tables 29 and 30 below. These combined tables show that again the prepositional sequence is the most frequent modifier and that the clause represents the second largest group of sentence or clause modifiers. The tables show some differences between the modification in lead sentences and in representative sentences, and shows also that in lead sentences there has

Table 27.--Modification of clauses in all newspapers in 1894 and in 1964.

Modifier	Complete Stories				Leads Only			
	1894		1964		1894		1964	
	No.	%	No.	%	No.	%	No.	%
Nouns	1	3.3	1	16.7	-	-	1	7.1
Noun Sequences	2	6.7	-	-	3	12.5	-	-
total	3	10.0	1	16.7	3	12.5	1	7.1
Adverbs	4	13.3	1	16.7	4	16.7	5	35.7
Verbs								
present part	3	10.0	-	-	3	12.5	1	7.1
past part	-	-	-	-	1	4.2	-	-
infinitives	-	-	-	-	-	-	-	-
total	3	10.0	-	-	4	16.7	1	7.1
Clauses	11	36.7	2	33.3	2	8.3	5	35.7
Prepositional Sequences	9	30.0	2	33.3	11	45.8	2	14.3
total	30	100.0	6	100.0	24	100.0	14	99.9

Table 28.--Distribution of modifiers of clauses in all newspapers in 1894 and in 1964.

Position	Complete Stories				Leads Only			
	1894		1964		1894		1964	
	No.	%	No.	%	No.	%	No.	%
Pre-clause	21	70.0	6	100.0	20	83.3	10	71.4
Within	2	6.7	-	-	-	-	2	14.3
Post-clause	7	23.3	-	-	4	16.7	2	14.3
total	30	100.0	6	100.0	24	100.0	14	100.0

been a shift in the distribution of modifiers from 1894 to 1964. While the distribution in representative sentences remained very nearly the same over the seventy-year period, the distribution in lead sentences shifted. Fewer prepositional sequences appeared as sentence and clause modifiers in 1964, but clauses and adverbs increased as sentence and clause modifiers. Verbs as modifiers increased slightly.

It is interesting to note that the absolute constructions are infrequent and that they appeared only in lead sentences. Adjectives appeared too infrequently to be significant and nouns and noun sequences, also relatively few, seemed stable.

Table 29.--Modification of sentences and clauses in all newspapers in 1894 and in 1964.

Modifiers	Complete Stories				Leads Only			
	1894		1964		1894		1964	
	No.	%	No.	%	No.	%	No.	%
Nouns	1	1.0	-	-	-	-	1	2.3
Noun Sequences	3	2.8	2	4.1	4	4.8	1	2.3
total	4	3.8	2	4.1	4	4.8	2	4.5
Adjectives	1	1.1	1	2.0	1	1.2	-	-
Adverbs	19	18.1	9	18.4	4	4.8	6	13.6
Verbs								
present part	10	9.5	5	10.2	7	8.4	5	11.4
past part	-	-	-	-	1	1.2	1	2.3
infinitives	1	1.0	-	-	1	1.2	1	2.3
total	11	10.5	5	10.2	9	10.8	7	16.0
Clauses	26	24.8	10	20.4	21	25.3	15	34.1
Prepositional Sequences	44	42.0	22	44.9	38	45.8	13	29.5
Absolute Constructions	-	-	-	-	6	7.2	1	2.3
total	105	100.2	49	100.0	83	99.9	44	100.0

Table 30.---Distribution of modifiers of sentences and clauses in all newspapers in 1894 and in 1964.

Position	Complete Stories				Leads Only			
	1894		1964		1894		1964	
	No.	%	No.	%	No.	%	No.	%
Pre-posed	69	65.7	37	75.5	50	60.2	27	61.4
Within	12	11.4	4	8.2	8	9.6	2	4.5
Post-posed	24	22.9	8	16.3	25	30.1	15	34.1
total	105	100.0	49	100.0	83	99.9	44	100.0

CHAPTER IV

CONCLUSION

The System of Modification

The system of modification in present-day American English which the present study has analyzed in some detail is a formal and intricate system, a highly predictable system, and, paradoxically, in practice, an amazingly simple system.

The system of modification might be called intricate because it consists of carefully built up layers. The form class words and various structures, including sentences, can be modified, and their modifiers can be modified--and their modifiers--and so on. A single word, for example, can be modified by a sentence--a structure that itself may contain structures of modification with head-words modified by other structures of modification.

DeMorgan's great fleas with little fleas upon their backs is a counterpart of the system of modification in which modifiers can modify modifiers, and so ad infinitum.

An Intricate System

Intricacy of the system can be demonstrated by a basic sentence like the following in which parentheses indicate positions where the modifiers of the noun-subject and noun-object, both underlined, can be placed:

The () contract () was a () package ()

The () contract that settled the () dispute
was a () package ()

The () contract that settled the () dispute
() a \$36 million package ()

The () contract that settled the () dispute
() was a \$36 million package that went into ()
effect ()

The () contract that settled the () dispute
() was a \$36 million package that went into ()
effect in () June ()

Although this sentence, taken from the materials examined for this study, is now complete, there are still six positions that could be filled with modifiers of nouns. Other modifying positions are present, of course, but they have not been indicated.

Another example, this time showing the modification possible when the original head-word is a single-word noun-subject:

One was a(n) admiral

One ()

One of the () golfers ()

One of the keen-eyed golfers who played ()

Addition of modifiers of the noun-subject began with a post-posed prepositional sequence. Next the noun golfers

was modified by an included clause whose verb can now be modified, and by an adjective which, too, can be modified.

One of the most keen-eyed golfers who played
at the () Country Club ()

One of the most keen-eyed golfers who played
at the Army-Navy Country Club ()

One of the most keen-eyed golfers who played
at the Army-Navy Country Club outside Washing-
ton ()

One of the most-keen-eyed golfers who played at
the Army-Navy Country Club outside Washington
a few years ago ()

This structure of modification, starting with a
single noun-subject, now includes twenty words and these
modifiers:

three prepositional sequences
one included clause
one adjective
one adverb-headed structure of modification
one adverb
one noun-headed structure of modification
one structure of coordination

The original noun-head, one, is modified by a
single modifier, the prepositional sequence of the golfers.
All the rest of the modification is built up within this

sequence. The noun golfers is modified by two modifiers, first, an adjective-headed structure of modification consisting of an adjective-head, keen-eyed, and an adverb-modifier, most; second, by an included clause introduced by who. This included clause contains the verb played which is modified by two prepositional sequences, at the Country Club and outside Washington, and an adverb-headed structure of modification, a few years ago. The adverb ago is modified by a pre-posed modifier consisting of a noun-headed structure of modification, a few years. This last structure consists of a noun-head modified by the adjective few and a noun marker. In one of the prepositional sequences modifying played, at the Country Club, the noun sequence Country Club is modified by a structure of coordination consisting of two nouns, Army-Navy.

Let us look at another example of this intricate, layer-upon-layer building up of a sequence through modification. In this example, the verb and its modifiers are expanded through further modification:

The question was put ()

The question was put to him ()

The question was put to him as he arrived ()

The question was put to him as he arrived under an assumed name ()

The question was put to him as he arrived under an assumed name after a flight ()

The question was put to him as he arrived under an assumed name after a flight from San Juan ()

In this example, the verb was put has been modified by the prepositional sequence to him. The verb and its modifier--was put to him--is modified by the clause as he arrived. The clause contains a verb, arrived, which is modified by two prepositional sequences, under an assumed name and after a flight. The noun flight in the last sequence is modified by another prepositional sequence, from San Juan.

Only a few of the modifying positions possible in this sentence have actually been filled. For example:

() question ()

() was () put ()

an () assumed name ()

a () flight from () San Juan ()

A Predictable System

In addition to its intricacy, the system of modification in present-day American English has a high degree of predictability based, first, on the regular, fixed positions of modifiers, and, second, on the regularity with which certain modifiers appear in these positions.

All single words which can be modified, and all the larger structures--sequences, sentences, and clauses--may be

modified by pre-posed and post-posed modifiers, thus:

() NOUN ()
 () ADJECTIVE ()
 () ADVERB ()
 () NOUN MARKER ()

Some sequences, the verb sequence consisting of an auxiliary verb and a main verb, the clause, and the sentence, have a third position within the sequence:

verb sequence

() auxiliary () main verb ()

clause

includer () subject () predicate ()

sentence

() subject () predicate ()

Not all these available positions are always filled, of course, but they may be and in the case of nouns and verbs extensive use is made of these modifying positions as Table 31 and earlier tables show.

Tables accompanying the discussion of the various structures of modification show which of the possible modifier positions are most often used. In the verb-headed structures of modification, for example, from 65 to 70 per cent of the modifiers are post-posed to the verb; another

Table 31.--A comparison of the frequency of modification of the various heads in structures of modification analyzed in this study.

Heads	Complete Stories				Leads Only			
	1894		1964		1894		1964	
	No.	%	No.	%	No.	%	No.	%
Nouns								
pre-posed	949	36.3	1276	44.0	1411	40.5	1617	44.8
post-posed	700	26.8	756	26.1	984	28.7	907	25.1
total	1649	63.1	2032	70.1	2395	68.7	2524	69.9
Verbs								
alone	467	17.9	472	16.3	575	16.4	591	16.4
+ comp. or obj.	178	6.3	205	7.1	237	6.1	295	8.2
total	645	24.8	677	23.3	812	22.5	886	24.6
Sentences	75	2.3	44	1.5	59	1.7	30	.8
Clauses	30	1.2	6	.2	24	.7	14	.4
total	105	4.1	50	1.7	83	2.4	44	1.2
Adjectives	41	1.7	35	1.2	52	1.5	44	1.2
Adverbs	28	1.0	24	.8	23	.7	35	.9
Markers	26	1.0	17	.6	36	1.0	13	.4
Prepositional Sequences	14	.6	14	.5	27	.8	19	.5
total	2613	99.9	2899	99.9	3475	100.0	3609	99.9

27 to 33 per cent appear after the verb and its object or subjective complement; 10 per cent or fewer of the modifiers appear pre-posed or between the auxiliary verb and the main verb.¹ In noun-headed structures of modification, the ratio is about five to three between pre-nominal and post-nominal modifiers.²

A quantitative study like the present one makes it possible to predict with some certainty not only which of the fixed, available modifying positions will be filled most frequently, but what modifiers are most likely to occupy these positions. In noun-headed structures of modification, for example, in the pre-nominal position, the following modifiers appear in these ratios:³

(the) _____ NOUN + _____

nouns (50 to 55 per cent)

publicity

Pentagon

standard

adjectives (35 to 40 per cent)

good

able

friendly

¹See Table 10 on page 106.

²See Table 1 on page 38 and Table 8 on page 87.

³See Table 1 on page 38 and Table 8 on page 87.

verbs (less than 2 per cent)

following

murdered

adverbs (less than 1 per cent)

then

late

In the post-nominal modifying position, the following modifiers appear in these ratios:

prepositional sequences

(60 to 65 per cent)

of the hour

in all good time

from New York

nouns and noun sequences

(about 20 per cent)

the expert

the same size

president

verbs (6 to 8 per cent)

devoted to his family

to be feared

adjectives (1 to 2 per cent)

general

martial

adverbs (about 1 per cent)

today

here

The percentages given above are approximations of the percentages for both 1894 and 1964 and for both representative and lead sentences. More exact figures are given in the tables in the previous chapters.

A Simple System

The intricacy of the system of modification, as we have seen, lies partly in the fact that there are so many possible positions for modifiers even in a brief sequence, and partly in the fact that each modifier added to a sequence brings with it new positions subject to modification.

But despite this possibility for complexity--and occasional actual complexity--the system of modification is basically simple, and for one good reason: the system is never overloaded. First, not all possible modifying positions are used in any given situation, and, second, only a minimum of modifiers appear with any one head-word.

If we refer to Table 3, for example, we see that in 75 per cent of all noun-headed structures of modification where the modifiers are pre-posed that the modifier is limited to a single word.⁴ And Table 9 shows that where noun-heads have post-posed modifiers that in 40 per cent of the instances the head has only a single post-posed modifier:⁵

⁴See Table 3 on page 69.

⁵See Table 9 on page 88.

a friend of the slain woman
 two of CORE's most militant branches
 commander of the fleet's sonar school

In about 40 per cent of the instances of post-nominal modification, the noun-head has a single post-nominal modifier and one or more pre-nominal modifiers:

a unique block of four United States airmail stamps
 a sweeping command of rhythm

Verb modification is even simpler, as Table 12 shows.⁶ More than 50 per cent of the verb-heads have single modifiers; roughly 28 to 38 per cent have only two modifiers; 12 to 13 per cent have three modifiers, and only about 2½ per cent have four modifiers. Less than 1 per cent of all verb-heads have more than four modifiers.

A single modifier, sometimes two modifiers, for each head is more common than more complex patterns. Frequently, too, when a single head has two modifiers each will occupy a different position. There is very little piling up of modifiers in a single modifying position as Table 3 shows us concerning noun-heads.⁷

⁶ See Table 12 on page 121.

⁷ See Table 3 on page 69.

Another factor in the simplicity of the system of modification is the fact that although words and sequences frequently change positions in a sentence, and change their function, they are always modified in the same way. Modification is consistent. It does not shift with position. For example, a noun may be a subject, direct object, indirect object, an objective complement, or the modifier of a verb, adjective, clause, sentence, or another noun. But regardless of function or position, the noun is modified in exactly the same way:

Nouns in subject position, modified pre-nominally and post-nominally:

The Mexican Ambassador to Bolivia
New plans for a municipal nursing home

Nouns in object position, also pre-nominally and post-nominally modified:

announce the date of the second boycott
 will accomplish immediate separation from the department
 has the exclusively realistic and representational art of the Hartford collection

Nouns in prepositional sequences, modified pre-nominally and post-nominally:

for reasons of health
 for the first boycott
 for his absorbing lectures on the humanities

Nouns modifying other words or structures may themselves be modified. Here nouns modifying verbs are modified pre-nominally and post-nominally:

sold last night
 arrived early Tuesday
 works seven days a week

Verbs, similarly, take their modifiers with them when they move from a verb position in the predicate to various modifying positions in the sentence. And form class words of one class which assume the position and positional characteristics of another form class retain their original idiosyncracies of modification as long as they maintain their morphological identity. For example, adjectives like brave, good, best, wisest, sometimes appear in a noun-subject position in a sentence and are marked by position and by the presence of noun markers as nouns.

The good die young.
 The brave deserve the victory.
 The best is yet to come.

Adjectives like these, in noun positions, functioning as subject of the sentence, and marked by the characteristic noun marker the might be called function nouns, nominals, noun substitutes or noun replacements, all terms hinting at a noun quality acquired by position, function, and marking by a noun marker.

However, these words still retain their morphological identity as adjectives and are modified like adjectives:

the _____ brave
 truly
 really
 very
 quite

We see the same thing in sentences like the following where the adjective occupies what is sometimes considered the true subject-position and the filler it is in the usual subject position:

It is certain.

It seems probable.

Certain and sure are adjectives here and are modified accordingly by the adverbs very, quite, most, absolutely, and others.

It is quite certain.

It seems absolutely probable.

If these adjectives are given noun suffixes and become nouns morphologically, they take on a new character. They will be modified like nouns and lose their ability to appear with modifiers restricted to adjectives:

It is a _____ certainty.
 real
 absolute

near
clear

There is an overall simplicity, too, in the fact that the two most frequently employed modifiers, nouns and prepositional sequences, move freely from one position to another and can modify any head-word. If we add clauses, which modify anything except prepositional sequences and noun markers, we have 70 per cent of all modifiers accounted for. Adjectives, adverbs, and verbs have a much restricted range and frequency. While any word or sequence can act as a modifier of another word or sequence--and will do so at some time--most modification is accomplished by nouns, prepositional sequences, and clauses, the most flexible of the modifiers.

Summaries

Table 32, following, presents a summary of the various types of modifiers appearing in the materials examined in this study. Nouns and noun sequences together with prepositional sequences represent about two-thirds of all modifiers used in the newspapers examined in both years. Adjectives represent only 16 to 17 per cent of all modifiers and other modifiers are infrequently used. The whole system is remarkably stable over the seventy-year period from 1894 to 1964, but there has been a slight shift in usage which should be noted. In both representative and lead sentences,

Table 32.--Summary of the various modifiers appearing with all head words in all newspapers in 1894 and 1964.

Modifiers	Complete Stories				Leads Only			
	1894		1964		1894		1964	
	No.	%	No.	%	No.	%	No.	%
Nouns/Noun Sequences	678	27.1	1283	36.3	1076	31.3	1016	35.7
Adjectives	433	17.3	592	16.7	580	16.9	455	16.0
Adverbs	225	9.0	365	10.3	260	7.5	230	8.1
Verbs	103	4.1	118	3.3	114	3.3	123	4.3
Clauses	136	5.4	124	3.5	149	4.3	114	4.0
Prepositional Sequences	930	37.1	1052	29.8	1243	36.3	911	32.0
Absolutes	-	-	1	.1	6	.4	-	-
total	2505	100.0	3535	99.9	3428	100.0	2849	100.1

use of prepositional sequences declined somewhat and the use of nouns and noun sequences increased from 1894 to 1964. Where prepositional sequences were the principal modifiers in 1894 by 10 per cent margin in representative sentences and by a 5 per cent margin in lead sentences, in 1964 they trail behind nouns and noun sequences in use.

Table 31 is interesting in comparison with Table 32. It shows that nouns are the most modified of all head-words, roughly 70 per cent of all modifiers appearing with noun-heads, and that verbs are the next in number of modifiers. Between 20 and 25 per cent of all modifiers appear with verb-heads. Other heads show remarkably little modification. Totals shown in Table 31 do not represent the total number of head-words, but rather the number of modifiers appearing with head-words of the various classes.

Application of This Study

This study and further studies of the same type which make quantitative analyses of systems within the language should have some practical use in applied linguistics. For example, a knowledge of what modifiers are most frequently used in certain types of writing might be of considerable use in teaching composition skills to native speakers of English at various levels. And the most-frequently used modifiers and types of structures of modification, singled out as they are in a study like the present one, would seem to show where emphasis should be placed in

teaching non-native speakers about the use of English.

Linguistics relies on usage to show what a language is really like, and usage implies not only what is possible, but what is done, and how frequently. A quantitative study such as this gives a new dimension to usage, a dimension lacking in catalogs like Nida's and summaries like Francis'. As this study shows, while all kinds of modification are possible, certain kinds of modification predominate. Applied linguistics would find it more useful to know what structures of modification are actually in use, and the extent of their use, than to know that in a language as flexible and accommodating as English almost anything is possible.

Suggestions for Further Study

A number of other studies are possible as a sequel to this analysis of the structures of modification in present-day American English.

First of all, this study might well be replicated using another sample from selected newspapers. The newspapers used in this study were selected because they were considered to represent the best in journalistic writing style, and perhaps another study based on other newspapers, not necessarily the best, might yield different data. Second, the same type of analysis might be made of other types of written American English.

A standard corpus of edited present-day American English has been compiled at Brown University and would probably be ideal for this purpose.⁸ This corpus consists of more than a million words from various sources. It is written and edited, not spoken English, and consists of some 500 samples of approximately 2,000 words each, and includes some materials from newspapers, magazines, journals and various types of books, both fiction and non-fiction. This corpus is available on computer tape and no doubt an analysis similar to this, but using several different and larger samples, might be done by computer.

Other analyses might be suggested. Since prepositional sequences prove so great a part of the system of modification, further study of the system of prepositions might be worthwhile. What prepositions are most used or least used? Could a list be made of all prepositions in use and a relative value given to each? There would be some interest, too, in closer study of the adverb, particularly base adverbs which seem to have a number of functions and to appear in various positions in the sentence.

⁸See W. Nelson Francis, "A Standard Corpus of Edited Present-Day American English," College English, XXVI (January, 1965), 267-273.

BIBLIOGRAPHY

Books

- Akhmanova, O. S., I. A. Mel'chuk, R. M. Frumkina, and E. V. Paducheva. Exact Methods in Linguistic Research. Translated from the Russian by David G. Hays and Delores V. Mohr. Berkeley and Los Angeles: University of California Press, 1963.
- Bloomfield, Leonard. Language. New York: Holt, Rinehart and Winston, 1933, reprinted April, 1962.
- Budd, Richard W. and Robert K. Thorp. An Introduction to Content Analysis. Iowa City: School of Journalism, State University of Iowa, 1963.
- Curme, George O. A Grammar of the English Language: Vol. III, Syntax. New York: D. C. Heath, 1931.
- Francis, W. Nelson. The Structure of American English. New York: The Ronald Press, 1958.
- Fries, Charles Carpenter. The Structure of English: An Introduction to the Construction of English Sentences. New York and Burlingame: Harcourt, Brace & World, Inc., 1952, reprinted 1961.
- Herdan, Gustav. The Calculus of Linguistic Observations. 's-Gravenhage: Mouton & Co., 1962.
- Hill, A. A. Introduction to Linguistic Structures. New York: Harcourt, Brace and Company, 1958.
- Hockett, Charles F. A Course in Modern Linguistics. New York: The Macmillan Company, 1958.
- Mott, Frank Luther. American Journalism. New York: The Macmillan Company, 1962.
- Nida, Eugene A. A Synopsis of English Syntax. Ed. Benjamin Elson. Norman, Okla.: University of Oklahoma, Summer Institute of Linguistics, 1960, second printing, 1962.

- Robertson, Stuart. The Development of Modern English.
Revised by Frederic G. Cassidy. Englewood Cliffs,
N. J.: Prentice-Hall, Inc., 1954.
- Strang, Barbara. Modern English Structure. New York: St.
Martin's Press, 1962.
- Trager, George L. and Henry Lee Smith. An Outline of
English Structure. Washington, D. C.: American
Council of Learned Societies, fifth printing, 1957.
- Whitehall, Harold. Structural Essentials of English. New
York: Harcourt, Brace & World, Inc., 1956.

Articles and Periodicals

- Anon., "The Top 10 Dailies Almost Same as in 1952 Poll,"
Editor and Publisher, April 9, 1960.
- Anon., "The Top U. S. Dailies," Time, January 10, 1964.
Chicago Tribune, February 1894 and February 1964.
- Editor and Publisher, Editor and Publisher International
Yearbook 1964. New York: Editor and Publisher,
1964.
- Francis, W. Nelson, "A Standard Corpus of Edited Present-
Day American English," College English, XXVI
(January 1965), 267-273.
- Haugen, Einar, "On Reading the Close Appositive," American
Speech, XXVIII (1953), pp. 165-170.
- New York Herald-Tribune, February 1964.
- New York Times, February 1894 and February 1964.
- New York Tribune, February 1894.
- The S. H. Parvin's Sons Co., The S. H. Parvin's Sons Co.
Newspaper Director 1893-4. Cincinnati: The S. H.
Parvin's Sons Co., 1893.
- San Francisco Chronicle, February 1894 and February 1964.
- Tebbel, John R. "Rating the American Newspaper," Saturday
Review, May 13, 1961, pp. 60-64.

Unpublished Material

Wolff, Hans. Structural Highlights of American English.
Typescript, n.d. In possession of the author,
Northwestern University, Evanston, Ill.

MICHIGAN STATE UNIVERSITY LIBRARIES



3 1293 03062 7988