TESTS AND TREATMENT OF COMPOUND SUBSTANTIVES IN MODERN AMERICAN ENGLISH WITH SPECIAL EMPHASIS ON STRESS AND INTONATION PATTERNS

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TESTS AND TREATMENT OF COMPOUND SUBSTANTIVES
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STRESS AND INTONATION PATTERNS

By

Maxine Arlane Eyestone

A THESIS

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THE THESIS ABSTRACT

Much has been written about characteristics of compounds, but no one seems to have settled conclusively on a method for distinguishing between compounds and phrases, between compounds and simplexes. It is with these problems that the present study is concerned. What exactly is a compound substantive?

In order to limit the subject and to make the study more practical, I have directed my investigation to compound substantives in Modern American English (ca. 1920 to the present) and concerned myself primarily with the usage of this period as reflected in literature and general vocabulary.

Several factors are cited by various scholars as being necessary considerations in the distinction between compounds and phrases. These include: stress, intonation, pause or internal open juncture, spelling or hyphenation, indivisibility, and a meaning of the whole which differs from the sum of the meanings of the elements. It is the purpose of this study to investigate the validity of these tests in regard to compound substantives. The emphasis is on the auditory phenomena--stress and intonation. Other factors--spelling, indivisibility, and meaning--are considered chiefly as they relate to stress and intonation.

Remembering what scholars have said about the general principles of stress and intonation, I undertook an investigation

to determine how well these principles applied in practice. I designed several reading selections and word lists, each containing as many test compounds and word groups as possible. Next several educated speakers recorded on the tape of a Revere Recorder at least three of the reading selections and part of the list of words. These test items were checked, using the Trager and Smith method for stress and the Pike system for intonation.[1] The results were classified and conclusions drawn about testing compounds. Tests of divisibility and meaning were also checked for reliability, and a brief statistical study of spelling (hyphenation) based on current usage in American literature was made.

With the results of these tests in mind, I formulated the following definition:

> A compound substantive is a word-unit made up of two or more separate words which together function as a single substantive, a single part of speech. It may be composed of two or more parts of speech or of two or more examples of one part of speech. It may appear with the elements written solid, separately, hyphenated, or in any combination of these forms, although the solid forms ordinarily occur only with compounds which have initial stress. A compound differs from a simplex in that in addition to having two or more independent elements, it must also have at least two strong stresses. It differs from a phrase in that it has lost the faculty for having a primary intonation contour or rhythm unit end in the middle of it and it appears not to have an

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[1] George L. Trager and Henry Lee Smith, Jr., An Outline of English Structure (Norman, Okla., 1951), and Kenneth L. Pike, The Intonation of American English (Ann Arbor, Mich., 1946).

intonation break. It also differs from a phrase in that it tends to be indivisible, although this is by no means always true; it also has a meaning which differs in some degree from that of the elements taken separately.

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CHAPTER ONE

INTRODUCTION TO THE STUDY OF COMPOUNDS

Historical Sketch

Modern English, like many of its ancestors and relatives among languages, is colorful and highly idiomatic. One need only mention American slang to point up this fact. Every day new words come popping into the language--to express a new idea, to describe a new invention, to give vent to anger or enthusiasm. One of the most prolific methods of word-formation in English is the combination of two or more words to form a new entity. This is called compounding.

There are of course compounds to be found in various parts of speech, but probably the largest number are substantives. This, then, provides the starting point of the present study. Much has been written about characteristics of compounds; a great deal of heat has been generated and a small amount of light, but no one seems to have settled conclusively on a method for determining the differences between compounds and phrases, between compounds and simplexes. It is with these problems that the present study is concerned. What exactly is a compound substantive? How can we be sure a particular collocation is a compound? How can we distinguish between a compound and a simplex which is similar in form?

In order to limit the subject and to make the study more practical, I have directed my investigation to compound substantives in Modern American English (ca. 1920 to the present) and concerned myself primarily with the usage of this period as reflected in literature and general vocabulary. To make the study more meaningful, however, it will be well to consider briefly the history of compounding in English.

Influence of Alliterative Poetry

Compounding is a method of word formation inherited from parent Indo-Germanic by way of Old English.[1] Anyone who has a nodding acquaintance with the earliest periods of the English language is aware of the ease with which words combine, fusing into a new entity. Carr discusses the reasons for this early facility for compounding, listing alliterative poetry as perhaps the most important influence. He says:

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[1] Carr points out that, although the faculty for compounding was also inherited by other off-shoots of Indo-Germanic, it was nowhere as extensively developed as in modern Germanic languages, especially German.

> In the facility with which independent words can be combined to a higher word-unit the Germanic languages possess a supple and convenient method of word-formation, the potentialities of which have been fully exploited from the time of the early alliterative poetry down to the modern technical terminology. [Charles T. Carr, Nominal Compounds in Germanic (London, 1939), p. xvii].

> This method of word formation seems to have been peculiarly suited to the slow-moving rhythms of the verse and the mentality of the poets themselves. ...The frequent use of nominal compounds seems therefore to be intimately connected [either] with alliteration or with the themes of Germanic poetry.[2]

He adds that writers of Germanic alliterative verse show more interest in powers of description than in the action. There are many more substantives and adjectives than verbs. The Germanic poet liked to play with words, hunt synonyms, work out variations for alliteration.[3] The vast number of compounds in Old English poetry referring to the sea and to sea travel is a case in point. A hasty reading of only a few pages brings to light the following list which is scarcely a beginning: <u>mereflod</u>, <u>lagustream</u>, <u>brimlad</u>, <u>hronrad</u>, <u>garsecg</u>, <u>sæfore</u>, <u>merestræt</u>, <u>sælad</u>, and <u>sæsið</u>. The large number of tautological and intensifying compounds, Carr points out, "leads us to suspect that the Germanic poets were at times the victims rather than the masters of the alliterative technique," coining, as they did, "otiose and cumbersome compounds in a desperate effort to provide the necessary alliteration."[4]

It appears, then, that Old English poets took full advantage of the property of the language inherited from the parent

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[2] Carr, <u>Nominal Compounds</u>, p. 459.

[3] <u>Ibid</u>., p. xviii.

[4] <u>Ibid</u>., p. xiv.

Indo-Germanic. This was true also of German. The difference between the two languages in this capacity, however, becomes apparent in the development of the two languages. For, whereas German has continued to the present day to form new words by combining already established elements to an extent comparable to that found in the earliest stages of the language, English temporarily lost its facility for compounding when the influence of Latin and French became marked during the Middle English period. Scholars disagree on the extent to which English has regained this capacity in the modern period, as we shall see.

Influence of Latin and French

The Romance languages do not utilize the compounding technique to an extent comparable to that found in the Germanic languages; thus when English was found in juxtaposition with Latin and French during the Middle English period, its speakers borrowed many of the foreign elements, making it unnecessary to coin new English words out of native elements.

> The very fact that Latin and French lack the compound-making ability of Greek and German helps to account for the decline of the compound in English [during that period], for the first two languages have been levied upon much more extensively for the English vocabulary than have the latter two.[5]

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[5] Stuart Robertson, <u>The Development of Modern English</u> (New York, 1934), p. 367.

During the Middle English period, many of the old Germanic legends were revived and rewritten in the more modern version of the language. It is interesting to note, however, that this revival was not accompanied by any revival of the older poetic compounds. Carr says that these compounds were probably lost with the transition from alliterative to rhyming verse. He adds that, judging from the differences between the Middle English alliterative poetry and the Modern High German popular epics in respect to language, it seems likely that those noun compounds, which are so intimately a part of the alliterative verse, were in some way closely connected with the alliteration rather than with the themes of Germanic poetry.[6]

The influence of Latin and French seems, then, to have at least temporarily retarded the compound-making facility of English during the Middle English period.

Trend in Modern English

Opinion among scholars seems to differ with regard to the importance and frequency of compounds in modern English. Generally it is agreed that English falls somewhere between French and German in its ability to compound. Nearly all agree that English has revived its faculty for compounding since the Middle English period, though Smith and Bergsten say that it

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[6] Carr, p. 465.

has never quite achieved the facility of the Old English period and certainly cannot compete with German. Characteristic of this view is the following comment by Smith:

> On the whole...the formation of new compounds is not of enormous importance to modern English; and the language has certainly lost some of its original power in this respect. Compounds, moreover, tend to die out more quickly than other words; the Genius of Language seems to prefer a simple term for a simple notion; and a word made up of two others, each of which vividly suggests an idea, is apt to seem awkward to us unless we can conveniently forget the original meanings.[7]

Even Stuart Robertson, writing as late as 1934, took the view that English had lost much of its compound-making ability.[8] But Cassidy, in the revised edition of Robertson, takes a different view. He states that "borrowed words, once naturalized, have themselves entered freely into new compounds," adding that the old compounds have been more than compensated for by new ones.[9]

Kennedy and Vallins agree with Cassidy. Vallins, for

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[7] Logan P. Smith, The English Language (New York, 1912), p. 83. And Nils Bergsten, A Study on Compound Substantives in English (Uppsala, 1911), pp. 67-68, adds:

> In Modern English the faculty of compounding has recovered much of the ground lost in Middle English....[In Present English compounding is gaining ground, though it] still falls far short of the freedom characteristic of Old English.

[8] Robertson, p. 367.

[9] Frederic G. Cassidy, rev., The Development of Modern English, by Stuart Robertson, 2nd ed. (New York, 1954), p. 192.

example, states that "compounding of words of whatever origin has always been and still is an important element in English, as it is in German,"[10] adding later that the capacity of the English language for compounding is almost unlimited.[11] When one considers the vast lists of recently coined compounds and the ease with which speakers and writers invent new expressions of this sort to fit every occasion, one is inclined to agree with Cassidy, Vallins, and Kennedy on this point.

Another influence of the early languages which has encouraged compounding in the modern period was the Germanic development in syntax. In Greek and Latin freedom of word order was retained. This was not so in Germanic languages, however, where word order became fixed, thus allowing syntactic phrases which occurred frequently to "more easily coalesce to compounds...than in languages where the order was less rigid."[12] Thus, although compounds composed of adjective plus substantive appeared only infrequently in Primitive Germanic, they have increased in number in the modern periods of both German and English.[13]

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[10] G. H. Vallins, Making and Meaning of Words (London, 1949), p. 97.

[11] Ibid.

[12] Carr, p. xviii.

[13] Ibid.

Trend in American English

As Mencken and Mallery point out, the discovery of the New World occasioned the revival of compounding with a vengeance. Early English colonists had to find new terms for new experiences.

> If no words existed in English to describe adequately certain American animals, for example, it was a simple matter to use two English words together and get such new terms as bullfrog, groundhog, catfish.[14]

Mencken, too, describes the American bent for compounding:

> Nothing could exceed the brilliancy of such inventions as joy-ride,...road-louse, sob-sister, frame-up, loan-shark,....They are bold; they are vivid; they have humor; they meet genuine needs. Joy-ride has already gone over into English, and no wonder. There is absolutely no synonym for it; to convey its idea in orthodox English would take a whole sentence.... Here an essential character of the American shows itself: his tendency to combat the disagreeable with irony, to heap ridicule upon what he is suspicious of or doesn't understand.[15]

Smith points out that compounds are the product of imagination and emotion rather than intellect. Some of the most vivid compounds, he says, are words of abuse like lickspittle, skinflint, swillpot, spitfire. Of the same insulting sort we might add: battle-axe, hell-cat, deadbeat, blowhard, road-hog, creampuff, horse face, panty-waist, bitch-louse, blockhead,

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[14] Richard D. Mallery, Our American Language (Garden City, N. Y., 1947), p. 64.

[15] H. L. Mencken, The American Language, 3rd ed. (New York, 1923), pp. 196-197. See also 4th ed. (New York, 1936), pp. 144-145 and pp. 186-187.

deadpan, *turncoat*, *potato face*, and the above-mentioned *sob-sister* and *loan-shark*. The excitement of passion, as Smith tells us, helps to create new words.[16]

Influence of War and Industry

More recently war and American transportation industries, to mention only two areas, have added a wealth of new compounds. Bryant lists several which entered the language in World War II, beginning with the English adoption of the German *Blitzkrieg*, and going on to *hedge-hopper*, *ground-strafing*, *pillbox* (protective covering for a big gun), *doughboy*, *Seabee* (member of the U. S. Navy's *C*onstruction *B*attalion), and *near-miss* (bomb which came close to the target but missed).[17]

Bryant goes on to say: "Some really fanciful compounds are the creations of the postwar aviation industry in America. It had become a tradition of American transportation that de luxe forms of travel should have de luxe names."[18] So we have *airlines*, *flagship*, *mainliners*, *skycruisers*, *skyfreighters*, *strato-liners*, *strato-cruisers*. "These coined terms exemplify the American zest for the picturesque, a zest that has been

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[16] Smith, pp. 83-84.

[17] Margaret M. Bryant, *Modern English and Its Heritage* (New York, 1948), pp. 294-295. Bryant makes an error here; *pillbox* and *doughboy* are World War I terms.

[18] *Ibid*., p. 295.

characteristic of usage in this country from the earliest times."[19]

Summary

Thus it can be seen that English inherited a facility for compounding from parent Indo-Germanic. This facility was fostered by the necessity for alliteration in Old English poetry and by Germanic syntax which is characterized by fixed word order, thus encouraging certain repeated combinations of words to become fused into a unit.

Although English may have temporarily lost its adaptability for compounding during the Middle and Late English periods, because of the influence of Latin and French, this adaptability has been revived in Modern American English where slang, new mechanical inventions, new professions, and the natural enthusiasm of the people are proving how flexible the English language can be.

Preliminary Definition of Compound

Having thus established the frequency and importance of compounds in American English, it might be well to examine the category more extensively to determine what exactly a compound is.

Bloch and Trager define a compound as "a word made up wholly of smaller words,"[20] and certainly one can scarcely go

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[19] Ibid.

[20] Bernard Bloch and G. L. Trager, Outline of Linguistic Analysis (Baltimore, Md., 1942), p. 54.

wrong with this for a starting point. However, there are other points to be taken into consideration. Actually there are as many definitions of compounding as there are persons formulating the definitions. Some of the more conservative grammarians and stylists insist that orthographical unity is necessary, that the elements of the compound must be written solid or hyphenated, and that unless they may be written in this manner a true compound does not exist. Alice M. Ball[21] is one of these.

Taking a more liberal view are Bergsten, Noreen, Paul, and Sturtevant, who recognize that the distinction between a compound and a word group cannot always be made with certainty. Bergsten says, "It appears...that exact limits between compounds and word groups cannot possibly be drawn, there being a broad boundary area where only intermediate stages are found, varying according to subjective views."[22] Paul points out that the transition from juxtaposition to true composition is gradual, that there is no sharp line of demarcation. This is proved, he says, by the great uncertainty in orthography of modern languages in their treatment. "This uncertainty," he adds, "has led to an orthographical compromise-- the use of the hyphen."[23]

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[21] Alice M. Ball, Compounding and Hyphenation of English Words (New York, 1951), p. 3.

[22] Bergsten, p. 3.

[23] Herman Paul, Principles of the History of Language, 2nd ed., trans. H. A. Strong (n.p., 1891), p. 371. See also Chapter IV of the present study.

Several factors are cited by various scholars as being necessary considerations in the distinction between compounds and phrases. These include: stress, intonation, pause or internal open juncture, spelling or hyphenation, indivisibility, and a meaning of the whole which differs from the sum of the meanings of the elements. It is the purpose of this study to investigate the validity of these tests in regard to compound substantives. The emphasis will be on the auditory phenomena--stress and intonation; other factors--indivisibility, meaning, spelling--will be considered chiefly as they relate to stress and intonation.

Although it is, of course, impossible to define a compound with accuracy before setting out on an investigation to determine valid tests of a compound, it is nevertheless necessary to have some sort of working definition for a starting point in order to know what sort of samples to look for. On the basis of what scholars and rule-book makers have said in the past, I formulated a working definition for a compound substantive; this definition was used in the preliminary selection of citations from literature and in the compilation of a list of combinations and phrases from these citations and other sources to be tested in the oral part of the study.

The definition is as follows:

> A compound substantive is a word-unit made up of two or more separate words which together

> function as a single substantive. It may be composed of any two or more parts of speech or of two or more examples of one part of speech. It may appear with the elements written solid, separately, hyphenated, or in any combination of these forms. A compound differs from a phrase in that it tends to be indivisible, as a unit it has a sense differing in some degree from that of the elements taken separately, and it generally functions as a single part of speech. It differs from a simplex in that it has two or more recognizable words which may on other occasions appear as independent elements. When collecting citations from literature the matter of stress should be ignored. When in doubt, the combination should be included for testing.

With this definition to go on, I began my study with a consideration of the function of stress.

CHAPTER TWO

PART ONE: GENERAL PRINCIPLES OF STRESS AND ACCENT

Accent vs. Sense-Stress

T. Chiba in his volume, Study of Accent, lists five elements of connected speech: (1) words; (2) stress, syntactical pattern, and rhythm; (3) content; (4) style; and (5) tone.[1] The present study is concerned chiefly with the first, second, and last of these elements: words, stress, and tone or intonation in their particular relation to compounds and collocations used substantively.

The first problem to be considered is that of stress or accent.

Kenyon defines stress as:

> The prominence given in speech to a syllable or a word which makes it stand out to the attention above the syllables or words next to it. Stress, like quantity, is relative--not a fixed degree of prominence, but one greater or less than that of adjacent syllables. Stress may be of two kinds--accent and sense-stress. The term applies to the prominence given to a word over the preceding or following word in a group that makes sense.[2]

Stress, then, is a relative matter and is determined largely in relation to a group of syllables or a group of words.

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[1] (Tokyo, 1935), p. 30.

[2] John Samuel Kenyon, American Pronunciation, 10th ed. (Ann Arbor, Mich., 1950), section 104.

With some scholars, however, it appears to be less relative than with others, as we shall see.

Although the terms stress and accent will be used more or less interchangeably here, the present study is essentially concerned with accent rather than with sense-stress. As Pike points out, however, sense-stress must be taken carefully into account when making tests, lest the position of the word in a sentence or the context in which it occurs distort the normal stress pattern. To obtain best results, it is well to place the word to be tested toward the beginning or middle of the sentence, rather than at the end. For at the end of an utterance, the normal stress pattern might be obscured by sense-stress, since we have a tendency to stress heavily the ends of sentences.[3] Failure to take this point into account in the early oral tests of the present study resulted in disqualification of the results on several words.

Generally speaking, a word in English normally has only one strong stress with any number or variety of lighter stresses. It is this tendency toward one strong stress per word which has led scholars like Kenyon, Bloomfield, and Kruisinga, among others, to use this principle as the determining factor in distinguishing compounds from word groups, the theory being that a compound,

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[3] For a more detailed discussion of emphatic stress or sense-stress, see pp. 27-28.

being a single unit, should therefore have only one strong stress and that, according to the law of recessive accent,[4] that single stress should ordinarily fall on the first element.

Whether or not accent or stress (not sense-stress) can be used as an accurate determinant of compounds has been a point of disagreement among scholars. Some, like Kenyon, insist that a combination is not a compound unless the heavy accent falls on the initial element.[5] Others, like Trager, Bloch, Smith, and Schubiger[6] deny this. Pike refuses to be stampeded by the criterion of stress and points out that other considerations, notably intonation, are much more accurate tests of compounds.[7]

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[4] Free accents frequently recede to the first syllable. This law of recessive accent accounts (1) for the large number of English words accented on the first syllable, (2) for the large number of monosyllables in English, one or more syllables having been lost from the end of a word by gradual obscuration from the loss of accent after it had been shifted to the first syllable, and (3) for the loss of one or more syllables from words with only primary accent on the first syllable. [as in the British pronunciation of <u>ordinary</u>]. Kenyon, <u>American Pronunciation</u>, section 114.

[5] Kenyon, section 127.

[6] Maria Schubiger, <u>The Role of Intonation in Spoken English</u> (Cambridge, 1935), p. 60, points out that whereas objectively a compound may have single stress on the first element, that same word in an emotional context may take a double stress. She does not in any way imply that this double stress disqualifies that combination from being considered a compound.

[7] For a full discussion of Pike's theories, see Chapter III of this study.

Systems for Determining Stress

Several systems[8] for determining stress have been proposed, the most detailed ones coming from Kenyon, Trager and Smith, and Newman. The grades of stress, as outlined in these three systems, are summarized briefly below.

Kenyon

Kenyon lists four major degrees of accent, although he points out that there are many more, too minute to be accurately determined and too complicated to be recorded in the average dictionary. His four degrees are: primary, secondary, light accent, and stressless.

He divides primary accent into at least two degrees, although he does not distinguish them by name. His primary accent appears most obviously in the first elements of '<u>milkman</u>, '<u>mortar board</u>, '<u>fire marshal</u>. He also insists that the first element of such combinations as <u>James Brown</u>, <u>Mrs. White</u>, <u>Wilson Avenue</u>, <u>upstairs</u>, <u>apple pie</u> also has a primary accent, so that these combinations would have what might be called even accent or level accent.[9] He admits that the accent on the second element of these combinations is the stronger of the two, but he still

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[8] Sweet and Jespersen both propose four-level systems for determining stress, but they do not elaborate them.

[9] Kenyon, <u>American Pronunciation</u>, section 107.

persists in listing both under the heading of primary accent without any further distinction between them. It is this point which is the weakest element in his system; without this distinction between the two accents, it would be difficult if not impossible to describe and explain adequately some of the longer, more complex combinations.

Kenyon's secondary accent or half-stress is exemplified by the second element of such combinations as *milkman*, *marriage vow*, *ice pick*, *monkeyshines*, *altar rail*. This half-stress is comparable to the tertiary accent of Trager and Smith, as will be explained below.

The third degree of accent in Kenyon's system is light, which falls at some indeterminate point between secondary and stressless. His example is the second syllable *un* of *misunderstanding*. The *der* and *ing* syllables of that same word exemplify the fourth category, stressless, which always has the vowel sound [ə], [ɚ]. or [ɪ], or is a syllabic consonant.[10] Other examples of the fourth category appear in the second syllable of *postman*, *cupboard*, *vineyard*, and in most pronunciations of *woodland*.

The main weaknesses of Kenyon's system are its difficulty of application, particularly in longer combinations, and its

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[10] For Kenyon's explanation, see *American Pronunciation*, section 122.

failure to take into account a distinction between the two degrees of primary accent.

Trager and Smith

Writing with Bernard Bloch in the early 1940's, George L. Trager outlined four degrees of accent, labeled in one place: loud stress, reduced loud stress, medial stress, and weak stress, and at another point: loud, half-loud, strong, and weak. Although these are parallel in application to his later categories, it was not until 1951, writing with Henry Lee Smith, jr., that he gave a more detailed explanation of the system.[11]

At that point Trager and Smith gave a fuller description of the four degrees of stress, which are much easier to apply in practice and much more accurate than those of any of the other systems thus far proposed. The labels given these categories of stress were: primary, secondary, tertiary, and weak. These types of stress will be taken up in the order in which it will be easiest for them to be understood.

Primary accent. Primary accent is defined by Trager and Smith as "a stress phoneme whose characteristic is maximum normal

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[11] For details see Bernard Bloch and George L. Trager, Outline of Linguistic Analysis (Baltimore, Md., 1942), pp. 47-48; George L. Trager and Bernard Bloch, "The Syllabic Phonemes of English," Language, XVII (1941), 223-246; and George L. Trager and Henry Lee Smith, jr., An Outline of English Structure (Norman, Okla., 1951), pp. 35-39.

loudness."[12] The designation for this type of stress is / ´ /, and the mark is placed over the vowel. This is the type of accent encountered on the first element of combinations like *ashcan*, *goldfish*, *teapot*, *yule-log*.

Generally speaking, there is agreement among Kenyon, Newman, and Trager and Smith that the heavy accent in combinations like those listed above is a primary accent, the strongest degree of accent to be considered in the determination of compounds. Kenyon, as has been stated, however, also considers the first accent in such combinations as *upstairs*, *apple pie*, *square rod*, as a primary accent. With this, Trager and Smith disagree; they would insist that only the heavier accent (as the *ash-* of *ashcan* and *pie* of *apple pie*) should be considered primary since *primary* to them is a designation given only to the main accent of a word or combination.

Light accent. Light (or weak) accent is approximately equivalent to Kenyon's stressless, but, as Kenyon himself points out, a syllable which is audible can scarcely be said to be completely without stress. Trager and Smith give the example, *animal*, in which the last two syllables might be labeled / ˘ / and / ⏓ /, respectively. The latter is slightly stronger than the middle syllable, but both may be considered light and are

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[12] George L. Trager and Henry Lee Smith, jr., *An Outline of English Structure* (Norman, Okla., 1951), p. 36.

usually either labeled / ˘ / or not labeled at all.

Examples of this kind of accent are found in the final syllable of such words as *wóodlănd*, *víneyărd*, *cúpbŏard*, *polícemăn*, and in the unaccented syllables of longer combinations like *élĕvàtŏr ôpĕràtŏr*, *théătĕr tìckĕts*, *hýdrŏgĕn bòmb*, *ĭnsáne ăsy̆lŭm*. When the light accent occurs on the final element of a two-word combination, that word tends to lose its identity and to become merely a syllable, even though, as with -*man*, the original spelling is retained.[13]

Tertiary accent. Tertiary accent is illustrated by Trager and Smith in the verb *animate*, in which the final syllable might be labeled / $\overset{\smile}{=}$ / or more conveniently / \ /. It is this stress which occurs most frequently in the second element of compounds and word groups having primary accent on the first element. Examples are: *cópy̆ bòy*, *bláckmàil*, *íce pìck*, *hándcùffs*, *chórŭs-gìrl*, *sún dèck*.

Not all tertiary accents are equal, however. For example, the accent on the second element of *drugstore* is stronger, especially with certain speakers, than the accent on the second element of *bust-up*. Some speakers consistently use lighter stress on the second element when it is a short adverb (*up*, *off*, *out*, *in*) than when it is a longer word, such as a noun. This

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[13] E.g., *policeman*, *fireman*, *postman*. For other examples and further elaboration of this point, see pp. 35-38.

is particularly true of *up* and *in*. Nevertheless the distinction is so slight and varies to such a degree that separate classifications would be impractical. The difference is much less than that between primary / ´ / and secondary / ^ / in combinations Kenyon insists have even primary accent, as *apple pie*.

Secondary accent. Secondary accent / ^ / poses the biggest problem of identification. This type of accent falls somewhere between primary and tertiary and can best be illustrated in combinations where more than one degree of stress of slightly less than primary strength must be indicated. It is most easily identifiable in longer combinations having several important elements, as *flágpòle sîttĕr*, *básebàll plâyĕr*, *ráilwày tîckĕt*, *bréakfàst nôok*, *câr dóor kèy*, *îce créam còne*, *ătômĭc wárfàre*, *rôadsìde stánd*, *rêarvìew mírrŏr*. It is also frequently a characteristic of combinations involving multi-syllable words, as *cìgărétte lîghtĕr*, *télĕvìsĭon sêt*, *cŏrrĕspóndènce-côurse*, *wár còrrĕspôndĕnt*, *élĕvàtŏr bôy*.

It is with secondary accent that one of the basic disagreements between Kenyon and Trager and Smith occurs. Kenyon's stress system is completely relative; with only one strong degree of accent less than primary, that accent is always secondary. The system of Trager and Smith, on the other hand, is also relative, but it allows the possibility that a strong accent of less stress than primary may be either secondary or

tertiary,[14] depending on its true value. With the Trager and Smith system it is not necessary to have all three degrees in order to label one of them tertiary.

For example, Kenyon would call *railway* a primary-secondary accent combination. But what happens when another word is added, forming another combination, as *railway ticket*? The primary accent still normally falls on the first element, but the accent on the first syllable of *ticket* is stronger than the accent on the second syllable of *railway*. We have three degrees of stress here, and those outlined by Trager and Smith seem best to fit the pattern, thus: *ráilwày tîckĕt* or primary-tertiary-secondary-weak. Since this must be fairly apparent to the careful reader or listener, it would seem illogical to insist that when *railway* appears alone the pattern is primary-secondary and when it appears in combination, the pattern is primary-tertiary-secondary, particularly since the word is pronounced essentially the same in both contexts.

It is interesting to note that when the major accents in long combinations shift because of context, as from *ráilwày tîckĕt* to *râilwày tíckĕt*, it is the primary and secondary which interchange, not the primary and tertiary. It is this point which

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[14] For a discussion of internal open juncture, which Trager and Smith state is a necessary adjunct of secondary stress, see Chapter III, Part III, of the present study.

Trager and Smith use as the basis for determining that / ^ / is a type of accent in its own right, not simply an allophone of / \ /.[15]

Still another argument for the use of Trager and Smith's accent divisions is evident when the secondary-primary / ^ / / combination appears. Compare *hóly̆ wàtĕr* and *Hôly̆ Órdĕrs*. The strength of the first syllable *Ho-* of *Holy Orders* is weaker than that of the first syllable *ho-* of *holy water*. Yet the first syllable *Or-* of *Orders* tops that of *wa-* in *holy water*, and therefore a distinction must be made. Other such pairs are: *blínd spòt*--*blînd álley̆*; *bănánă pèel*--*bănână splít*; *íce pìck*--*îce téa*.

In summary, then, Trager and Smith propose four levels of accent: primary, secondary, tertiary, and weak. Primary is the strongest natural accent, exclusive of sense-stress; secondary is only slightly less strong and is used most frequently in compounds or combinations requiring more than one stress of slightly less than primary; tertiary is that type of accent most frequently used in the second element of compounds, as in *baseball*; and light or weak accent is used in those syllables or words in which vowels, diphthongs, and triphthongs all lose their full value and become [ə], [ɚ], or [ɪ], and in which they are not stressed or

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[15] See Trager and Smith, p. 39.

are only slightly stressed, as in the second element of postman, vineyard, cupboard.

Newman

Newman's system of stress distinctions[16] appears on the surface to be in radical disagreement with both Kenyon and with Trager and Smith. Actually, however, there is less difference than one might expect.

Outlined briefly, Newman's system looks like this:

I. Heavy stress
  1. Nuclear
  2. Subordinate heavy
II. Middle
  1. Full
  2. Light
III. Weak
  1. Sonorous
  2. Pepet

Omitting nuclear heavy stress for the moment, it can easily be seen that subordinate heavy stress is comparable to Trager and Smith's primary, as exemplified in the first element of chórŭs gìrl, róckĭng chàir, ármpìt, básebàll. The example given by Newman is that stress found on the first syllable of ánnual.

Full middle, on the other hand, seems at first glance to most closely resemble Trager and Smith's secondary, partly because of its association with internal open juncture.[17] However, Newman states

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[16] S. S. Newman, "On the Stress System of English," Word, II (1946), 171-187.

[17] See Chapter III, Part III, of the present study.

that it appears as the main stress of words used in subordinate position, as *bóokcàse*, *frée-for-àll*, and here it most closely resembles Trager and Smith's tertiary. There appears in Newman's system no clear-cut distinction between these two degrees of accent, and we have already indicated a need for this distinction in the analysis of compounds.

Light middle, which rightfully should parallel tertiary, falls short of the mark when Newman limits its use to a position *before* the primary accent. Because of this stipulation, light middle would be of little use in the study of compounds.

Newman also lists two degrees of light accent, on the basis of phonetics, one for [ə] sounds and another for fuller vowels. This distinction might be valuable in studying dialects or even in studying the patterns of sentences (for which he uses it), but it probably adds little to our knowledge of compounds to know that *dairyman* contains two different varieties of weak stress on the last two elements.

The problem of nuclear heavy stress, which we omitted when discussing the heavy stresses of Newman's system, will be taken up in the next section.

The Problem of Sense-Stress

Nuclear heavy stress, listed by Newman as even stronger than normal heavy stress, is discussed at length by Kenyon under the heading of sense-stress and is also recognized by Trager and Smith.

It is not taken into account, however, in the main categories of stress of either of these two systems. Newman lists it as a sub-type of heavy stress. This factor of nuclear heavy stress, or sense-stress as we will call it here, is considered significant by several scholars, though it is held by most of them to be related to intonation rather than to stress exclusively.

Sense-stress is comparableto emphasis. Pike calls it *extra strong* stress and gives it the meaning of emphasis or exclamation. He points out that it is "a further phonemic degree of stress, not of the innate type, but limited to superimposed usage."[18] He uses the symbol / " / to designate it. He goes on:

> This emphatic stress may be used to reinforce either a normal innate stress, or to reinforce and make more emphatic the regular stress in special sentence placement. The two types of placement, respectively, may be seen in the phrases *Grab the "lantern, you fool!* and *Put it "in the box, not 'on it.*[19]

In addition to this use of stress for emphasis, speakers of English have a tendency to stress more heavily the ends of their sentences or the ends of phrases which come just before a

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[18] Kenneth L. Pike, *The Intonation of American English* (Ann Arbor, Mich., 1945), p. 85.

[19] *Ibid.*

pause. It is this superimposed stress either for emphasis or at sentence ends which has a tendency to distort the results of studies of accent if it is ignored. For best results, as has already been mentioned, it is safest to avoid exclamatory statements and to place test items toward the beginning or middle of the sentence to avoid the distortion-potential of emphasis and sense-stress.

Importance of Stress as a Test of Compounds

Since there is such wide divergence of opinion regarding the systems of stress and their application in the testing of compounds, this criterion alone is not dependable in identifying compounds. It is useful chiefly in two respects: for the preliminary sorting of combinations into categories which may be tested by other methods, and for making tentative distinctions between simplexes and combinations.

Chapter II, Part II, is devoted to sorting potential compounds into groups which may later be tested by other methods. As for the test of simplexes we might say this:

We pointed out in the introduction that to qualify as a compound a word or combination must be composed of two or more independent elements. On this basis, the spelling of some words like vineyard, postman, cupboard would seem to qualify them as compounds, since they have two recognizable elements which can appear alone. The criterion of stress, however, eliminates them

from this category if we agree, as most scholars do, that a compound must also have at least two stresses which are stronger than weak. On this basis such words as *boatswain*, *cupboard*, *vineyard*, and words having light accent on the final element *-man* as *postman*, *fireman*, would be considered simplexes rather than compounds. They have the same stress pattern as a word like *friendship*, *porter*, *radio*. It must be remembered, however, that having two strong stresses does not necessarily mean that a combination or word is a compound, since simplexes like *cìvĭlĭzátiŏn* and phrases like *blâck bírd* (as contrasted with the compound *bláckbìrd*) have two stresses stronger than light, yet neither is a compound.

PART TWO: STRESS PATTERNS IN COMPOUNDS AND WORD GROUPS USED AS SUBSTANTIVES

Method of Study

Bearing in mind what scholars have said about the general principles of stress and accent, I undertook an investigation to determine how well these principles applied in practice, especially with regard to compounds and word groups used as substantives.

First I designed four reading selections (later I added three more, profiting from the information gleaned from the first set), each containing as many of the test compounds and word groups as possible. To these I added a list of compounds and word groups out of context.[20] Then I enlisted the assistance of several educated speakers with somewhat different geographical and linguistic backgrounds.[21]

Next each of these persons recorded on the tape of a Revere Recorder at least three of the reading selections and a part of the list of words. The speakers were not, of course, told the purpose of the test. The nature of the tape recording made it possible to play and replay the selections without distorting the pronunciation of the test items. Lastly, these

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[20] For complete texts of reading selections and word lists used in the study, see Appendix A.

[21] For thumbnail biographies of the speakers, see Appendix B.

test items were checked for stress pattern, using the system and symbols of the Trager and Smith method. Thus, it was discovered that the word groups, regardless of their qualification as compounds, fall into four major groups, some of which have three or four sub-groups. The major groups were labeled A through D, and the sub-groups were numbered.

Classification of Combinations
On Basis of Stress

Group A. Primary-Tertiary: ármpìt
(largest group)
Group B. Primary-Secondary
1. Primary-Tertiary-Secondary: ráilwày tîckĕt
2. Tertiary-Primary-Secondary: cìgărétte lîghtĕr
3. Primary-Secondary-Tertiary: páy têlĕphòne
4. Primary-Secondary: átŏm bômb

Group C. Secondary-Primary
1. Secondary-Primary: câse-hístŏry
2. Secondary-Primary-Tertiary: dĕstrôyĕr-mínesswèepĕr
3. Secondary-Tertiary-Primary: rôadsìde stánd
4. Secondary-Secondary-Primary: îce crêam sódă

Group D. Miscellaneous
1. Primary-Weak: póstmăn
2. Tertiary-Primary: ĕlèctrĭc fán
3. Complex: côffèe ănd cócktàil tâblĕ

The next few pages will explain these classifications in greater detail.

Group A: Primary-Tertiary

By far the largest number of word groups used as substantives display the stress pattern of primary-tertiary / ´ ` / and will be classed in Group A. Although the basic stress pattern is primary-tertiary, many of these word groups have light stress on other syllables of either the first or second element. This is also true of combinations in other groups.

Examples of Group A combinations:

límelìght
déadbèat
báll pàrk
sún dèck
téacùp
cópy̆ bòy
dárkròom

phótŏ làb
ĭnsáne ăsỳlŭm
chéesecl̀oth
áltăr ràil
băllét-dàncĕr
mínstrĕl shòw
búttŏnhòle

íronĭng bòard
sáddlĕ shòes
cóurthòuse
ălárm clòck
bóardĭnghòuse
hýdrŏgĕn bòmb
théătĕr tìckĕt

Group B: Primary-Secondary

A second large group of combinations are those which have a primary-secondary / ´ ^ / stress pattern. There are four sub-types of this group.

Group B-1: primary-tertiary-secondary. Group B-1 is composed of combinations of several words each and of multiple-syllable combinations having a stress pattern of primary-tertiary-secondary.

Examples of Group B-1 combinations are:

ráilwày tîckĕt
góldfìsh swâllŏwĕr
bréakfàst nôok
bédròom slîppĕrs
pópcòrn bâg
cócktàil pârty̆
flágpòle sîttĕr
básebàll plâyĕr
áircràft câr rĭĕr
wár còrrĕspôndĕnt
télĕvìsiŏn sêt
élĕvàtŏr bôy

Group B-2: tertiary-primary-secondary. The combinations of Group B-2 are very similar to those of Group B-1, except that the first two stresses are reversed and we have a stress pattern of tertiary-primary-secondary /` ´ ^/. Despite this shift, however, the primary accent still falls on the first element of the compound.

Examples of Group B-2 combinations are:

cìgărétte lîghtĕr
còrrĕspóndĕnce-côurse
pèrsĕcútiŏn cômplĕx
Fòr Rént sîgn

Group B-3: primary-secondary-tertiary. Only one example of the Group B-3 or primary-secondary-tertiary /´ ^ `/ combination appeared in the present study. It was páy têlephòne.

Group B-4: primary-secondary. Although only two rather questionable examples of the Group B-4 or primary-secondary / ´ ^ / combination showed up in the present study, it was found that in the speech of certain individuals whose manner of speaking was rather choppy or staccato in effect, many of the Group A combinations were pronounced in this manner, particularly if there was

even the slightest excuse for emphasis.

The two examples which fell in this category were <u>átŏm bômb</u> and <u>ódd jôb</u>, although admittedly a different context for either of these combinations might have brought entirely different results.

Group C: Secondary-Primary

With Group C we get into a group of combinations about which there is a difference of opinion as to whether they can qualify as compounds. Since they have what Kenyon would term <u>level stress</u>, they would not qualify by his definition as compounds. We will discuss the problem from the standpoint of intonation later.

<u>Group C-1: secondary-primary</u>. Group C-1 has a stress pattern of secondary-primary / ^ ´ /. Words included in the group are:

câse-hístory̆	blînd dáte
ceâse-fíre	îce téa
hêll's bélls	ătômĭc bómb
hît túnes	ătômĭc wéapŏns
bûrnt córk	bănână splít
blînd állĕy	blôody̆ múrdĕr (exclamation)
drîp cóffĕe	dôublĕ-pláy
bêst-séllĕrs	Hôly̆ Órdĕrs

<u>Group C-2: secondary-primary-tertiary</u>. Group C-2, like Groups B-1, B-2, and B-3, is composed of multiple-word and

multiple-syllable combinations. Group C-2 has a stress pattern of secondary-primary-tertiary /ˆˊˋ/. Examples are:

câr dóor kèy
îce créam còne
dĕstrôyĕr-mínesweèpĕr
nêrvŏus bréakdòwn

râdĭo-phónŏgràph
ătômĭc énĕrgy̆
ătômĭc wárfàre

Group C-2: secondary-tertiary-primary. Group C-3 is similar to Group C-2, with a shift in the last two elements. The pattern is secondary-tertiary-primary /ˆˋˊ/. Examples are:

rôadsìde stánd
nêwsrèel théătĕr
rêarvìew mírrŏr

nêòn sígn
fôreĭgn còrrĕspóndĕnt
Jôhnny̆-còme-látely̆

Group C-4: secondary-secondary-primary. In a few instances even stress appears on the first two elements of a multiple-word combination. Only two examples of these appeared in the present study. They are included in Group C-4 and have a stress pattern of secondary-secondary-primary /ˆˆˊ/. The two examples are îce crêam sódă and twênty̆-fîve-cént pièce.

Group D: Miscellaneous

The final category, Group D, is composed of three sub-types which have very little relationship to each other, though under Group D-3 I discuss two types of construction which are related to Group C.

Group D-1: primary-weak. Group D-1 is a category showing

the primary-light /´ ˘/ stress pattern. Most scholars consider that the items in this group are neither compounds nor combinations, but that they have developed to a point where they may be considered simplexes.[22] The reason for this is that in many cases the second element has become scarcely more than a final syllable or suffix which no longer has a recognizable identity as an independent word.

A careful study of this group, however, reveals widespread inconsistency in the pronunciation of these words, to the extent that some of them, like *counterman*, are sometimes pronounced with full tertiary stress and sometimes with light stress on the second element. This widespread variation in pronunciation makes it impossible to classify some of the combinations consistently, a single word group wavering from category to category even in the speech of a single individual. Because of this, and also because these words doubtless represent a stage of development which many of the now recognized compounds will one day reach, it will be well to consider them as a separate group, though we cannot consider them true compounds.

The majority of these primary-light words have a simple primary-light /´ ˘/ stress pattern. Some have more than one light syllable /´ ˘ ˘ or ´ ˘ ˘ ˘/ as $\underline{\overset{/}{\text{coun}}\overset{\smile}{\text{try}}\overset{\smile}{\text{man}}}$, $\underline{\overset{/}{\text{in}}\overset{\smile}{\text{fan}}\overset{\smile}{\text{try}}\overset{\smile}{\text{man}}}$; in these words the primary accent comes on the first syllable of

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[22] See comment on pp. 28-29 and p. 63.

the first element. In some cases, however, the pattern shifts, as in *frŏntíersmăn* and *ărtíllĕry̆măn*. In all cases cited, however, no stress pattern showed more than one unstressed syllable before the primary accent.[23]

Probably the largest number of combinations with light stress on the final syllable end in *-man*. In fact, in my own speech 48 out of the 77 literary citations of combinations ending in *-man* have light stress at least part of the time.[24] This would seem to indicate that the element *-man* is beginning to lose its identity when used as the last element in a combination. Examples of primary-light words ending in *-man* which are probably always pronounced with light stress on the final element are:

bookman
chairman
clergyman
footman
gunman
horseman
layman
midshipman
nightwatchman
patrolman
pitchman
policeman
postman
salesman
spokesman
sportsman
tradesman
watchman

Words which frequently have light stress on the final element include:

artilleryman
cameraman
counterman
crewman
dairyman
doorman
expressman
hangman
infantryman
madman
messman
schoolman

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[23] Trager and Smith make this point too. See *Outline*, p. 37.

[24] For a discussion of the sources of these literary citations, see pp. 71-72.

n contrast, some of those which still retain tertiary stress on ie final element, and must therefore be included in Group A, re:

batman
cattleman
caveman
city man
college man
family-man
furnace-man
garbageman
iceman
mailman
radioman
road man

Other forms which occasionally occur with light stress on he final element are *-land*, as in *highlands*, *woodland*; *-yard*, as n *vineyard*; and *-board* as in *cupboard*, *starboard*. Very few of hese forms were used in the oral tests of this study.

Group D-2: tertiary-primary. Because of the prevalence f the secondary-primary pattern, very few of the tertiary-primary ords appeared in the present study. The majority of the combinaions having primary accent on the final element have the secondary ccent on the first element. The few remaining in the Group D-2 ategory were *electric fan*, and some pronunciations of *banana ritters* and *battle royal*.

Expanded Items

Several interesting patterns occur in expanded combinations--hat is, combinations which have been split for modifiers or ther elements to be injected between the two main elements. Two f those included in the present study follow patterns which have lready been discussed; the third has a more complex stress attern.

As an experiment I expanded the combinations *field glasses*, *chicken farm*, *coffee table*, and *car keys* to see what effect this might have on the stress pattern.[25] Each of these combinations has the accent on the first element before expansion, as *fíeld glàssĕs*, *chíckĕn fàrm*, *cóffĕe tàblĕ*, *cár kèys*. When the combinations are expanded, however, the primary accent shifts and we get: *fîeld hàt ănd glássĕs*, *chîckĕn ănd tŭrkéy fàrm*, *côffèe ănd cócktàil tâblĕ*, *câr dóor kèys*. According to the classes we have already set up, the stress pattern of *field hat and glasses* would place it in Group C-3, and the stress patterns of *chicken and turkey farm* and *car door keys* would put them in Group C-2. The fourth combination, *coffee and cocktail table*, because of its multiplicity of syllables, has a more complex stress pattern and will be classified in Group D-3.

Unstable Stress

Although the majority of the combinations used in the present study showed fairly stable stress patterns when uninfluenced by sense-stress, there were several combinations which showed divided usage either by different persons in the same context, or by the same persons in different contexts.

Probably the most remarkable instance of this unstable stress occurred with the combination *ice cream*. In the present

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[25] For more details of this experiment in divisibility, see Chapter V, Part I, and pp. 59-60.

study, the combination ice cream was tested orally in the following contexts: 1) "His Adam's apple moved up and down as he sat in the breakfast nook calmly eating ice cream;" 2) "I want some ice cream!" Lily shouted;" 3) "I want my ice cream now!" 4) "In fact I'll take it in any flavor or form--just so long as it's ice cream;" 5) "This sister also sold homemade ice cream and meatballs at the roadside;" 6) "...and a delivery boy handed her a nosegay of tuberoses and a quart of ice cream."

In the one context where this combination occurred in the middle of the sentence, usage was divided 50-50 between íce crèam and îce créam, with four persons testing the combination. In examples one, four, and six, where the combination fell at the end of the sentence but without undue necessity for emphasis, the split was as follows:

1) 2 íce crèam; 3 îce créam
4) 3 íce crèam; 2 îce créam
6) 3 îce créam; 1 íce crèam

In examples two and three, where emphasis was called for, the split was:

2) 3 íce crèam; 2 îce créam
3) 3 íce crêam; 2 îce créam

When contrastive emphasis was called for, as in "'I want vanilla ice cream,' she specified. 'Later I might also have chocolate ice cream or a paddle pop.'", the results were almost unanimously in favor of the pattern /ˊ ˆ ˋ/. Only one person

dissented, speaking the pattern *vănìllă îce créam*, and this appeared to have resulted from a misunderstanding of the context. On two occasions when *ice cream* was expanded to *ice cream cone*, as in "A counterman in a white hat was dispensing hot dogs, beef-burgers, and *ice cream cones* to children of all ages," and in "Nearby were an *ice cream cone* and a can of drip coffee," the results seemed to favor the pattern /ˆ ˊ ˋ/. All five speakers used this stress pattern in the second sentence; four out of five favored primary stress on the second of the three elements but with varying degrees of stress on the first and last elements when speaking the first of the two sentences, thus:

3 îce créam cònes
1 ìce créam cônes
1 íce crèam cônes

When the combination *ice cream* was read in a list of compounds out of context, the results were as follows:

double-play
pigpen
ice cream
woodland
ashcan

4 îce créam
1 íce crêam

hot water bottle
houseboat
ice water
ice cream
information booth
insane asylum

ice cream: 2 îce créam
1 ìce créam
1 íce crèam

ice water: 4 íce wàtĕr

In the latter list, the element of contrast may have unconsciously entered into the results. However, the results still seem to agree substantially with those in the first list, except perhaps for *ìce créam*, which would indicate a stronger degree of contrast because of the light first element.

Because of the instability of *ice cream*, it is especially interesting to note that other combinations with *ice* as the first element do not share this instability. The patterns of *ice pick* and *ice cube*, for example, were unanimously *íce pìck* and *íce cùbe*, respectively, in the following context: "And somebody carved her up with an *ice pick* and a razor blade" and in the list: "hymn book, ice cream soda, *ice cube*, jackpot, innkeeper." The results on *ice tea* may be less conclusive, since it fell at the end of the sentence in "And they had a bull-session about blind dates while they drank a glass of *ice tea*." Nevertheless, the results were again unanimously in favor of the one stress pattern, *îce téa*.

Another interesting instance of unstable stress occurs in *counterman*, and doubtless is an example of transition from Group A to Group D-1. The word appeared in three contexts, two of which placed it early in the sentence: 1) "She pointed to a roadside stand where a *counterman* in a white hat was dispensing hot-dogs;" 2) "His father made a checkup on a tipoff from a *counterman* at the local cafe;" 3) "Later he tried his hand as a

goldfish swallower, a matchmaker, and a *counterman*." In the second quote, the stress pattern was unanimously *cóuntĕrmàn*; in the third, the division was four for *cóuntĕrmàn* and one for *cóuntĕrmăn*; in the first, the split was three-two in favor of *cóuntĕrmàn*.

Other examples of divided usage or unstable stress are as follows:

poker face

"With a perfect *poker face* he drove through the moonlight."

Results: 2 pókĕr fàce
1 pókĕr fâce
1 pôkĕr fáce

newspaper syndicate

"Later he worked for a *newspaper syndicate* and was a copy writer for her brother, who was an advertising-agent."

Results: 3 néwspàpĕr sŷndĭcăte
2 nêwspàpĕr sýndĭcăte

"...and was later associated with a well known *newspaper syndicate*."

Results (less conclusive because of position):
3 nêwspàpĕr sýndĭcăte
1 néwspàpĕr sŷndĭcăte

feature story writer

"John T. began his writing career as a *feature story writer* and copy boy for the Daily Examiner."

Results: 2 féatŭre stòry̆ wrîtĕr
2 fêatŭre stóry̆ wrìtĕr
1 féatŭre stôry̆ wrìtĕr

In a list: expense-account
feature editor
feature story writer
field hat
field hat and glasses

Results: 3 fêatŭre stóry̆ wrìtĕr
1 fèatŭre stôry̆ wrítĕr

Adam's apple

"His Adam's apple moved up and down."

Results: 2 Ádăm's àpplĕ

1 Àdăm's ápplĕ

2 Âdăm's ápplĕ

In a list: cabbage patch
apple tree
Adam's apple
sanctuary light
apple tree

Results: 3 Âdăm's ápplĕ

2 Ádăm's àpplĕ

Three other combinations--legal expert, strip tease, and son of a bitch--were also highly unstable, but the results were not conclusive because of the position of the combinations in the sentences.

CHAPTER THREE

PART ONE: GENERAL PRINCIPLES OF PITCH AND INTONATION

Theories of Pike and Others

Thus far we have been concerned exclusively with stress as the potential criterion for determining compounds. Pike states, however, that "no analysis of stress can be valid if it fails to account for its relation to intonation...since some of the stress data are conditioned by intonation."[1] Armstrong and Ward add that the "two elements, stress and intonation, are very closely connected. So close is the connection, indeed, that it is often difficult to decide whether stress or intonation or a combination of the two is responsible for certain effects."[2]

What exactly is intonation?

It is the sum total of variations in the voice as a speech sound is produced. According to Chiba, it includes pitch, stress, and speed of utterance. Intonation is that quality of the speaking style which gives specific meaning to a speech sound, which makes a sentence mean one thing at one time and quite another thing at another. It assists among other things in conveying emotion and attitude. But for purposes of this study we are

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[1] Kenneth Pike, The Intonation of American English (Ann Arbor, Mich., 1946), p. 82.

[2] Lilias E. Armstrong and Ida C. Ward, Handbook of English Intonation (Leipzig, 1926), p. 3.

primarily concerned with its relation to stress in the production of compounds.

Intonation is intimately tied up with pitch, for an intonation pattern in reality shows the variations in pitch in a speech sound. And pitch, as Chiba and others have demonstrated in their acoustic studies, is closely related to stress, usually rising when stress increases and falling when stress decreases. Frequently, however, the two are inversely proportional, as is apparent in the intonation patterns of some of the compounds in the present study.

Pike lists four pitch phonemes which he calls the building blocks of intonation contours.[3] These four levels are: extra high, high, mid, and low and are numbered from one to four, respectively, beginning with extra high as one. A degree sign precedes the beginning of an intonation contour. He explains:

> Pitch two is possibly the most frequent level for normal stressed syllables, while pitch four is frequent for unstressed syllables at the end of falling contours, and pitch three for unstressed syllables elsewhere.[4]

There are exceptions, however, he adds.

Primary contours always begin with a heavily stressed syllable, and every heavily stressed syllable begins a new

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[3] Coleman uses a scale of one through nine, nine being the highest.

[4] Pike, <u>Intonation of American English</u>, p. 26.

contour. A light contour may be composed of a unit which normally would have a primary contour, but which for some reason has lost some of the force of its innate lexical stress. Pike points out that Bloch and Trager's secondary accent / ^ / should really be interpreted as an innate lexical stress which has become "somewhat (or even totally) suppressed in these particular intonation contexts."[5]

Pike insists that far more reliable than stress as a test of compounds is the intonation pattern. Except in unusual cases, he says, a true compound is "...FROZEN in such a way that it has lost the normal potential for having a primary contour or rhythm unit end in the middle of it; this distinguishes the first part of the compound from free words which do have the potential."[6] Even the second part, he adds, has a suppressed stress which "may be homophonous with the suppressed stress of a free word which happens to occur in the middle or at the end of a primary contour."[7] What this means is that a true compound is frozen together in such a way that it becomes one word of multiple syllables which has a single rhythm contour, and that the rhythm contour may or may not fall at the end of the word, depending on the context in which it occurs. This factor is

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[5] *Ibid.*, p. 11.

[6] *Ibid.*, p. 88.

[7] *Ibid.*

most immediately apparent in compounds of two short elements, such as *darkroom*, *cheesecloth*, *greasepaint*, *penknife*.
°2 - 4 °2 - 4 °2 - 4 °2 - 4

Pike points out that it is necessary to indicate the pitch level of only those syllables or sounds which show the main points of the contour; usually there are two or three, one at the beginning and one at the end, occasionally one in the middle if a direction change is indicated. Thus, in the two-syllable compounds like *armpit*, *jackass*, *headlight*, there are only two contour-points, one on the first element and one on the second element. As the elements of the compound acquire more syllables, the problem becomes more complex, as with *copy boy*, *confessional box*, *rocking chair*. The 4 on the first
°2-4- 3 4- °2 -4 -3 °2 -4 - 3
syllable of *confessional box* indicates a pre-contour.

Pike suggests, though he does not follow it up, that there might be several degrees of freezing, rather than an iron-clad division into compounds and phrases, and this appears to be an admirable suggestion. He states that no true compound has a contour-end potential on the first element, but he indicates that in some rapidly spoken combinations, the pause which normally follows a primary contour is lost, so that two or more primary contours or a primary and one or more light contours may appear without a break between them. This phenomenon is called a rhythm unit. A rhythm unit may be the same as a primary contour, or it

may contain one or more contours so long as there is no intonation break or pause within it. Palmer calls this "word or series of words in connected speech containing one and only one maximum of prominence"[8] a tone-group, and he labels the stressed syllable of the most prominent word in the tone-group as a nucleus. In a compound or combination, the nucleus would correspond to the primary stress.

Says Palmer:

> At certain points the pitch of the voice suddenly changes its direction: it starts falling or rising. The syllable at which the pitch changes its direction is the one that the speaker considers to mark the maximum of prominence in which he is saying.[9]

Coleman adds:

> Prominence is invariably accompanied by a sudden turn (rise or fall) in the intonation. Further... it is this intonation turn that gives the prominence, while the stress merely serves to mark where the turn begins. The emphasized syllable may begin lower or higher than the preceding one, but there must occur, either during this syllable, or from it to the next, a sudden fall or a sudden rise.[10]

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[8] Harold E. Palmer, English Intonation (Cambridge, 1922), p. 3.

[9] Harold E. Palmer, A Grammar of Spoken English, 2nd ed. (Cambridge, 1939), pp. 13-14.

[10] H. O. Coleman, "Intonation and Emphasis," In Miscellanea Phonetica to commemorate the 25th year of Le Maître Phonetique, International Phonetic Association (1914), p. 14.

Application to Compounds

How does all this apply to compounds?

As we have already pointed out, Pike's criterion of intonation quite clearly works with simple compounds of two one-syllable words, like limelight, air base, showboat, baseball, and somewhat less obviously in a high-low-high pattern as in copy boy, rocking chair. But how, if at all, does it work with longer and more complex compounds of several syllables?

If we remember what was said about the reduction of innate lexical stress when a word appears in subordinate position, at the same time that we consider the distinction between primary contour and rhythm contour, the problem begins to clear. What has actually happened with longer combinations like telegraph operator, elevator runner, flagpole sitter, and cocktail table, is that the innate lexical stress of the second element has suffered a reduction because of its subordinate position, leaving the second element with optional stress only. When we consider that most of such combinations are spoken rapidly with no pause or intonation break between the two elements, we will realize that what we have is a rhythm contour composed of one primary contour and a second light contour with optional light stress.

Furthermore, in analyzing the tape recordings used in the present study, it also becomes apparent that in many of the

multiple-syllable combinations the stress and pitch are inversely proportional on the last part, so that the combination has a simple intonation curve despite the secondary stress on the last element. Examples of such patterns occur in *flagpole sitter*,
°2 - 4 - 4 -3
cocktail table. Although this pronunciation is not universal,
°2 - 4 - 4-3
it nevertheless indicates an important trend, and when it does appear it certainly establishes the combination as a compound. Variations on this pattern occur as the final 3 may appear variously as 4 or 4-plus. The pattern of such a combination rarely appears as °2-4-3-4 in the present study, except in exceptionally long combinations, which we will discuss later.

PART TWO: INTONATION PATTERNS IN WORD GROUPS OR COLLOCATIONS USED AS SUBSTANTIVES

Three Classes of Compounds

Specifically, then, how do the intonation patterns appear in collocations and possible compounds, and how do the intonation patterns relate to the stress patterns and stress groups already established?

With these questions in mind, I checked the tape recordings a second time to determine the intonation patterns of the selected collocations. Then I sorted these collocations into groups having similar intonation patterns and attempted to correlate these intonation groups with the stress groups previously compiled.[11] This resulted in three classes of collocations or word groups which, on the basis of the discussion in Chapter III, Part I, may now be considered compounds. Each of the three classes has several sub-classes.

The following pages reveal the results of the analysis.

First Class Compounds

Intonation pattern °2-4. Combinations falling in Group A which are composed of two elements of one syllable each and which have the stress pattern of primary-tertiary / ´ ` / show a simple falling intonation pattern of °2-4. Since these combinations also meet the requirements of both initial stress and a single

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[11] See Chapter II, Part II.

primary contour, they may without doubt be considered true compounds. Examples are:

air mail
$^{o}2 - 4$

bridegroom
$^{o}2 - 4$

put-out
$^{o}2 - 4$

roadside
$^{o}2 - 4$

lipstick
$^{o}2 - 4$

housecoat
$^{o}2 - 4$

checkbook
$^{o}2 - 4$

playmate
$^{o}2 - 4$

headlight
$^{o}2 - 4$

sheep-dog
$^{o}2 - 4$

Sometimes the simple $^{o}2-4$ curve will appear with a pre-contour, as in receipt book, cigar store, and reform school.
$4 - ^{o}2 - 4$ $4 - ^{o}2 - 4$ $4 - ^{o}2 - 4$

Still others in the $^{o}2-4$ group include the following:

hepcat
mail man
air force
air base
meatballs
pay-off
bust-up
wash-out
campfire
make-up
earrings
doorbell

landlord
searchlight
nosegay
tuberoses
headline
poolroom
drugstore
notebook
roommate
salesgirl
let-down
showdown

has-been
pay day
pigpen
penknife
deadbeat
car seat
highway
cloudburst
ashtray
prowl car
pushcart
raincoat

Occasionally variations on this pattern occur with individual speakers, though not with any consistency or regularity. Thus Speaker D used a $^{o}3-4$ curve on courthouse, baseball, and deadbeat, whereas Speaker E used a $^{o}2-3$ pattern on darkroom and

Main Street. In all the patterns the initial 2 occasionally appeared as 1 when additional stress or voice inflection was desired.

The same ^{o}2-4 curve also appears in two-syllable combinations belonging to Group D-1, as *postman*, *fireman*, *vineyard*, *woodland*, and in the more obvious simplexes like *shortness*, *father*, *porter*. Therefore, although compounds may have this pattern, the pattern itself does not necessarily indicate a compound. The initial decision must be made on the basis of stress and form, as we have already said.[12] This is also true of other intonation patterns.

Intonation pattern ^{o}2-4-3, ^{o}2-4-4, ^{o}2-3-4. Still another group of combinations falling in the A-category, as well as a few from the B-category, also qualify as compounds on the basis of both stress and intonation. These are combinations of two elements with three syllables having a stress pattern of primary-weak-tertiary /´ ˘ \`/; primary-tertiary-weak /´ \` ˘/; or primary-tertiary-secondary /´ \` ^/, and having the intonation pattern of ^{o}2-4-3 or ^{o}2-4-4 with occasional variations appearing as ^{o}2-3-4. When the pattern appears as ^{o}2-4-3, the second syllable takes the intonation turn, and the last syllable rises regardless of how the stress falls. Examples are:

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[12] See pp. 28-29, pp. 35-36, and p. 63.

service man
$^{o}2-4-3$

chicken farm
$^{o}2-4-3$

teakettle
$^{o}2-4-3$

pickpocket
$^{o}2-4-3$

popcorn bag
$^{o}2-4-3$

fingertips
$^{o}2-4-3$

face powder
$^{o}2-4-3$

talking-to
$^{o}2-4-3$

railroad track
$^{o}2-4-3$

cocktail lounge
$^{o}2-4-3$

The pattern also appears with three-syllable combinations from Group D-1, as *clergyman*, *artilleryman*, the latter having a pre-contour. Others which have a pre-contour with this contour pattern are *collection box* $4-{}^{o}2-4-3$, *delivery boy* $4-{}^{o}2-4-3$, *potato face* $4-{}^{o}2-4-3$, *banana peel* $4-{}^{o}2-4-3$.

Still other compounds in the $^{o}2-4-3$ category include:

atom bomb
college man
cattle man
meal-ticket
powder-base
eye shadow
dressing gown
hair ribbon
easy chair
dining room
silverware
candlesticks
fountain pen
postage stamp
pocketbook
mantelpiece
newspaper
chocolate drops
phone number
bartender
street-walker
time table
rolling pin
pawn ticket
dinner pail
chorus-girl
traffic light
real estate
river bank
love-making
rumble seat
traffic cop
parking lot

Intonation pattern $^{o}2-4-4-3$, $^{o}2-4-4-4$. The $^{o}2-4-4-3$ intonation pattern is evident in another type of Group A combination which has the stress pattern of primary-weak-tertiary-weak /´ ˘ ` ˘/ and in a few short combinations in Group B with a pattern of primary-tertiary-secondary-weak /´ ` ^ ˘/. These

combinations also frequently appear without the rising intonation on the final syllable, as °2-4-4-4. Generally one trend or the other is prevalent in the speech of a particular individual, though some speakers habitually use the °2-4-4-3 except at the ends of sentences where the pattern becomes °2-4-4-4. Here again the combinations would qualify as compounds on the basis of both stress and intonation. Examples are:

factory-worker
°2 - 4 - 4 - 3

dressing-table
°2 - 4 - 4-3

cleansing tissues
°2 - 4 -4 - 3

baseball player
°2 -4 - 4-3

goldfish swallower
°2 - 4 - 4 - 3

flagpole sitter
°2 - 4 -4- 3

Pre-contours with this same pattern appear in *efficiency-expert*, *construction company*, *fraternity pin*, *society editor*, *insane asylum*. Others falling in this °2-4-4-3 category include:

charity-worker
cocktail party
elevator boy
coffee table
boilermaker
telephone booth
roller coaster
cattle rustling
writing career
copy writer
nervous system
wrapping paper
murder dramas
bowling-alley

It would seem, then, that all combinations in Group A and most of the shorter combinations in Group B would qualify as compounds on the basis of both stress and intonation and may be included in the first class.

Second Class Compounds

Intonation patterns 3-4-°2, 3-°2-4, 3-°2, 3-3-°2-(4), and 3+3+°3. More difficult to judge are the combinations which have primary stress on the second element and therefore would meet opposition on the part of scholars like Kenyon who say no combination can be a compound unless it has primary stress on the first element.

On the basis of our intonation test, however, we may without doubt consider the combination a compound if it has a single primary contour, regardless of the position of the primary accent. Thus, those combinations in Group C having an intonation pattern of 3-4-°2, 3-°2-4, 3-°2, 3-3-°2-(4), and 3+3+°3 could rightfully be included in this category. True, they are not always as closely frozen as those in Group A, but they still represent a valid category. Examples are:

double-play
3- 4 - °2

car door key
3 - °2 - 4

what-have-you
3 - °2- 4

roadside stand
3+ - 3+ - °3

cease-fire
3 - °2

dog and cat show
3 -3 -°2 - 4

Third Class Compounds

A third class of combinations to be considered concerns those word groups which have two contours in a single rhythm unit, arranged with a primary contour preceded by a light contour.

In some individuals' pronunciation these combinations are inclined to have a slight intonation break, so at best they could be considered very unstable. These groups have intonation patterns of $3-4-{}^{\circ}2-4$, alternating sometimes with $4-3-{}^{\circ}2-4-(3)$, and $4-3-4-{}^{\circ}2-4$. If they bear the intonation pattern of $4-3-{}^{\circ}2-4-(3)$ or if they do *not* have an intonation break, they may be considered compounds of the third class on the basis of intonation. I think it can safely be said, however, that their status as compounds is very dubious. What is said here applies chiefly to the longer combinations in Group C. Examples are:

nervous breakdown
$3 - 4 - {}^{\circ}2 - 4$

atomic power
$4-3-4- {}^{\circ}2-4$

Holy Orders
$4-3-{}^{\circ}2-4$

Others include: *musical comedy*, *Adam's apple*, *battle royal*, *fighter-escort*, *academic freedom*, *atomic energy*, *banana split*, *apprentice seaman*.

Complex Forms

There remain in the present study a relatively large group of combinations which are quite lengthy and which therefore display greater variety in intonation from speaker to speaker. This makes it extremely difficult to determine their true status as compounds. A few of the combinations like *air conditioning*, *television sets*, *watermelon pickle*, and *persecution complex* might qualify as compounds on the basis of individual pronunciation.

This would necessitate having the primary accent fall on the first element so that the intonation pattern would be °2-3-3-(4)-3 (possibly with a pre-contour), thus putting them in Class I. If, however, the accent shifts to the second element, or the rhythm unit takes on a pattern of °2-4/3-4 with an intonation break, the combination is no longer a compound. As Pike says, it is no longer frozen.

Others in this group like *radio-phonograph*, *newspaper syndicate*, *musical comedy team*, *banana fritters*, *banker-millionaire*, could be considered compounds of the third class only if they are in individual instances pronounced with a single rhythm unit and without an intonation break. On the basis of evidence in the present study, this seems highly unlikely.

Being excluded from classification here does not, however, disqualify these combinations from being considered compounds on some basis other than that of stress and intonation (e.g., meaning, indivisibility). These considerations are not, however, within the scope of the present chapter.

Expanded Compounds

An interesting sidelight on compounding was discovered in connection with the present study when an attempt was made to expand several established compounds to see what effect this would have on their compound character.

I "un-froze" several compounds of the first class and

either expanded one of the elements or inserted a modifier between the elements.[13] In every case the compound character was retained, though the solidity of the compound was lessened and the class of the compound was changed. The results follow:

First Class	Second Class
car keys °2 -4	car door keys 3 - °2 - 4
chicken farm °2- 4 - 3	chicken and turkey farm 3 - 3 °2-4 - 3
air base °2 - 4	air and naval base 3 - 3 - °2-4- 3
coffee table °2-4 - 4-3	coffee and cocktail table 3- 3 - °2 -4 - 4-3
dog show °2 - 4	dog and cat show 3 - 3 -°2 - 4
drug store °2 - 4	drug and candy store 3 - 3 - °2-4 - 3
field hat °2 - 4	field hat and glasses 3 - 3 - °2-4

Whether or not this characteristic can be considered general is hard to say. More examples would be needed to establish this with certainty.

Ice Cream: A Problem of Intonation

We noted in Part II of Chapter II that the combination *ice cream* was particularly unstable, not only from speaker to speaker, but also within the speech of a single individual.

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[13] See Chapter V, Part I.

It is interesting to note, therefore, the multiplicity of intonation patterns which appeared in the use of this particular word group. We found it variously pronounced $^{\circ}2-4$, $^{\circ}2-3$, $3-^{\circ}2$, $3-^{\circ}3$, $4+^{\circ}2$, $^{\circ}3-^{\circ}3$, and $^{\circ}2-^{\circ}2$.

Since it most frequently occurs in a pattern that would qualify it as a compound, as $^{\circ}2-4$, $^{\circ}2-3$, $3-^{\circ}2$, $^{\circ}2-2$, $3-^{\circ}3$, or $4+^{\circ}2$, I think it can safely be considered a compound, although its class might vary according to the specific pronunciation.

Summary

Generally speaking, then, the test of intonation is helpful in separating compounds from phrases. There are three classes of compounds determined on the basis of intonation. They are as follows:

First Class.

1. $^{\circ}2-\overline{4}$ (includes all two-syllable combinations of Group A, as armpit, joyride, road-hog, but not of Group D-1, postman, fireman, since these last have been determined to be simplexes[14]).
2. $^{\circ}2-4-3$, $^{\circ}2-4-4$, $^{\circ}2-3-4$ (includes three-syllable combinations of Group A as copy boy, service man and Group C as railroad track, cocktail lounge).
3. $^{\circ}2-4-4-3$, $^{\circ}2-4-\overline{4-4}$ (includes four-syllable combinations of Group A, as boat officer, roller coaster, coffee table, and of Group B as newspaper man, railroad magnate, steamship agent).

Second Class.

1. $3-\overline{4}-^{\circ}2$, as neon sign
2. $3-^{\circ}2-4$, as best seller

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[14] See pp. 28-29, pp. 35-38, and p. 54.

3. $3-{}^{o}2$, as <u>ice tea</u>
4. $3-3-{}^{o}2-(4)$, as <u>bird's-eye view</u>
5. $3+3+{}^{o}3$, as <u>fireside chat</u>[15]

<u>Third Class</u>.

1. $3-4-{}^{o}2-4$, as <u>nervous breakdown</u>
2. $4-3-{}^{o}2-4-(3)$, as <u>Holy Orders</u>
3. $4-3-4-{}^{c}2-4$, as <u>atomic power</u>

Thus, if a combination fits the stress pattern of Group A, it is without doubt, a compound. If it is one of the shorter combinations having a Group B stress pattern, it is probably a compound. If it is a longer combination in Group B or a combination with a Group C stress pattern, it is subject to question, and compounding can be determined only on the basis of intonation. With the exception of the combinations in the D-1 classification, which we have already said are to be considered simplexes, all combinations in Group D must be decided on individual characteristics. Wherever possible it is advisable to determine compounding on the basis of the stress test which is much easier to apply and can indeed often be judged by one's own speech. Where the stress test will not work, the only way to determine a compound is by obtaining the intonation pattern, and this can safely be done only by means of recordings or other mechanical contrivances. For intonation, one cannot safely rely on one's own speech.

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[15] All second class and most third class compounds fall in Group C of the stress classifications.

The Triple Test of Compounds

On the basis of the discussion thus far, then, it would appear that a triple test is necessary for identifying compounds: first, they must have at least two independent elements; second, they must have at least two stresses stronger than light to separate them from simplexes which may have only one accent stronger than light; and third, they must have a single primary intonation contour or rhythm unit to distinguish them from phrases. The requirement of a meaning which differs in some degree from the meaning of the elements taken separately must also be taken into consideration; for discussion of this point, see Chapter V, Part II.

PART THREE: A NOTE ON INTERNAL OPEN JUNCTURE

A Point of Dispute

The relationship of internal open juncture to the problem compounding has been a point of dispute among scholars. Some, ke Trager and Smith, state that while internal open juncture ows a definite relationship between the parts of a compound it es not necessarily disqualify a combination from being considered compound. Others, like Pike, however, maintain that the juncture, ich is equivalent to an intonation break, indicates that the it is not frozen and is therefore not a true compound.

In studies by Bloch, Trager, and Smith, the discussion of econdary accent / ^ / is accompanied by a description of internal en juncture or plus-juncture, the latter term being derived rom the plus-sign used to designate these junctures in print.

They distinguish this internal open juncture from external pen juncture and close juncture as follows:

> The transition from the pause preceding an isolated utterance to the first segmental phoneme, and from the last segmental phoneme to the following pause, we call open juncture. By contrast, the transition from one segmental phoneme to the next within the utterance (whether this is a morphologically simple form like <u>black</u>, <u>port</u>, or a morphologically complex one like <u>blacker</u>, <u>importation</u>, <u>the man</u>) we call close juncture.[16]

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[16] George L. Trager and Bernard Bloch, "The Syllabic honemes of English," <u>Language</u>, XVII (1941), 225.

Open juncture occurs internally in some utterances. These e always derivatives, compounds, phrases--never simple words. ompare *syntax* (with close juncture between the two syllables): *in-tax* 'a tax on tin' (with open juncture; drawled (n) similar (n) before pause);..."[17]

In *Outline of Linguistic Analysis*, Bloch and Trager give further explanation:

> In *minus* the juncture is CLOSE, in *slyness* (as attested by the greater length of the diphthong) it is OPEN. The three words *nitrate*, *night-rate* and *dye-trade* illustrate three ways of joining sounds in the sequence [aɪtr].[18]

In the latter examples, *nitrate* exemplifies close juncture, nd *night-rate* and *dye-trade* display internal open juncture. A erceptible pause is necessary in the latter two combinations in rder for the speaker to be clearly understood.

Pike takes issue with Bloch and Trager's insistence on lear-cut distinctions among the types of junctures, maintaining hat such junctures are not uniform among different speakers. e quotes Moulton as follows:

> 'This segmental phoneme has the following allophones: at the beginning or end of an utterance it appears as a pause of indeterminate duration: +'tail+, +ta'blet+; within an utterance it appears either as a pause of brief duration or in free variation with

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[17] *Ibid.*

[18] Bernard Bloch and George L. Trager, *Outline of Linguistic nalysis* (Baltimore, Md., 1942), p. 36.

> this as zero....' '...only the zero allophone occurs at morphological boundaries within words (usually only between the constituents of compound words)'.[19]

ike criticizes Bloch and Trager's failure to take into account ptional pronunciations of various kinds.

As applied to compounds and combinations, this factor of nternal open juncture is an interesting but elusive one. In e present study it appeared optionally in simple two-syllable mpounds like *armpit*, *joy ride*, *rumble seat*, *hay stack* among ry precise speakers. Generally speaking, however, there was perceptible pause in such simple constructions.

In connection with compounds, however, Trager and Smith e chiefly concerned with the more complicated constructions several syllables, especially those employing secondary ress on the second element. Such combinations as *elevator runner*, ilway ticket, *goldfish swallower* are examples of such construc- ons, in which Trager and Smith maintain that plus-juncture curs between the two main elements, here marked by a space.

Even on this point, however, Pike disagrees, feeling that equently among speakers the plus-juncture is replaced by zero lophone. Our analysis of the intonation patterns of these nstructions as having a single rhythm unit without an intonation eak, thus allowing them to be considered true compounds, would

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[19] Kenneth Pike, "Grammatical Prerequisites to Phonemic alysis," *Word*, III (1947), 171.

em to bear out Pike's theory.[20] It is entirely possible that dividual speakers might pronounce these combinations with an tonation break or plus-juncture, particularly speakers of ecise or pedantic speech. But the majority of speakers, unciating rapidly and articulating less clearly would run ese words together into one rhythm unit without an intonation eak, thus without true plus-juncture.

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[20] For fuller discussion of the intonation break, see Parts and II of Chapter III in this study.

CHAPTER FOUR

THE PROBLEM OF SPELLING (HYPHENATION)

Widespread Inconsistency

Although spelling (hyphenation) is not proposed as a test f compounds, an understanding of this aspect of the subject is ecessary before we can go on to the tests of divisibility and eaning.

For many years linguistic scholars and rule-book makers ave occupied themselves with the problem of hyphenation in writing compounds. Scholars like Carr, Graff, Bergsten, Bryant, espersen, Krapp, Partridge, and Paul have attempted to classify compounds on the basis of grammatical relationships and parts of speech.[1] A few like Bergsten[2] and Kennedy[3] have tried to describe and explain current usage of hyphens on the basis of stress or grammatical relationships between the parts of the compound or combination. Most scholars, however, confine themselves to

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[1] Such classifications are not particularly helpful, however, since it is often difficult to judge with certainty what part of speech a word is in many combinations. Krapp also points out that analysis is contrary to the idiom of the language, and we have already noted that a compound functions as a single part of speech so that identification of its elements in this manner is unnecessary.

[2] Nils Bergsten, A Study on Compound Substantives in English (Uppsala, 1911), p. 125.

[3] Arthur Garfield Kennedy, Current English (Boston, 1935), pp. 252-253.

eneral observations, and admit that inconsistencies among authors nd even within the writing of a single author make detailed bservations and prescriptions of doubtful value.

Conventional grammarians and rule-book makers for the U. S. overnment Printing Office and various publishing houses, totally xasperated with what they term "chaotic practice" on the part of oth authors and publishers, have attempted to formulate detailed anuals for writers and printers in an effort to achieve some consistency in published material. But even they admit their own efeat. One of them, John Benbow, writes: "Don't expect, or hope o find or attain, consistency in hyphening."[4] At another point e observes: "If you take hyphens seriously you will surely go ad."

Some of the attempts to prescribe use of the hyphen result n ridiculous distinctions which could never be put into practice ith any degree of uniformity. One such is put forth by E. N. eall when he writes:

> <u>School-teacher</u> would mean one who teaches a school; <u>schoolteacher</u>, one who schoolteaches. And--<u>school teacher</u> would mean a teacher who does his or her work in a school--not in college, nor privately. It's a word of identification.[5]

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[4] John Benbow, <u>Manuscript and Proof</u> (New York, 1938), p. 95.

[5] E. N. Teall, <u>Meet Mr. Hyphen and Put Him in His Place</u> New York, 1937), p. 96.

Hamilton, Teall, and Ball have each prescribed what they m acceptable usage. But professional writers, laymen, and n the printers for whom the rule-books were published continue ignore the prescription. It is not at all unusual to find on ingle page by one author the same word written solid, as two rds, and hyphenated. And if a single author is so inconsistent, t can we hope for in uniformity among many authors?

Two things are apparent: spelling or hyphenation is to e extent an indication of style, and the trend in spelling r the past 35 years has been away from the use of the hyphen. ler authors like Sinclair Lewis, writing in the 1920's, have eavily hyphenated style; *Babbitt* (1922), for example, is rsting with hyphens. Over a period of years, however, Lewis s lost some of his enthusiasm for this connective; with *gsblood Royal* (1947) the percentage of hyphens decreases, though hyphenated words still far outnumber either the solid two-word forms. Other authors writing more recently do not em to care for hyphenated forms; in almost every case but that Tennessee Williams (*Streetcar Named Desire*, 1947) in the esent study, hyphenation came out a poor third in the forms presented in the writing of any given author. A few writers ke John DosPassos, wishing to give the impression of speed compression or informality, prefer solid forms to the extent at whole phrases are run together to obtain a special effect.

xamples are *sonofabitch*, *matteroffact*, and *damyankee*.

Relationship Between Intonation and Spelling

Although hyphenation or spelling cannot be said to be a ital consideration for one who is concerned primarily with uditory phenomena, it might be well to consider the problem riefly and try to determine whether or not there is any connecion between intonation patterns and the form (i.e., spelling, yphenation) which a word group takes when it appears in print. n other words, is there a connection between intonation and pelling? Between intonation and style? Might a writer subonsciously take intonation into account when writing a compound r word group on the page?

Guessing what goes on in any writer's mind as he composes is thoughts on paper is, at best, a mighty risky business. But acts do not lie. And when we compare the intonation patterns ained by listening to our tape recordings with the forms of hose same words taken from current American literature, some nteresting trends become apparent.

First, it might be well to explain how the citations were btained. A variety of examples of American writing which dated rom 1922 (*Babbitt*) to 1951 (*The Caine Mutiny*) and 1952 (*Time*, *aturday Review*, and *New Yorker*), and ranging in style from Mickey pillane to the *AAUP Bulletin* was used for gathering materials. hese writings were examined and citations taken from a sizable

portion of each of some 26 works.[6] A total of more than 6000 citations was obtained. Using the words which were employed in the oral part of the study, I investigated the written citations to see what forms these same words took in print. Some of the words appeared once, some of them several times, some of them not at all. Tabulations were made to compare the forms of the words with the intonation patterns; results were obtained both for the total number of citations in any one class of compounds (including repetitions of the same word) and for the total number of individual words (not including repeats of the same word). A total of 1037 citations representing 479 combinations were included. Results were then compiled as follows:

First Class Compounds

Intonation pattern °2-4. The majority of first class compounds which have a simple intonation pattern of °2-4 are written solid. Specific results were as follows:

Based on total number of citations in this category:

1 word:	324	or	73.63%
Hyphen:	59	or	13.4 %
2 words:	57	or	12.95%
Total	440		

Based on total number of individual words (exclusive of repeats):

1 word:	129	or	62.318%
Hyphen:	21	or	10.144%
2 words:	31	or	14.975%
Divided:	26	or	12.56 %
Total	207		

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[6] For the complete list see pp. 130-131.

Examples of solid compounds in this category are:

armchair
archway
bridegroom
billboard
blackmail
baseball
barnyard
baseboard
bathroom
bedroom
blackboard
bookcase
courthouse
catcall
doorknob
doorbell
eyebrow
earrings
football
grownups
headache
headlights
hangout
handout
lipstick
lookout
mainspring
moonlight
necktie
nutshell
playmate
punchboard
roommate
redhead
roadhouse
raincoat
showdown
searchlight
sunlight
washout
yardstick

Others in the same intonation pattern were written as two words. In some instances little reason can be seen for the difference, although in other cases confusion might result from complete coalescence, as in *cathouse* for *cat house* or *vicering* for *vice ring*. Examples follow:

air mail
air force
air base
ash can
ball park
ball game
cold cuts
crap game
check room
call box
cat house
car seat
car key
dance hall
dime store
fence post
fist fight
field hat
mine field
nest egg
oak tree
prowl car
plane crash
race track
sheep dog
school board
sheath dress
shore leave
tom cat
task force

Those compounds which were written with a hyphen are a bit more distinctive in that they include verb-adverb combinations which might be confusing if written in either of the other two forms.[7]

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[7] Generally speaking, verb-adverb combinations used as nouns are written solid or hyphenated, the reason probably being that separation would give the adverb an independence and importance which would confuse the reader.

In some instances they represent inversions of normal syntactical order. Examples are:

- bust-up
- book-ends
- cure-all
- come-on
- eye-ball
- first-born
- has-been
- hell-cat
- he-togs
- know-how
- let-down
- man-days
- pay-off
- run-in
- sail-boat
- make-up
- say-so
- send-off
- she-dog
- tip-off
- take-off

Twenty-six of the 207 compounds evidenced divided usage. The ones listed are in the form most frequently encountered.

- armpit
- ash tray
- bathtub
- checkbook
- drugstore
- fireplace
- housecoat
- ice pick
- ice cube
- jackpot
- payday
- shirt-tail
- shortcut
- teacup
- taillight
- trademark
- whorehouse

<u>Intonation pattern °2-4-3</u>. As soon as we get away from the simple two-syllable compounds, the results are much less conclusive. There is a definite trend away from the solid form, although it still runs a close second to the two-word form. The hyphened form still is not much in favor. The tabulations for the °2-4-3 pattern follow:

Based on total number of citations in this category:
1 word: 123 or 38.43 %
Hyphen: 58 or 18.125%
2 words: 139 or 43.437%
Total: 320

Based on total number of individual word (exclusive of repeats):
1 word: 37 or 25.695%
Hyphen: 20 or 13.889%
2 words: 65 or 45.138%
Divided: 22 or 15.277%
Total: 144

Spelled as one word were the following compounds:

applesauce
bartender
buttonhole
bookkeeper
bandwagon
battlefield
bellyache
bodyguard
candlelight
chambermaid
manslaughter
masterpiece
newspaper
pocketbook
passageway
postmaster
streetwalker
sharpshooter

The largest percentage of the compounds in this class were written as two words. Examples are the following:

altar rail
apron strings
army camp
breakfast nook
blood pressure
bus station
bank account
bull session
bathing suit
cocktail lounge
cocoa cup
fountain pen
ghost story
license plate
movie star
orange crate
pawn ticket
parking lot
shaving cream
street corner
sun glasses
slot machine
traffic cop

Among the relatively few hyphenated forms were the following:

asking-price
book-agent
ballet-dancer
baby-talk
bone-structure
bridge-table
boxing-gloves
cabin-boy
chorus-girl
eye-shadow
family-man
half-brother
love-making
make-believe
wage-earner

Those displaying divided usage included the following:

businessman
basketball
boardinghouse
card table
dressing gown
dining-room, dining room
fingernail
fingertips
beer bottle
motor car
man power
rocking chair
timetable
tablecloth
waiting room, waiting-room

Intonation pattern °2-4-4-3. As the compounds begin to take on more syllables, they tend to lose their solidity of visual form. By the time we reach the intonation pattern of °2-4-4-3, we find that none of the compounds in the present study which conformed to

this pattern were written solid. Statistics follow:

Based on the total number of citations in this category:

1 word:	none		
Hyphen:	25	or	26.315%
2 words:	70	or	73.684%
Total:	95		

Based on the total number of individual words (exclusive of repeats):

1 word:	none		
Hyphen:	15	or	37.5%
2 words:	19	or	47.5%
Divided:	6	or	15 %
Total:	40		

Included among those compounds written as two words are the following:

aircraft carrier
baking powder
bowling alley
coffee table
college professor
labor union
market basket
mercy killing
nervous system
newsreel theater
ocean liner
railway ticket
studio couch
sugar cooky
safety razor
vacuum cleaner

Hyphenated forms included:

air-conditioning
bank-president
charity-worker
chewing-tobacco
dressmaking-scissors
efficiency-expert
get-together[8]
roller-coaster
tissue-paper

Divided usage was found among the following:

bottle-opener, bottle opener
dressing table, dressing-table
drinking water, drinking-water
filling station, filling-station
labor leader, labor-leader
water color, water-color

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[8] See p. 73 , footnote 7.

Second Class Compounds

Second class compounds were not encountered in sufficient number to make percentages at all reliable. The evidence points to the fact, however, that as the compounds spread out and as the primary accent shifts to the final element, the compounds increasingly lose their solidity and the two-word form is in most instances preferred. No solid forms were encountered, and very few hyphens were in evidence.

Two-word compounds included:

- armored car
- barbed wire
- bass drum
- black market
- burnt cork
- case history
- civil rights
- dollar bill
- ice cream soda
- ice tea
- nervous breakdown
- bedside table
- public address system

Hyphened forms included:

- best-sellers
- cease-fire
- eye-witness
- look-see
- Johnny-come-lately
- what-have-you

Third Class and Non-Compounds

Generally speaking, the longer the compounds or combinations become, the more likely they are to be written as two words, except for unusual combinations like *radio-phonograph* and *banker-millionaire*. Once in awhile a long phrase will be run together either because that is a characteristic of the author's style (as with DosPassos) or to give the impression of speed, compression, or sloppy pronunciation, as in *sonofabitch*, *matteroffact*, and *damyankee*. Usually, however, the long ones are written as separate words.

Examples are:

academic freedom
atomic bomb
banana fritters
foreign correspondent
original sin
roadside stand
watermelon pickle

Most of these combinations are subject to some question about their qualifications as compounds. For more details on this point, see Chapter III, Part II.

Summary

From the data presented here, there appears to be a relationship between spelling and intonation; the exact nature of the relationship, however, is very difficult to describe. It can be said, generally, that coalescence and intonation are directly proportional. That is, the simpler the intonation curve, the more likely the combination or compound is to be written solid. The longer and more complex the combination becomes, the more likely it is to be written as separate words. Only those compounds with heavy accent on the first element ($^{\bullet}$2-4 or $^{\circ}$2-4-3) are written solid unless a special effect (e.g., speed, style) is wanted. As yet these can be considered only trends, however. They can not be used as tests for compounds. The inconsistency among writers precludes any absolute standard.

CHAPTER FIVE

PART ONE: THE FACTOR OF DIVISIBILITY

Tendency Toward Indivisibility

One of the important tests of a true compound, according to Bloomfield, is that of indivisibility. The theory is that if a combination has become sufficiently established to be considered a compound,[1] it has taken on an identity of its own which cannot be disturbed by injecting a foreign element.

As Bloomfield points out, "The plant-name jack-in-the-pulpit cannot be modified by putting the word little in front of pulpit, but the corresponding phrase permits of this and other expansions."[2] He adds that this rule is almost universally good, but later back-tracks by saying that "it is impossible to make a rigid distinction between forms that may and forms that may not be spoken in absolute position."[3]

In the present study it is apparent that many compounds are indeed indivisible, that is, they cannot ordinarily be modified by injecting another word or modifier between the elements. Examples of these are: blackmail, book-end, canebrake, cotton gin, draft board, goldfish, man-hours, yule-log, and compounds beginning or

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[1] No truly objective test had at that point been formulated.

[2] Leonard Bloomfield, Language (New York, 1933), p. 180.

[3] Ibid., p. 181.

ending with an adverb, as: *bystander*, *downbeat*, *downtrodden*, *cut-off*, *frame-up*, *stand-in*, *come-on*, *tryout*. In each of the above cases, dividing the compound would change the figurative meaning and destroy the unity of the expression, possibly even confuse the reader or listener. In these and similar cases, therefore, the modifier, if any, precedes the compound, rather than interrupts it, as: *innocent bystander*, *movie stand-in*, *play tryouts*, *glass book-ends*, *four goldfish*, *burning yule-log*.

Possible Types of Divisibility

In other cases, however, where unity of the compound is not so necessary and meaning is less figurative, certain types of divisibility are possible, though this certainly changes the character of the compound. One may compound or expand the first element, compound or expand the second element, or inject a modifier between the elements.

Expansion of First Element

The first type of divisibility--compounding or expanding the first element--is probably the most common and the least confusing, as:

air base:	air and naval base
drip coffee:	drip or percolator coffee
coffee table:	coffee and cocktail table
account book:	account and bank book
cocktail party:	cocktail and coke party
railway station:	railway and bus station
drug store:	drug and candy store
dog show:	dog and cat show
chicken farm:	chicken and turkey farm

As we have already pointed out in Chapter III, Part II, examples of these expansions used in the oral part of the present study established the fact that the expanded form of the simpler compound was still a compound but a compound of a different class. Thus, *air base*, a compound of the first class with a °2-4 intonation pattern becomes a compound of the second class when expanded to *air and naval base* (3-3-°2-4-3). A similar change is apparent in the other groups listed above, except that some compounds like *cocktail party* (°2-4-4-3) and *railway station* (°2-4-4-3) have more complex intonation patterns to begin with.

An important point to remember when determining divisibility is that such division can, of course, be made only when the meaning is not obscured and when the connection between the second element of the compound (that is, *base*) and the first element of the compound modifier (that is, *air*) is perfectly clear. In other words, the reader or listener must be fully aware that we are speaking of a base for both air and naval elements.

Expansion of Second Element

A second means of dividing a compound is to expand or compound the second element of the original combination. When this is done, the stress may shift because of the necessity of sense-stress, but to be a compound, the combination must meet the requirements of the intonation test. Because of the nature of these examples, it will be evident that the compound character

of the combinations is highly unstable and might even be subject to question with some justification. At best, they vary with the individual speaker and the context. Examples:

boat officer:	boat crew and officer
folding table:	folding chair and table
finger bowl:	finger towel and bowl
field glasses:	field hat and glasses
farmland:	farm house and land[4]

There are two other problems here--that of unity and that of clarity.

Whereas with the first type of expansion we were concerned with a single object, as *air and naval base*, we are here concerned with more than one object, as *field hat and glasses*. Thus we have lost the unity of meaning which is a characteristic of true compounds.[5]

The problem of clarity also enters here. To a greater extent than with an expanded first element, there is a problem of understandability. For example, does *folding* modify both *chair* and *table*, or does it modify only *chair*? The same question might be asked of *finger towel and bowl* and *field hat and glasses*. Thus, this type of divisibility, though possible, is probably less likely than that involving the expansion of the first element.

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[4] Note the alternate intonation curves, as *field glasses* (°2-4-3) becomes *field hat and glasses* (°2-4-4-4-3 or 3-3-3-°2-4) and *finger bowl* (°2-4-3) becomes *finger towel and bowl* (°2-4-4-4-3 or 3-3-3-°2).

[5] See discussion in Chapter V, Part II.

Although it meets the test of intonation in most instances, it lacks the necessary unity and clarity.

Insertion of Modifier

The third pattern of divisibility involves the insertion of a modifier between the two elements of the compound. As has already been pointed out, there are many times when this cannot be done. We can, for example, say *drug store* and *drug and grocery store*, but not *drug corner store*. Modifiers may, however, be injected into such compounds as:

car keys: car door keys
English woman: English noble woman
factory worker: factory metal worker
fainting spell: fainting sick spell
feature writer: feature story writer
fence pickets: fence gate pickets
foreign policy: foreign trade policy, foreign relations policy

These combinations are difficult to analyze. Do we, for example, have an expanded compound? Or do we have a compound plus an extra word which either modifies or is modified by the true compound? Do we not, in *feature story writer*, have a compound, *feature story*, which in turn modifies *writer*? The same might hold true for *foreign trade policy* and *foreign relations policy*. On the other hand with *English noble woman*, *factory metal worker*, and *fainting sick spell*, do not the last two elements comprise a compound modified by the first element, as *noble woman*, modified by *English*? Bloomfield mentions this, too, giving *wild-animal-house*

and doorknob-wiper as his examples.[6] This is a point which would be impossible to resolve to everyone's satisfaction, and need not trouble us if we return to the intonation test to determine compounds. Allowing for individual pronunciations which might invalidate the conclusions in certain instances, it is fairly safe to say that all of the above except feature story writer would doubtless qualify as compounds on the basis of intonation, at least part of the time. Feature story writer, which was pronounced with multiple intonation curves in the present study, does not qualify as a compound.

In a majority of the instances mentioned in this third type of divided compound, the injected modifier adds little if anything to the clarity of the statement. In a few instances, the meaning might actually be changed from that implied in the original compound. Note: black men--old black men, black old men.

Preliminary Summary

It has therefore been determined that with some compounds, established by the test of intonation, one of three types of divisibility may be possible:

1. Compounding or expansion of the first element
2. Compounding or expansion of the second element
3. Insertion of modifier between the two elements

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[6] Bloomfield, Language, p. 227.

In any case, if divisibility is possible, a shift of stress and thus also a shift in intonation pattern accompanies it, thus changing the compound from one class to another.

Correlation Between Divisibility and Intonation

Having established the fact that some compounds determined by the test of intonation are divisible and some are not, I undertook next to determine what correlation, if any, existed between this factor of divisibility and the already established tests of stress and intonation.

First Class Compounds

Intonation pattern $^{o}2$-4. It has already been established that most of the compounds of the first class that have an intonation pattern of $^{o}2$-4 are written solid.[7] Of these the following are among those which also appear to meet the test of indivisibility:

bridegroom
billboard
buckboard
blackmail
boardwalk
baseball
blockhead
baseboard
bathroom
beachhead
bedbug
bedroom
blackboard
blowout
barroom
courthouse
creampuff
catcall
darkroom
deadbeat
eyebrow
heartbreak
headline
landlord
oilcloth
pushcart
poolroom
throwback
yardstick

Although it cannot be said with certainty that solid words in this category are never divisible, I think it would be safe to say that this very seldom happens.

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[7] For details, see Chapter IV.

Hyphenated forms in this category show even less inclination toward divisibility. Examples:

bust-up
book-ends
cure-all
come-on
has-been
hell-cat
know-how
man-days
make-up
pay-off
sail-boat
say-so
she-dog

Two-word forms, on the other hand, show a trend toward possible division, as the already mentioned *air and naval base* from *air base*, *field hat and glasses* from *field glasses*, and *car door key* from *car key*. Others include:

dog show: dog and cat show
beer hall: beer and dance hall
dime store: dime and candy store

Even here, however, there is still a strong unity as with:

ball park
ball game
cold cuts
crap game
check room
cat house
fist fight
mine field
nest egg
prowl car
shore leave
task force

Some of these combinations like *drugstore* (*drug store*, *drug-store*), and *check room* (*checkroom*, *check-room*) may of course be written in two or three different ways. When this happens, the above observations are subject to modification.

Intonation pattern ^{o}2-4-3. The test of indivisibility is fairly accurate for compounds with intonation pattern ^{o}2-4-3 which are written solid. Examples:

applesauce
bartender
buttonholes
bookkeeper
bawdyhouse
bandwagon
barrelhead
headmaster
landlady
matchmaker
masterpiece
passageway
streetwalker

Other forms which probably are indivisible include:

asking-price
baby-talk
chorus-girl
eye-shadow
make-believe
box office
bull session
boogy man
mortar board
meal ticket
potato face
slot machine

Still others in this class, particularly hyphenated and two-word forms, may on occasion be split. Examples are:

orange crate: orange and berry crate
ballet dancer: ballet and toe dancer
bus station: bus and railway station

Intonation pattern $^{\circ}$2-4-4-3. Compounds with intonation pattern $^{\circ}$2-4-4-3 which probably would not be split include:

baking powder
bowling alley
gossip column
insane asylum
mercy killing
studio couch
air-conditioning
father-in-law
roller-coaster
get-together

There are numerous compounds here which may be divided, however; among them are:

chewing tobacco: chewing and smoking tobacco
coffee table: coffee and cocktail table
cocktail party: cocktail and coke party

Second Class Compounds

Indivisible compounds of the second class probably include the following:

burnt cork
barbed wire
cease-fire
hell's bells
ice tea
look-see
odd job
strip-tease
best-sellers
case history
damn Yankee
nervous breakdown
poker face

Note, however, that although *ice tea* is indivisible, the form *iced tea* (*iced black tea*) is not.

Other divisible compounds of the second class include:

black market:	black and gray market
drip coffee:	drip and percolator coffee

Third Class and Non-Compounds

Indivisible combinations of the third class and similar non-compounds probably include: radio-phonograph, son of a bitch, and battle royal. Exceptions like watermelon and peach pickles from watermelon pickle and foreign and home correspondents from foreign correspondent refer to more than one object and thus lack the unity we have said is necessary.

Conclusions

Thus we can see that divisibility is closely tied up with meaning. The more figurative the meaning of a compound, the less likely it is to be easily divisible. With expanded compounds, the resulting combination should still describe a single object or idea; when it does not, there is some question about its being a compound, although intonation patterns might lead us to consider it so.

Furthermore, we can see that short solid compounds are less likely to be divisible than long, loosely connected compounds or combinations. This is not, however, a positive test for determining compounds. For although we might conceivably establish that some combinations which do not qualify as compounds on the basis of intonation, could qualify as compounds if we include the

factor of divisibility, this factor is by no means a dependable criterion for judging compounds. Even in already well established compounds which meet the oldest test of stress, the factor of divisibility is by no means universally applicable.

PART TWO: THE SEMANTIC ASPECT

A Difficult Test

A majority of the scholars who concern themselves with the visual rather than the auditory aspect of compounding have advocated stress, indivisibility, and meaning as the three criteria for determining a compound. Of these three the criterion of meaning is doubtless the most subjective and the most difficult to apply. It does, nevertheless, offer an interesting point for speculation.

Meaning of Whole Differs From That of Parts

Among those scholars who mention meaning as an important method for distinguishing compounds from word groups are Bryant, Bloomfield, Paul, Bergsten, Graff, Pittman, Kennedy, Jespersen, Onions, Bodmer, Ball, and Teall. Teall puts it this way: "A compound is any combination or collocation of words in which their separate force and meaning give way to a new unit of expression in which they cooperate."[8] The first step toward isolation, says Paul, is a signification of the whole "which does not precisely tally with that which results from the juxtaposition of the several elements.... [The result is that single elements of the

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[8] E. N. Teall, <u>Meet Mr. Hyphen and Put Him in His Place</u> (New York, 1937), p. 29.

combination] come no longer clearly into consciousness."[9]

Essentially these scholars seem to agree that a subtle change in meaning, which varies in degree from compound to compound, takes place in all word groups which can clearly be distinguished as compounds. They point out, however, that a change in meaning does not necessarily always mean that a group has become a compound. What they seem to be saying is that a compound is in a sense an idiom, and Kennedy explains this idiom as:

> A phrase that has developed a meaning of its own which cannot be readily analyzed into the several distinct ideas which would ordinarily be expressed by the individual words making up the phrase....[They] often start out as ungrammatical expressions which do not conform to the regular grammatical rules or practices.[10]

The shift of meaning which characterizes compounds is usually exemplified by a contrast such as that between black bird (a bird which is black in color) and blackbird (a bird of a particular species). Other examples might include brick yard as opposed to brickyard, light house as opposed to lighthouse; green house as contrasted with greenhouse, red coat as contrasted with redcoat, yellow jacket as opposed to yellowjacket. The distinction comes of course in the meaning rather than in the form. We have already seen that many compounds are not written solid.

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[9] Hermann Paul, Principles of the History of Language, 2nd ed., trans. H. A. Strong (n.p., 1891), p. 373.

[10] Arthur Garfield Kennedy, English Usage (New York, 1942), p. 109.

The distinction, says Paul, should be sought in the nature of the psychological grouping. Some of the combinations have become so common that we never consider what the words would mean if we were to take them literally. This is particularly true of slang expressions like crackpot, egghead, potato face, deadbeat; of terms referring to sports or professions like touchdown, put-out, double-play, draft board, headline, breakover, footlights, and greasepaint; and of other everyday expressions like armpit, bird-dog, foodstuff, ice cream, popcorn, slot machine, real estate, nest egg, banana-split, flat-iron, fountain pen. "The one essential point is that the whole as such be in some way isolated from the elements of which it is composed," says Paul, adding that this degree of isolation which is necessary "to cause the fusion to pass into a compound" cannot, however, "be expressed in any universally applicable definition."[11]

On this last point about the impossibility of applying an objective test, Bloomfield agrees with Paul.[12] The change of meaning is more obvious with some compounds than with others; but with the less figurative expressions there is much room for disagreement because the test (if indeed it can be called a test) is so completely subjective.

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[11] Paul, Principles, pp. 372-373.

[12] Leonard Bloomfield, Language (New York, 1933), p. 227.

Conciseness of Compounds

When noting the characteristic of meaning change in some of the compounds found in the present study, some interesting observations can be made. Jespersen points out:

> The merit of compounds lies in their conciseness, as compared with paraphrases following the usual syntactic rules; thus, a railway-company is a 'company running a railway'....Compounds express a relation between two objects or notions, but say nothing of the way in which the relation is to be understood. That must be inferred from the context or otherwise.[13]

He adds, however, that ambiguity seldom occurs except occasionally in new or rare compounds. For example, from the form of bird-dog one could scarcely guess that the animal in question is a dog used for hunting birds, or from headline that the item is a title (line) used at the top (head) of the page of a newspaper. Yet few Americans would mistake either of these compounds even when seeing them out of context.

Highly Figurative Meaning

When applying the characteristic of meaning change to some of the compounds in the present study, some interesting observations can be made. It is astonishing, for example, to note how much can be said by the mere juxtaposition of two words. Note: banana-split (a dessert made of split bananas topped with scoops of ice cream

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[13] Otto Jespersen, A Modern English Grammar, Vol. VI (Heidelberg, 1927), p. 137.

and flavored syrup); *cheapskate* (a fellow who wants to get the most for the least money or effort); *cover girl* (a girl who makes a living by posing for pictures to be placed on the covers of magazines); *paddle pop* (a square of ice cream covered with a coating of chocolate and fastened on a stick); *orange crate* (a crate for packing and shipping oranges or other fruit); *rolling pin* (a cylindrical piece of wood, metal, glass, or china which is used for rolling pastry). And consider how much would have to be said to explain: *hangnail*, *oilcloth*, *come-on*, *shakedown*, *slot machine*, *cold cream*, *bawdy house*, *roundup*, *roller coaster*, *bobby-soxer*, *hepcat*, *cheesecake*, *street-walker*, *Adam's apple*, *strip tease*, *black market*. Beyond a doubt the practice of compounding makes for great economy of language!

Among other compounds in the present study with highly figurative meaning were the following:

backlog
barn-burner (popular girl)
bellyaching (complaining)
brickbats
cottonmouth
crackpot
cutthroat
drawback
bridgework
bull session
bull shooting (gossiping, talking)
drawback
nuthouse
pay-off
wash-out
time table
quarterback
say-so
scapegoat
take-off
tryout
butterball (a person)
butterfly
by-line
cold cuts
cat beer (milk)
catch phrase
fiddlesticks
firecracker
firewater
floor show
flophouse
fourflusher
showdown
has-been
real estate

rumble seat
slot machine
boilermaker (a drink)
tightwad
shakedown
hell-cat
kickback
turncoat
what-have-you

Other Figurative Compounds

Perhaps not quite so far off the beaten track but still a long way from the meanings of the original components were the following:

asking-price
alarm clock
battle royal
bandwagon
bandy legs
bank note
bank teller
baseboard
battle wagon
bellboy
bellhop
arc-light
ball diamond
blackboard
blackmail
blockhead
blowback
blowhard
blue jeans
boot-lickers
box office
brain shark
brain trust
breadbasket
breakwater
checkup
composing room
coon's age
copy writer
country club
court-martial
cowpuncher
cow-town
cracker family
crap game
creampuff (a person)
crosstie
crow's-nest
cubbyhole
cure-all
cutaway
cut-off
cutworm
dragonfly
driftwood
driveway
drydock
dry goods
dugout
bull's-eye
bumble bee
busboy
bust-up
butterbean
byplay
byways
cold shots
car pool
cartwheel
cat house
catwalk
evergreens
eye-shadow
face-powder
finger bowl
flashback
flatcar
flower-bed
fly-rod
foot locker
fortune-teller
foul-up
fox hole
frame-up
funny paper
cease-fire
forget-me-nots
cheesecloth
limelight
saddle shoes
drip coffee
poker face
Johnny-come-lately
matchmaker
bird's-eye view
dime store
dragnet
end table
ice tea
meal-ticket (slang)
insane asylum
studio couch
powder-base
lipstick
talking-to
let-down
cloudburst
prowl car
pushcart

roadhouse
reform school
roughnecks
searchlight
taillight
fireplace
sidewalk
sheep-dog
screwdriver
billboard
brownups
tip-off
billfold
run-in
roundup
call box
card table
clearinghouse
coffee table
darkroom
firing squad
knowhow
lookout
mercy killing
mixup
money order
nursemaid
nutshell
passport
punchboard
sharpshooter
sheath dress
shore leave
sweatbox
task force
cold war
color guard
blind alley

Less Figurative Compounds

On the other hand, at the opposite end of the scale is another large group of compounds whose meaning is fairly obvious, and about which there might be disagreement concerning figurative versus literal meaning. Such are:

confessional box
burnt cork
college professor
buttonhole
teacup
oak tree
car door key
television set
applesauce
ballgame
American Way
apron strings
army camp
banana peel
barbed wire
barnyard
bathroom
bath towel
bath tub
battlefield
baby shoes
moonlight
bedpost
bedroom
bird cage
birthday
pigpen
ashcan
apple tree
boy friend
Main Street
bookstore
girl friend
teashop
bathing suit
college days
candy cane
church mouse
cigarette butt
coal shovel
coffeepot
sunlight
roommate
teapot
doghouse
dollar bill
headache
innkeeper
meatballs
college man
roadside
teakettle
campfire
fingertips
doorknob
dining room
phone numbers
candlelight
coffeepot
market basket
marriage vow
oak tree
paintbrush
palm tree
seashore
sleighbell

Even here, however, there appears to be a unity of meaning which is not so apparent with similar two-word phrases. These compounds generally function as a single part of speech; injected modifiers ordinarily are not adjectives. However, as Bloomfield, Bryant, and others point out, a test of meaning is not foolproof, and because of its subjectivity it is extremely difficult to apply. It is quite likely that no two people would agree in every case as to whether the meaning of a particular combination was figurative or should be taken literally.

Conclusions

It seems to me that the principal value of the criterion of meaning as a test of compounds comes in the preliminary stages of a study of this sort. Subjectively, on the basis of meaning, one can decide which combinations appear to qualify for further investigation. Some combinations of adjective plus noun will obviously be ruled out immediately; examples are: black dog, small child, rainy day, sour milk. Such combinations as these are purely descriptive and do not imply a unit of meaning in the same sense as do coffeepot, candy cane, Christmas tree, bath towel; those combinations which are obviously adjective plus noun combinations are definitely subject to question. Combinations which are doubtful should probably be included for testing. Once this list of positives and possibles has been compiled on the basis of meaning, it is then feasible to test all of them according

to the more concrete criteria of stress and intonation. It is reasonably safe to assume that the majority of compounds have a meaning which differs at least in some slight degree from that implied in the original elements if the elements are taken separately. As I have said, compounds are used as a single part of speech; they have a unity, a oneness of concept, and this unity implies more than simply an object or an idea modified by an adjective of size or color.

CHAPTER SIX

CONCLUSIONS

Since summaries have been included at the ends of each of the preceding chapters, there remains but to reiterate the statements of these summaries and to point out the final conclusions.

From a widely divergent and at times chaotic mass of material on the subject of compounds, I have attempted to formulate a series of tests for compound substantives, which although not foolproof, will at least, I think, afford a more objective determination of compound substantives than any yet devised.

True, a great deal remains to be done. More tests need to be made on internal open juncture to ascertain with certainty how much influence this phenomenon has on the nature of compounds, phrases, and simplexes. Furthermore, tests need to be made on the combinations which waver between compound and phrase in order to determine whether or not a more definite judgment can be made about them. The whole area of meaning needs much more study.

Nevertheless I have, I hope, taken steps in the right direction. I have determined, for example, that, contrary to the opinion held by many scholars up to this point, the stress test is not reliable by itself in judging whether or not a

particular word group is a compound. The stress test is useful mainly for making distinctions between simplexes and compounds or combinations and for preliminary sorting of combinations into categories which may then be tested more efficiently and accurately by the criterion of intonation.

The stress test for simplexes is useful only after we have determined that the combination is composed of at least two independent elements. If the group meets this test, it may then be checked by the stress test which requires that it contain at least two stresses stronger than light. Thus *mail man* with its two strong stresses would qualify as a compound, whereas *postman* with only one strong stress would not. This test puts such words as *vineyard*, *cupboard*, *boatswain*, and probably *woodland* in the category of simplexes like *friendship*, *shortness*, *father*, and *radio*. Thus, these combinations which still appear visually to have two independent elements, can be determined not to qualify as compounds on the basis of stress. It is important to remember, however, that for the test to be valid the item to be tested must contain at least two recognizable independent elements, since it is also quite possible for an undisputed simplex to have two accents stronger than light (e.g., *cìvilizátion*).

The stress test is not reliable in distinguishing compounds from word groups. For that we need the intonation test. A true compound must have a single primary intonation contour or rhythm

unit and should not have an intonation break between the elements. A true compound, as Pike points out, is a group which has lost its natural faculty for having a primary contour or rhythm unit end in the middle of it. Thus $\underset{^{\circ}2\ -\ 4}{\underline{\text{blackbird}}}$ is a compound, whereas $\underset{^{\circ}3\quad -^{\circ}2}{\underline{\text{black bird}}}$ is not. On the basis of intonation, I have distinguished three classes of compounds, displaying varying degrees of freezing. Those with initial stress and a single primary contour beginning on the first element are included in the first class; those with stress on the final element are assigned either to the second or third class depending on the intonation curve and the degree of freezing. (For details, see Chapter III).

I have also determined that many old or highly figurative compounds are indivisible, whereas more modern or less figurative ones may be split by one of three methods: expansion of the first element; expansion of the second element; or injection of a modifier between the elements. When divided, a compound may remain a compound but become a compound of a different class, or it may become a non-compound. To qualify as a compound, the resulting combination must refer to a single object or idea, that is *chicken and turkey farm* (one farm for both types of poultry), not *chicken and turkey farms* (more than one farm for the two types of poultry). By itself, the divisibility test is not reliable; but in combination with other tests it sometimes proves useful.

The criterion of meaning as a test of compounds needs a great deal of further study. Its principal weakness as a test is its subjectivity. The main value of the meaning test (that is, a meaning of the whole which differs from that of the parts taken separately) comes in the preliminary stages of the study of compounds. On the basis of meaning, one can decide which combinations appear to qualify for further investigation; one can thus rule out immediately such combinations as <u>black dog</u>, <u>small child</u>, <u>rainy day</u>, <u>sour milk</u>, which are purely descriptive and do not imply a unit of meaning in the same sense as do <u>armpit</u>, <u>cotton gin</u>, <u>Christmas tree</u>, <u>candy cane</u>. Combinations which are obviously adjective plus noun combinations are definitely subject to question, though many of them must be tested by stress and intonation to determine with certainty their true nature. It is reasonably safe to assume that the majority of compounds have a meaning which differs at least in some slight degree from that implied in the original elements if the elements are taken separately. As we have said, compounds have a unity, a oneness of concept, and this unity implies more than simply an object or an idea modified by an adjective of size or color.

Furthermore, there appears to be a relationship between spelling (hyphenation) and intonation. The simpler the intonation curve, the more likely the combination or compound is to be written solid. Longer, more complex combinations are more likely

to be written as separate words. Only compounds with heavy accent on the first syllable are written solid unless a special effect of speed or style is desired. These are only trends, however; they can not be considered tests of compounds.

With these points in mind, then, we might go back to our trial definition of a compound substantive as found in Chapter I and modify it as follows:

> A compound substantive is a word-unit made up of two or more separate words which together function as a single substantive, a single part of speech. It may be composed of two or more parts of speech or of two or more examples of one part of speech. It may appear with the elements written solid, separately, hyphenated, or in any combination of these forms, although the solid forms ordinarily occur only with compounds which have initial stress. A compound differs from a simplex in that in addition to having two or more independent elements, it must also have at least two strong stresses. It differs from a phrase in that it has lost the faculty for having a primary intonation contour or rhythm unit end in the middle of it and it appears not to have an intonation break. It also differs from a phrase in that it tends to be indivisible, although this is by no means always true; it also has a meaning which differs in some degree from that of the elements taken separately.

Thus we have a compound. As I have said, much more needs to be done, but I hope this will at least throw light on a somewhat clouded subject, make compound substantives easier to recognize and describe, and provide a foundation for further research and study.

APPENDIX

APPENDIX A

SELECTIONS AND WORD LISTS USED IN ORAL PART OF STUDY

Selection I

I sent a letter by air mail to a service man and a charity-worker who had recently been married. The bridegroom was an expert on the atom bomb and had previously been an advertising-agent. His father was a war correspondent during World War Two and was later associated with a well known newspaper syndicate. His mother, I was assured, was the belle of the Washington cocktail party and claimed to have an extraordinary recipe for making a watermelon pickle. A less frequently mentioned aspect of her background included a father who had alternately served as elevator boy and flagpole sitter. Her brother had once been the champion goldfish swallower at M.S.U., and was now a baseball player with the St. Louis Hepcats where he was noted for his double plays and put-outs.

The bride came from even more humble surroundings. Her father was a mail man by day and a factory-worker by night. One brother became a clergyman and depended for his livelihood upon the collection box. Another took a correspondence-course and became an efficiency expert. A third worked for a construction company. The fourth joined the air force and is now stationed at an air base in North Africa, after being located at numerous

air and naval bases in the Middle East. She also has a sister who started a chicken farm soon after her marriage to a college man and later expanded it to a chicken and turkey farm. This sister also sold homemade ice cream and meatballs at the roadside. The pay-off came with the bust-up of her marriage; she also had a run-in with her former boss when the roadside stand became a wash-out. She is now married to a cattle man and spends her evenings with her teakettle over a campfire.

Selection II

Linda sat before her dressing-table getting ready for her date with what she called her meal-ticket. First she put on cold cream, massaging her face with her fingertips, and removing the excess cream with cleansing tissues. Then she applied her make-up--first the powder-base, then the lipstick, then the eye shadow, and lastly the face powder. She then put on earrings and a necklace before removing her dressing gown and bedroom slippers. When she had finished dressing, she put on Bill's fraternity pin and fastened a cluster of forget-me-nots in her hair. She hung her hair ribbon on the doorknob and threw her housecoat in the easy chair before going into the dining room to check the silverware and candlesticks.

Remembering the landlord's request for the rent, she took out her checkbook and fountain pen. But before she could sit

down, the doorbell rang and a delivery boy handed her a nosegay of tuberoses and a quart of ice cream. She also asked him for a postage stamp and signed the receipt book. Then she took a twenty-five-cent piece from her pocketbook and gave it to him. The gifts, she learned, were from a former playmate and pickpocket. She put the flowers on the mantelpiece and took the newspaper off the piano stool. While scanning the headlines, she munched hungrily on some chocolate drops she found on the coffee table.

When Tom didn't arrive on time, she called the poolroom and the drugstore, checking her notebook for the phone numbers. She also gave the bartender a talking-to and asked him if Jane, the street-walker, had been in recently. While she was checking time tables, her roommate, a salesgirl from Saks, came in and said she'd seen Tom in the cigar store. "What a let-down," Linda muttered. When he finally arrived, she met him with a rolling pin and demanded a showdown. "You're a has-been!" she told him. As usual, however, he won the argument, and they spent the evening at a newsreel theater. "It's the best I can do until payday," he said, showing her his latest collection of pawn tickets. He surveyed the popcorn bags on the floor at his feet and observed: "This place looks like a pigpen. You couldn't dig off the dirt with a penknife." Linda looked at him quizzically and muttered: "Yeah, the man I have a date with tonight is a dead-beat!"

Selection III

George put his dinner pail on the car seat, inserted his car key in the ignition, turned on the headlights, and sped off down the highway. On his way he was caught in a cloudburst and nearly ran over a chorus-girl. He emptied the ashtray as he stopped for a traffic light; as he did so a prowl car whizzed around the corner and across the railroad track. A man with a pushcart stood by the curb in front of a For Rent sign on a piece of real estate. A redhead came up to the man and asked for a cigarette lighter.

Farther on, George stopped at a roadhouse on the river bank. Nearby was a reform school where a bunch of roughnecks were kept in custody. As he got out, he noticed a couple of college kids doing their love-making in a rumble seat. While he watched them, a traffic cop turned his searchlight on the pair, and he noticed the girl was wearing a raincoat and sun glasses. He also noted that the tail-light of their car was smashed and that a toy teapot and baby shoes hung from the rearview mirror. The license plate was missing. The cop put the pair in the patrol wagon and drove off.

Inside, George played the slot machine, ordered a boilermaker, and warmed his shirt-tail at the fireplace. Later he went into the telephone booth and called his brother, the tightwad, for a shakedown. Out on the sidewalk he stopped and watched a sheep-dog

and a tom cat eying each other with hatred across a fence; when the dog barked, someone threw a screwdriver at it and yelled, "Son of a bitch!" In the distance George could hear the screams of school girls on the roller coaster, and across the road, lights flashed on a billboard displaying lots of cheesecake. He dropped a letter in the mailbox, drove his motor car out of the parking lot, and lurched onto the parkway. With a perfect poker face he drove through the moonlight.

Selection IV

The notorious badman, Clint Esmond, was the son of a wealthy cattle man. He spent his boyhood in companionship with a frontiersman and a hangman. He studied marksmanship and soon became better at shooting than were the grownups. The payoff came, however, when he said he'd had a bellyful of being a namby-pamby. He disappeared into the woodland one night. His father made a checkup on a tipoff from a counterman at the local cafe where Clint had left his billfold when he had gone in for a bowlful of chili and some beefsteak. Nothing came of the tip, however. Later he had a run-in with a tradesman in a buckboard at the cutoff near Dead Man's Gulch and killed three men with a broken beer bottle in a tavern brawl downstate. He was involved in several holdups and finally was shot for cattle rustling at a roundup near Tucson.

Word List I

account book
aircraft carrier
airport
armpit
ashcan
boat officer
book-agent
baseball park
breakfast nook
cabin boy
call box
candlelight
car door key
card table
cat call
cat house
cease-fire
chewing-tobacco
clearinghouse
cocktail lounge
cocoa cup
coffee table
coffee and cocktail table
coffeepot
comic book
come-on
damn Yankee
dark room
destroyer-minesweeper
dog and cat show
double talk
dressmaking-scissors
drip coffee
drug store
drug and candy store
elevator-runner
exclamation-point
expense-account
feature editor
feature story writer
field hat
field hat and glasses
firing squad
football
foreign correspondent
get-together
gossip column
guest house
handout
hangout
he-togs
hell-cat
hell's bells
holdover
holy water
horsepower-hours
hot water bottle
houseboat
ice water
ice cream
information booth
insane asylum
irrigation ditch
jackass
Johnny-come-lately
kickback
kilowatt hours
knockout
knowhow

legal expert
lemon-pie-face
license plate
literary agent
lookout
machine gun
magnifying glass
mailbox
mainspring
make-believe
man-hunt
manpower
manslaughter
market basket
marriage vow
masterpiece
matchmaker
mattress-manufacturer
meal ticket
mercy killing
mess sergeant
milk man
mine field
mixup

money order
movie star
music box
nailhead
namesake
necktie
nervous system
nest egg
network
newsreel
newspaper man
nigger-lover
nursemaid
nutshell
oak tree
ocean liner
odd job
oilcloth
orange crate
pageboy
paint brush
palm tree
paper boy
parochial school

passageway
passport
pay telephone
peace treaty
persecution complex
pigpen
placecard
plane crash
postmaster
potato face
price control
public address system
punchboard
quarterback
race track
railroad magnate
railway ticket
razor blade
reform school
safety razor
sandbox
say-so
scapegoat
school board

seashore
send-off
settlement house
sharpshooter
shaving cream
sheath dress
she-dog
shore leave
short-cut
shotgun
sleighbell
society editor
staff meeting
State Department
steamship agent
summer school
sunlight
Sunday school
sweatbox
tablecloth
take-off
task force
telegraph operator
throw-back
tissue-paper
tool manufacturer
touchdown
trade mark
try-out
turncoat
typewriter
vacuum cleaner
vanishing cream
rice ring
vice squad
wage-earner
waiting-room
wallpaper
war communique
washing machine
water color
what-have-you
yardstick
yule-log

Selection V

My first case-history is an interesting one. John T. began his writing career as a feature story writer and copy boy for the Daily Examiner. Later he worked for a newspaper syndicate and was a copy writer for his brother, who was an advertising-agent. He also took up photography and spent much of his time in the darkroom and photo lab. During the war he became a foreign correspondent, but his nervous system couldn't stand the strain.

When his brother was killed on a destroyer-minesweeper, he acquired a persecution complex, and shortly before the cease-fire he had a nervous breakdown and was sent to an insane asylum. While there, he lived in a world of make-believe, cutting paper dolls and forget-me-nots out of cheesecloth and wrapping paper. Most of the time he wore his field hat and glasses, but now and then he put on a mortar board and pretended to be a legal expert. "Hell's bells," he thought. "If I'm not careful, people will think I'm a son of a bitch."

Another unusual case was that of Peter K. He received his early training in a parochial school and thought seriously of entering the priesthood. After much time spent at the altar rail and in the confessional box, however, he decided he was unsuited for Holy Orders. Instead he became a college professor and lectured widely on civil rights and academic freedom. He married a ballet-dancer who held the limelight in musical comedy for several seasons and whose main interests were greasepaint and footlights. She was the sister of a well known musical comedy team, which toured with minstrel shows and held the spotlight in a burlesque show, popularizing several hit tunes. They frequently donned burnt cork and clown costumes for their performances. Their father was the author of numerous murder dramas and ghost stories, and their mother had in her youth been

a chorus-girl and mistress of the strip tease, but had later reformed and now spent most of her time standing at an ironing board or making buttonholes while sitting in a rocking chair.

The third case is that of Molly J., a dim-wit who ran around most of the time in blue jeans and saddle shoes. She imagined she was the domestic type, but she spent more time with horror stories on the sun deck than with teacups in the dish water. She wound up in a blind alley when she tried blackmail on a business man, and somebody carved her up with an ice pick and a razor blade, leaving her to die on the boardwalk under an oak tree near the blinker light. When a policeman found her, she had a railway ticket, a cigarette lighter, and a car door key in her pocket. Nearby were an ice cream cone and a can of drip coffee, and around her neck was wrapped a piece of orange crate. From an open window across the street could be heard the blare of a radio-phonograph, and overhead a neon sign flashed the news about the latest in air-conditioning and television sets. The factory-worker who witnessed the crime maintained a poker face and refused to comment. His Adam's apple moved up and down as he sat in the breakfast nook calmly eating ice cream; later he continued to ignore questions while he pared his fingernails with a penknife. When they tried to arrest him, he grabbed up a jar of cold cream from the dressing table and

threw it at the peace officers. The battle that followed was as lively as a tavern brawl, but they finally put handcuffs on him and led him off to the courthouse.

The fourth case concerns Gerald T., a Johnny-come-lately if I ever saw one. In his youth his major interests were baseball, basketball, and football, and he spent most of his time at the ball park. Later he tried his hand as a goldfish swallower, a matchmaker, and a counterman, but sooner or later everyone realized he was a deadbeat. He took a correspondenco-course to learn how to handle account-books and become a bookkeeper, but he never would obey an alarm clock and usually got fired for staying home in an armchair. "Working is a lot of applesauce, anyway," he'd say. "I'd much rather visit a bawdyhouse or a ballgame. Who wants to be an efficiency-expert?" He hung a For Rent sign in the window of his boardinghouse, causing his landlady no end of trouble. She considered him a blockhead and a blowhard.

The fifth case history concerns a specialist in atomic energy. He made a major contribution to atomic warfare, for he developed some of the key devices used in the manufacture of the atom bomb and other atomic weapons. This country's atomic power has arrived at its present height, largely because of his work

in connection with the original atomic bomb and his subsequent atomic experiments. He now has an important role in the development of the new hydrogen bomb. His name will go down in history as one of the key figures of the atomic age.

Word List II

airways
alleyway
American Way
apartment-house
apprentice seaman
apron strings
archway
armored car
army camp
artilleryman
ashtray
asking-price
atomic war
atom bomb
baby-talk
baking powder
banana peel
banana fritters
bandwagon
bandy legs
banker-millionaire
bank-president
barbershop
barbed wire
barnyard
barrelhead
baseboard
bass drum
bathroom
battlefield
battle royal
bath towel
beachhead
bedbug
bathtub
bedpost
bedside table
bedroom
bellyache
big shot
bingo game
bird cage
bird's-eye view
birthday
blackboard
blackout
blind alley
black market
blockhead
blood pressure
blackbird
blowout
boardinghouse
bodyguard

bombing raid
bone-structure
black bird
bookkeeper
bottle opener
brass tacks
bridegroom
bridge-table
Bronx cheer
buck private
bull's-eye

air field
air power
charity-worker
watermelon pickle
chambermaid
double-play
pigpen
ice cream
woodland
ashcan
coffee and cocktail table

kilowatt hour
magnifying glass
lily-of-the valley
Easter seals
war monger
cabbage patch
apple tree
Adam's apple
sanctuary light
apple tree
Bible school

Selection VI

"I want some ice cream!" Lily shouted. "I want my ice cream now!" She pointed to a roadside stand where a counterman in a white hat was dispensing hot dogs, beef-burgers and ice cream cones to children of all ages. "I want vanilla ice cream," she specified. "Later I might also have chocolate ice cream or a paddle pop. In fact, I'll take it in any flavor or form--just so long as it's ice cream."

Selection VII

Sally's boy friend made his way down Main Street gathering packages as he went. First he entered the bookstore and bought

some best-sellers, as well as a bookshelf, a bookcase, and some book-ends. Then he stopped on the corner for a shoe-shine by the bootlack. He picked up theater tickets at the box office, paused briefly at the bowling-alley, stopped at the drug store for a banana-split, and then poked his nose into the beauty shop to see if Sally was ready. She wasn't. So he checked his packages at the baggage-room in the bus station, deposited some money in his bank account, stopped at the barroom for a look-see, and bought a pair of boxing gloves at the hardware. Then he picked up his girl friend, and they had a bull-session about blind dates while they drank a glass of ice tea. As they left the teashop, they saw a Boy Scout helping a blind woman across the street while a traffic cop smiled approvingly. "I'm not afraid of the boogy man," the little boy boasted. "I can swim too. In fact I've got a bathing suit on right now under my Boy Scout uniform. But if my mom finds out about it, she'll yell bloody murder."

Word List III

college days
nail polish
legal expert
toenail
man-days

whorehouse
sailboat
traffic light
candy cane
Christmas tree

race track
check-up
church mouse
checkroom
cigarette butt

cleanup
clubhouse
coal shovel
cocktail
coffeepot
cold cuts
conference table
cornbread
cold war
country club
courtroom
crap game
creampuff
curbstone
cure-all
dance hall
dark alley
daydream
deadpan
deathbed
dime store
dining car
doghouse
dollar bill

dragnet
drawback
drinking water
dude ranch
dugout
electric fan
end table
eyeball
fighter-escort
family-man
eye-witness
father-in-law
eyebrow
fence post
filling station
fireman
fireside chat
first-born
fist fight
ice tea
half-brother
hangnail
headache
heartbreak

headmaster
home office
housing program
hymn book
ice cream soda
ice cube
jackpot
innkeeper
labor leader
lemonade
labor union
luxury liner
mainspring
meal-ticket
mountain range
nuthouse
original sin
pigtails
potato salad
redbird
rollcall
shaving-cream
street corner
studio couch

sugar cooky

war worker

APPENDIX B

BRIEF BIOGRAPHICAL SKETCHES OF PERSONS PARTICIPATING IN RECORDED PART OF STUDY

Speaker A, Male

Born:	Fairmont, Minnesota, May 11, 1916.
Early Life:	Lived in Michigan, including Port Austin, Harbor Beach, L'Anse, Romeo, Fenton, and Alpena.
Education:	Public School at Harbor Beach, L'Anse, and Romeo, Michigan; B.A., in speech and English, Michigan State College, 1940; M.A., in speech, Michigan State College, 1947; Ed.D., University of Mississippi, 1953.
Military:	1941-45, first as enlistee and later as officer; returned to army briefly in 1950; stationed in California, Oklahoma, Alabama, North Carolina, and in England, France, Belgium, and Germany.
Family:	Father a Methodist clergyman, graduate of McGill University, Montreal, Canada. Both parents Canadian by birth. Wife from Arkansas.
Languages:	Speaks a smattering of Russian, German, and French because of direct association with people of other countries during military service. Also studied high school Spanish and Latin.
Professional:	Instructor while in military service; instructor, Michigan State College, Department of Communication Skills, 1946-date.

Speaker B, Male

Born:	St. Paul, Minnesota, March 23, 1915.
Education:	Public schools of North Dakota; B. A., in social science and history, Jamestown College, Jamestown, North Dakota, 1937; M.A., in English, University of Minnesota, 1942; Ph.D., in American literature, Michigan State College, 1951.

Military:	U.S.Navy, 1942-46; stationed in Caribbean, Middle East, Far East.
Family:	Father, B.A., St. Olaf's College, Minnesota; small town merchant; parents spoke some Scandinavian in the home. Wife Scandinavian background, graduate of Jamestown College.
Professional:	Public school teaching in North Dakota and Minnesota; instructor and assistant professor, Communication Skills, Michigan State College, 1946-date.
Other:	Extensive training in speech and drama; active in little theater work and in high school and college debate and oratory.

Speaker C, Male

Born:	Decatur, Alabama, July 20, 1920.
Education:	High school, DeSoto, Missouri, 1938; A.B., Central College, Fayette, Missouri, 1942; A.M., University of Missouri, Columbia, Missouri, 1950; Ph.D., University of Missouri, 1952. Major interests: rhetoric and public address.
Military:	U.S. Army, 1942-46; overseas in England, France, and Germany; also stationed in Albuquerque, New Mexico, and Oklahoma City, Oklahoma.
Family:	Parents both born near Elizabethtown, Kentucky. Scotch-Irish ancestry.
Professional:	Instructor, Michigan State College, Department of Communication Skills, 1953-date.

Speaker D, Female

Born:	St. Paul, Minnesota, February 1, 1925.
Education:	Public schools, East Lansing, Michigan; B.A., in speech and English, Michigan State College, 1946; M.A., in speech and English, University of Michigan; now working on Ph. D., in theater history, University of Michigan, 1952-date.

Travel: Southern United States, California, New York City, Canada, Mexico, and Europe.

Language: High school Latin; college French.

Family: Father, attended Kansas State Teachers Normal, Pittsburg, Kansas; B.A., from Hamlin University, St. Paul, Minnesota; M.A., University of Minnesota; Ph.D., Michigan State College; professor of sociology and social science, Michigan State College. Mother B.A., Kansas State Teachers Normal; attended University of Minnesota; taught home economics. Husband from St. Louis, Missouri; graduate of University of Michigan law school.

Professional: Instructor, Michigan State College, Department of Communication Skills, 1948-date.

Other: Extensive work in college drama and radio and in community and summer stock theater.

Speaker E, Male

Born: Winnipeg, Canada, 1920.

Education: Public schools of Ontario and Cedar Rapids, Iowa; B.A. and M.A., University of Iowa.

Military: One and one-half years in Pensacola, Jacksonville, Miami, and Corpus Christi.

Professional: Instructor, Michigan State College, Department of Communication Skills, 1950-date.

Other: Has done extensive creative writing.

Speaker F, Female

Born: New Haven, Connecticut, January 13, 1907.

Education: St. Mary's Academy (day school), New Haven; high school, Milford, Connecticut; attended d'Hulst School, Versailles, France, 1922-23; Mus.B., Yale University, 1930; M.A., Arizona State College, Tempe, Arizona, 1940; graduate study at Michigan State College.

Travel: Extensive travel in Europe including England, France, Switzerland, Belgium, Austria, Hungary, Italy.

Professional: Head of music department, St. Joseph College, Hartford, Connecticut; lecturer in music appreciation, St. Joseph's; manager, Mattatuck Musical Arts Society, Waterbury, Connecticut; instructor, Arizona State Teachers College; temporary instructor, Michigan State College, 1945-date.

Family: Parents English and Early American. Husband, Italian, graduate of Yale University; faculty at Yale, Arizona State Teachers College; associate professor, music, Michigan State College, 1941-date.

Language: French.

Speaker G, Male

Born: St. Louis, Mo., June 18, 1929.

Education: Public schools, St. Louis; B.A., Princeton University, 1951; law degree from University of Michigan, 1954.

Travel: New England, Colorado, Minnesota, Mexico.

Family: Father a lawyer and judge, occasionally teaches law at Washington University, St. Louis, Mo.; mother raised and educated in and around St. Louis.

Professional: Assistant in law firm, Lansing, Michigan, 1954.

Speaker H, Male

Born: Battle Creek, Michigan, April 28, 1920.

Education: High school, Battle Creek; B.A., 1944, and M.A., 1948, in speech, Michigan State College; now working on Ph.D., in English, Michigan State College.

Travel: Pennsylvania, Virginia, Colorado, Wisconsin, Illinois, Florida, Nebraska, Mississippi.

Family:	Michigan-born, educated in public schools.
Professional:	Taught high school speech and English, Williamston, Michigan; instructor, Communication Skills, Michigan State College, 1948-date.

BIBLIOGRAPHY

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Literature Cited

Armstrong, Lilias E., and Ward, Ida C. Handbook of English Intonation. Leipzig: B. G. Teubner, 1926.

Ball, Alice M. Compounding and Hyphenation of English Words. New York: Funk and Wagnalls, 1951.

Benbow, John. Manuscript and Proof. New York: Oxford University Press, 1938.

Bergsten, Nils. A Study on Compound Substantives in English. Uppsala, 1911.

Bloch, Bernard, and Trager, George L. Outline of Linguistic Analysis. Baltimore, Md.: Linguistic Society of America, 1942.

Bloomfield, Leonard. Language. New York: Henry Holt, 1933.

Bryant, Margaret M. Modern English and Its Heritage. New York: Macmillan, 1948.

Carr, Charles T. Nominal Compounds in Germanic; St. Andrews University Publications, No. 41. London: Humphrey Milford, 1939.

Cassidy, Frederic G., rev. The Development of Modern English; 2nd ed. by Stuart Robertson. New York: Prentice-Hall, 1954.

Chiba, T. A Study of Accent. Tokyo: Fuzanbo, 1935.

Coleman, H. O. "Intonation and Emphasis;" In Miscellanea Phonetica to commemorate the 25th year of Le Maître Phonetique, International Phonetic Association, 1914.

Graff, Willem Lawrens. Language and Languages. New York: Appleton, 1932.

Hamilton, Frederick W. Compound Words. Chicago, 1918.

Jespersen, Otto. A Modern English Grammar on Historical Principles. Copenhagen: Ejnar Munksgaard, 1940-1949. 7 vols.

Kennedy, Arthur Garfield. Current English. Boston: Ginn, 1935.

--------. English Usage. New York: D. Appleton-Century, 1942.

Kenyon, John Samuel. American Pronunciation; 10th ed. Ann Arbor, Mich.: George Wahr, 1950.

Krapp, George Philip. Modern English: Its Growth and Present Use. New York, 1910.

Kruisinga, E. A Handbook of Present-day English: English Accidence and Syntax; 5th ed. Groningen: P. Noordhoff, 1932. 3 vols.

Mallery, Richard D. Our American Language. Garden City, N.Y.: Halcyon House, 1947.

Mencken, H. L. The American Language; 3rd and 4th eds., New York: A. A. Knopf, 1923 and 1936.

Newman, S. S. "On the Stress System of English," Word, II (1946), 171-187.

Palmer, Harold E. English Intonation. Cambridge: W. Heffer, 1922.

Palmer, Harold E. A Grammar of Spoken English; 2nd ed. Cambridge: W. Heffer, 1939.

Partridge, Eric. The World of Words; 3rd ed. London: H. Hamilton, 1949.

Paul, Hermann. Principles of the History of Language; 2nd ed. trans. H. A. Strong. N.p., 1891.

Pike, Kenneth L. "Grammatical Prerequisites to Phonemic Analysis," Word, III (1947), 155-172.

--------. The Intonation of American English. Ann Arbor, Mich.: University of Michigan Press, 1946.

Robertson, Stuart. The Development of Modern English. New York: Prentice-Hall, 1934.

Schubiger, Maria. The Role of Intonation in Spoken English. Cambridge: W. Heffer, 1935.

Smith, Logan P. The English Language. New York, 1912.

Sturtevant, Edgar H. Linguistic Change. Chicago, 1917.

Teall, E. N. Meet Mr. Hyphen and Put Him in His Place. New York: Funk and Wagnalls, 1937.

Trager, G. L., and Bloch, Bernard. "The Syllabic Phonemes of English," Language, XVII (1941), 223-246.

Trager, George L., and Smith, Henry Lee, Jr. An Outline of English Structure. Norman, Okla.: Battenburg Press, 1951.

Sweet, Henry. Sounds of English: An Introduction to Phonetics; 2nd ed. Oxford, 1923.

Vallins, G. H. Making and Meaning of Words. London: Adam and Charles Black, 1949.

Literature Consulted

Ball, Alice M. Compounding in the English Language. New York: H. W. Wilson, 1939.

Bodmer, Frederick. The Loom of Language. New York: W. W. Norton, 1944.

Curme, George O. Parts of Speech and Accidence. Boston: D. C. Heath, 1935.

--------------. Syntax. Boston: D. C. Heath, 1931.

Heffner, R.-M. S. General Phonetics. Madison, Wis.: University of Wisconsin Press, 1949.

Jespersen, Otto. Essentials of English Grammar. New York: Henry Holt, 1933.

--------------. The Philosophy of Grammar. New York: H. Holt, 1924.

Jones, Daniel. Outline of English Phonetics; 5th ed. New York: E. P. Dutton, 1936.

Kennedy, Arthur Garfield. The Modern English Verb-Adverb Combination. Stanford University, 1920.

Kenyon, John S., and Knott, Thomas A. A Pronouncing Dictionary of American English. Springfield, Mass.: G. and C. Merriam, 1944.

Lindelof, U. "English Verb-Adverb Groups Converted into Nouns," Commentationes Humanarum Litterarum, IX, Societas Scientiarum Fennica (1938), 1-41.

Malone, Kemp. "Pitch Patterns in English," Studies in Philology, XXIII (July, 1926), 371-379.

Muyskens, John H. "An Analysis of Accent in English from Kymograph Records," Vox, XVII (May, 1931), 55-65.

Onions, C. T. An Advanced English Syntax. London: Kegan Paul, 1929.

Perrin, Porter G. Writer's Guide and Index to English; rev. ed. Chicago: Scott, Foresman, 1942.

Pike, Kenneth L. Phonemics. Ann Arbor, Mich.: University of Michigan Press, 1947.

Schramm, W. L. "The Acoustical Nature of Accent," American Speech, XII (February, 1937), 49-56.

Trager, George L. "The Theory of Accentual Systems," Language, Culture, and Personality, Menasha: n.p., 1941.

Wells, Rulon S. "The Pitch Phonemes of English," Language, XXI (January-March, 1945), 27-39.

Works from Which Usage Citations Were Taken

Allen, Frederick L., ed. Harper's Magazine, Vol. CC, No. 1201 (June, 1950).

Cousins, Norman, ed. Saturday Review of Literature, Vol. XXXV, No. 18 (May 3, 1952).

Day, Clarence. Life With Father. New York: Pocket Books, 1943.

Farrell, James T. Bernard Carr. New York: New American Library, 1946.

Ferber, Edna. Saratoga Trunk. New York: Penguin Books, 1947.

Gardner, Erle Stanley. The Case of the Golddigger's Purse. New York: Pocket Books, 1951.

Hargrove, Marion. See Here, Private Hargrove. New York: Pocket Books, 1943.

Himstead, Ralph E., ed. American Association of University Professors Bulletin, vol. XXXVII, no. 4 (Winter, 1951-1952).

Lewis, Sinclair. Babbitt. New York: Bantam Books (1922), 1946.

---------------. Kingsblood Royal. New York: Random House, 1947.

Marquand, John P. So Little Time. Boston: Little, Brown, 1943.

Miller, Arthur. Death of a Salesman (Play). New York: Bantam Books, 1951.

The Nation Associates, The Best of the Nation. New York: The Nation Associates, 1952.

The New Yorker, vol. XXVIII, no. 24 (August 2, 1952).

The New York Times (Sunday, July 27, 1952).

Parker, Dorothy. The Collected Short Stories of Dorothy Parker. New York: Modern Library, 1942.

Skinner, Cornelia Otis, and Kimbrough, Emily. Our Hearts Were Young and Gay. New York: Dodd, Mead, 1943.

Smith, Lillian. Strange Fruit. New York: Reynal and Hitchcock, 1944.

Spillane, Mickey. My Gun Is Quick. New York: New American Library, 1950.

Stern, Philip Van Doren, ed. The Pocket Book of Modern American Short Stories. New York: Pocket Books, 1943.

Stout, Rex. Too Many Cooks. New York: Dell, 1938.

Time, Vol. LIX, no. 14 (April 7, 1952).

Williams, Tennessee. A Streetcar Named Desire (Play). New York: New American Library, 1951.

Willkie, Wendell L. One World. New York: Pocket Books, 1943.

Wouk, Herman. The Caine Mutiny. Garden City, N.Y.: Doubleday, 1951.