

## TEACHING THE VOCABULARY OF ACADEMIC DISCOURSE

### INTRODUCTION

How to help basic writing students acquire, in a relatively brief period of time, an adequate vocabulary for reading and writing academic language is a critical pedagogical issue. By academic language, I refer to the language of mature expository prose, or the formal English of college-level textbooks. This article will describe the characteristics of academic language and discuss theoretical and practical issues involved in the procedures for selecting and teaching its vocabulary. It will conclude with suggestions to teachers about ideas, techniques, and materials both for immediate use and for long-range planning and curriculum changes.

### THE IMPORTANCE OF VOCABULARY

Why is vocabulary so important? As John Anderson of the Johnson O'Connor Research Foundation states, "the quality of our thoughts depends upon the precision of our language." Further, Dale, O'Rourke, and Bamman suggest that vocabulary development is essentially conceptual development.<sup>1</sup> It is not surprising that three major areas of research in education have consistently indicated the importance of vocabulary for reading comprehension. Research in language develop-

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1. See E. Dale, J. O'Rourke, and H. Bamman, *Techniques of Teaching Vocabulary* (Palo Alto, Calif.: Field Educational Publications, 1971).

ment, such as Loban's longitudinal study of oral and written language development from kindergarten through Grade 12,<sup>2</sup> shows a high correlation between young children's knowledge of word meanings and achievement in reading and writing at higher grade levels. In a critical review of readability formulas, which were designed to assess the difficulty and grade-level appropriateness of instructional material, Chall noted that a measure of vocabulary load (e.g., word length, number of syllables per word, number of different words outside a given list of easy words) is a major factor in almost all such formulas.<sup>3</sup> Finally, factor analyses of component skills in reading comprehension, such as that of F. Davis,<sup>4</sup> point to a knowledge of words as the essential component in reading comprehension. While the understanding of connected discourse can and often does present difficulties even if the student understands the meaning of every individual word in a passage, understanding is clearly limited without knowledge of the meaning of most words. Developing vocabulary is thus a high instructional priority.

## THE DIFFERENCES BETWEEN ORAL AND WRITTEN LANGUAGE

While initial literacy training is built upon the child's oral language base, there is no evidence to support the view that writing is merely speech written down or that there is no substantial difference between the language of conversation and that of formal writing. To the contrary, there is a growing body of evidence suggesting both gross and subtle differences between oral and written language. General differences between oral and written language have been suggested by Schallert, Kleiman, and Rubin<sup>5</sup>; specific syntactic characteristics of mature prose have been pointed out by Minkoff.<sup>6</sup> Very specific characteristics of

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2. Walter Loban, *Stages, Velocity, and Prediction of Language Development: Kindergarten through Grade Twelve*, Final Report (Washington, D.C.: Office of Education, Bureau of Research, U.S. Department of Health, Education and Welfare, 1970).

3. Jeanne Chall, *Readability: An Appraisal of Research and Application* (Columbus, Ohio: Ohio State University Press, 1958).

4. F. Davis, "Psychometric Research on Comprehension in Reading," *The Literature of Research in Reading with Emphasis on Models*, ed. F. Davis (East Brunswick, N.J.: Iris Corporation, 1971).

5. D.L. Schallert, G.M. Kleiman, and A.D. Rubin, *Analysis of Differences Between Oral and Written Language. Technical Report 29* (Univ. of Illinois at Urbana-Champaign: Center for the Study of Reading, 1977).

6. Harvey Minkoff, "Never Write Like (?) You Talk: Teaching the Syntax of Reading and Composition," *The English Record* (Winter 1974), pp. 75-82.

7. David Crystal and Derek Davy, *Investigating English Style* (Bloomington, Indiana: Indiana University Press, 1969).

several varieties of oral English and non-literary written prose used by educated speakers and writers have been described in an invaluable exploratory study by Crystal and Davy.<sup>7</sup> An analysis of the protocols provided in their study suggests a key feature of conversational English—the predominant use of monosyllabic words of Anglo-Saxon or early French origin. These are our most basic words and one might expect that they would constitute most of the vocabulary of conversation or discussion.

Of even greater interest is an exploratory study in the Netherlands by Dreiman. Analyzing the vocabulary differences in the spontaneous speech and writing of a small number of Dutch graduate students responding to the same picture stimulus, Dreiman concluded that in the written text (1) the words tend to be longer and more complex; (2) more attributive adjectives tend to occur, making the prose more “ornamented” and varied; (3) a proportionately greater variety of words is used; (4) more polysyllabic words are used; and (5) a considerably smaller number of words is used to convey the same amount of information.<sup>8</sup> In the next section I will show that words used in written texts in English as well as in Dutch tend to show these characteristics.

## DESCRIBING THE VOCABULARY OF ACADEMIC DISCOURSE

I would like to offer the following two passages, both written on the same subject, to exemplify the differences between formal expository prose and what I would like to describe as mature speech written down. (Uttered in a natural setting the second passage would probably be much longer, as it would contain the inevitable redundancies and “mazes” of oral language.) The passages appear in *Guidebook for the Development of Army Training Literature* by Richard P. Kern, Thomas Sticht, Diana Welty, and Robert Hauke (Arlington, Va.; Army Research Institute for the Behavioral and Social Sciences, 1976), as a job aid for writers of Army training literature, e.g., Field Manuals, Training Circulars, and special texts. The first passage (a selection from an existing Army manual) is labeled “topic-oriented” and the second passage (a revision written specifically for this guide book in a conscious approximation of oral language) “performance-oriented”; the purpose of the comparison in the text is to show writers how to write Army training literature that enables the reader to master job-related tasks.

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8. G. H. J. Drieman, “Differences Between Written and Spoken Language: An Exploratory Study,” *Acta Psychologica*, Vol. 20, 1962, pp. 36-57.

## 32. CARE OF THE FEET

Battles and wars are still being fought by the foot soldier. Proper care of the feet is essential to the maintenance of physical fitness. Serious foot trouble usually can be prevented by observance of the following simple rules:

*a. Foot Hygiene.* The feet should be washed daily and dried thoroughly, especially between the toes. Persons whose feet perspire freely should apply foot powder lightly and evenly twice a day.

*b. Properly Fitted Shoes.* In the field only footgear issued by the combat service support units should be worn. Expert fitting at the time of issue is absolutely essential. There should be no binding or pressure spots; neither should the footgear be so large that it will permit the foot to slide forward and backward when walking.

*c. Clean, Properly Fitted Socks* should be changed and washed daily. They should be large enough to allow the toes to move freely but not so loose that they wrinkle. Woolen socks should be at least one size larger than cotton socks to allow for shrinkage. Socks with holes or poorly darned socks may cause blisters. Different types of socks are provided for various footgear; their proper uses should be learned at the time they are issued.

*d. Common Foot Troubles.* Blisters, corns, bunions, ingrown toenails, and fungus infections are the most common causes of foot trouble.

(1) Blisters can usually be prevented by wearing properly fitted shoes and socks. Shoes should be broken in slowly and socks should be clean and hole-free. If a blister does develop, it should be treated as prescribed in FM21-11/AFP 50-55.

(2) Ingrown toenails develop when nails are improperly cut. A person should trim his toenails straight across rather than following the contour of his toes. If tenderness develops in the nailbed or along the edge of the nail, he should report to the medical officer.

(3) Athlete's foot (dermatophytosis) is the most common infection of the feet. It can usually be prevented by proper care of the feet (*a* above) and by taking certain precautions (para 166).

*e. Immersion Foot.* Immersion or constant wetness of the feet for a period exceeding 48 hours usually results in immersion foot and disability even though the exposure has been to warm water. In this condition the soles of the feet become wrinkled and white, and standing or walking becomes extremely painful. The feet return to normal in about 24 hours if exposure is terminated. This condition can be prevented by avoiding prolonged immersion of the feet and by drying the feet during rest periods.

(p. 98)

## 32. CARE OF THE FEET

If you take care of your feet, you can prevent serious foot troubles. Follow these rules:

a. **CLEAN FEET.** Wash your feet every day. Dry them thoroughly, especially between the toes. If your feet sweat much, put a light even coat of foot powder on them twice a day.

b. **SHOES THAT FIT.** When your boots are issued to you, be sure they fit. You will have to wear them all the time when you are in the field. They should not bind your feet or press too hard on them. They should not be so large that your foot slides forward and backward in them when you walk.

c. **CLEAN SOCKS THAT FIT.** Change and wash your socks each day. There are different kinds of socks for different kinds of footgear. When they are issued to you, learn when to wear each kind. Socks should be large enough so you can move your toes freely, but not so large that they wrinkle. Wool socks shrink so they should be at least one size larger than your cotton socks. Socks with holes or bad darns may cause blisters; do not wear them.

*Sore feet.* The most common causes of sore feet are blisters, corns, bunions, ingrown toenails and fungus infections. You can prevent them all if you take good care of your feet.

a. **BLISTERS.** You can prevent blisters if you wear shoes and socks that fit. Break in your shoes slowly. Wear only clean socks with no holes in them. If you do get a blister, see FM 21/11/AFP 50-55 for details on how to treat it.

b. **INGROWN TOENAILS.** These may develop if you cut your toenails incorrectly. Be sure to trim the nails straight across, not curved like your toes. If the nailbed or the edge of the nail becomes tender, see a medical officer.

c. **ATHLETE'S FOOT.** This is the most common fungus foot infection. You can prevent it if you keep your feet clean and dry. You can catch athlete's foot from other people, so always wear sandals in wet areas like the shower.

d. **IMMERSION FOOT.** You may get immersion foot if you feet are wet for more than 48 hours. The soles of your feet will turn white and be very wrinkled, and it will hurt you to walk or stand on them. Your feet will return to normal 24 hours after you start to keep them dry. To prevent immersion foot, keep your feet out of water when you can, and dry them during rest periods.

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The major differences between academic language and mature speech written down are clearly apparent in the general vocabulary (the vocabulary not specific to the topic), syntax, and ideational density of these two language samples. These distinctions also reflect the difference in rhetorical function of these two passages, the first intended to provide knowledge of the topic to a general audience, the second, to give explicit information and directions to a specific audience. Whereas adequately prepared high school graduates can be expected to cope with the language of the first passage (its readability level, according to the formula used in this guide, is 10.7), basic writers might not. But I suspect they would have little difficulty understanding the second passage, whose readability level, according to the same formula, is 7.8.

How is the general vocabulary of the first passage different from that of the second? A cursory inspection of the first reveals a high proportion of words derived from Latin (or Greek). In order to simplify some of the sentences in the first passage, the writer of the second has often substituted a common Anglo-Saxon word for a Latinate one (e.g., *follow* for *observance*). In addition, the first passage contains many passive verbs; in the second, these have been changed to active verbs—a key feature of conversational style. The first passage also contains a large number of inflected or suffixed words, including those of Anglo-Saxon origin (e.g., *daily*, *evenly*, *wetness*, *painful*). Indeed, the first passage contains many multisyllabic words. As the authors of the guide indicate, 337 of the 415 words in the second passage are monosyllabic, for a proportion of 81%; only 257 of the 416 words in the first are monosyllabic, for a proportion of 62%.

An interesting question arises. Why does the vocabulary of formal exposition tend to consist of such a high proportion of multisyllabic words? The more obvious reason for the presence of many multisyllabic words in formal expository style is the use of a Latinate vocabulary. Almost all of the Latinate words in the first passage tend to be multisyllabic (e.g., *essential*, *exposure*, *terminated*, *absolutely*). Since Latin was the language of scholarship for centuries and its vocabulary was heavily inflected, prefixed, and suffixed, it is not surprising that the vocabulary of formal written English should be similar to the one used by earlier writers of expository prose. As LeBovit points out, over 50% of English words are derived from Latin, especially “abstract terms used in communicating on a high level of generality.”<sup>9</sup>

A less obvious reason for the high proportion of multisyllabic words in expository writing—but one with far-ranging implications—is indirectly

suggested by Rulon Wells in his essay on nominal and verbal style. Nominal, or nominalizing, style is the tendency to use nouns in preference to verbs; verbal, or verbalizing, style is the tendency to use verbs rather than nouns. What are the effects of a nominalizing style? Wells suggests, first, that "the nominal sentence is likely to be longer, in letters and in syllables, than its verbal counterpart" because the noun corresponding to a verb, usually derived from the verb by suffixation, is apt to be longer. Second, nominalization tends to replace clauses introduced by conjunctions with prepositional phrases, thus decreasing the average number of clauses per sentence but increasing the amount of information within a clause. Third, the number of distinct sentence patterns decreases so that only simple sentences, "more or less swollen by parentheses and modifiers, will be left."<sup>10</sup>

What are the negative features of nominal style? First, "nouns are more static, less vivid than verbs"; second, "longer sentences are (on the whole) less vivid and less comprehensible than shorter ones"; third, texts whose sentences are mostly of one basic pattern will usually be "monotonous." What are the positive features in favor of nominal style? Again according to Wells, the nominal style is (1) easier to write for those who are more concerned with what they say than with how they say it; (2) more impersonal, a quality desirable in scientific as opposed to literary writing, because of the use of the passive voice, or the nominalization of finite verbs; (3) less committed to tense, person, and number (e.g., "upon our arrival" could be the nominal counterpart of either "when we arrived" or "when we arrive"); (4) different from conversational style, thus setting writing off as "esoteric, specialized, technical." The use of a nominal style in "scientific" writing, or, more broadly speaking, formal expository prose, tends to entail the use of multisyllabic words, most of which are abstract and complex.

Olson suggests that formal schooling transforms the child's language from the level of utterance to the level of text, that literacy training effects the transition, or movement, from understanding and using oral language to understanding and producing "formal written expository

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9. Judith B. LeBovitz, *The Teaching of Latin in the Elementary and Secondary School: A Handbook for Educators and Administrators* (Washington, D.C.: National Endowment for the Humanities, 1973), p. 6.

10. Rulon Wells, "Nominal and Verbal Style," *Linguistics and Literary Style*, ed. D.C. Freeman (New York: Holt, Rinehart and Winston, Inc., 1970), pp. 301-3.

prose statements."<sup>11</sup> It would seem, then, that one focus of literacy training should consist of teaching students how to understand and use semantically and/or structurally complex words that in general, regardless of origin, are more apt to be seen than heard, written than spoken. In other words, students must be taught how to understand and use literate words.<sup>12</sup>

The following two sections of this paper will discuss the two most pressing pedagogical or instructional problems concerning vocabulary that face the writing teacher: the problem of the selection of the vocabulary to be taught, and the problem of methods and materials.

## SELECTING THE VOCABULARY TO BE TAUGHT

The issues involved in selecting vocabulary might seem at first to be of greater concern to teachers of "basic readers" than to those of basic writers. However, the development of a mature writing vocabulary follows, rather than parallels, exposure to a mature reading vocabulary. Although the writing process by its very nature cannot be separated completely from the reading process, discourse-based writing can easily be divorced from the writing of mature expository prose. The language of conversation is not apt to provide students with examples of the structures and patterns of analytic prose. Consistent exposure to formal written English is essential.

Normally, acquisition of a literate vocabulary begins after completion of the initial level of the literacy program (usually Grades 1 to 3) and continues throughout a lifetime. Further, continuous practice in reading and writing new words in context is an essential condition for mastery. However, as Petty, Herold, and Stoll point out in their review of vocabulary studies, "It is possible to note accumulating evidence to dispel the widely held notion that having students 'read, read, read' is a satisfactory method for teaching vocabulary."<sup>13</sup> While research

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11. David Olson, "From Utterance to Text: The Bias of Language in Speech and Writing," *Harvard Educational Review*, Vol. 47, No. 3 (August 1977), p. 262.

12. The distinctions between the vocabulary of conversational style and academic discourse suggest that a discourse-based theory of teaching composition, such as that by James Moffett and Betty Jane Wagner (*Student-Centered Language Arts and Reading, K-13: A Handbook for Teachers* [Boston, Mass.: Houghton Mifflin Co., 1976]) in which conversation in small group discussions about experiences, perceptions, and feelings serves as the primary stimulus for writing, cannot by itself provide students with adequate opportunities for acquiring the literate vocabulary necessary for composing and comprehending formal written English.



evidence has not suggested that one specific method (e.g., inductive versus deductive teaching) is better than any other, these authors conclude that "the studies on teaching vocabulary have shown that some teaching effort causes students to learn vocabulary more successfully than does no teaching effort, that any attention to vocabulary development is better than none." Unfortunately, many high school graduates who have had the benefit of a carefully planned developmental reading and writing program still experience difficulties with the technical vocabulary of the academic disciplines, and basic writers, who have not experienced normal vocabulary growth, face an even more difficult situation. They must learn not only the specialized, technical vocabulary of each discipline they study but also the general literate vocabulary of academic language.

Two decisions confront the teachers of basic writers. They must decide not only *how* to help students expand their knowledge of words most effectively in one or two semesters, but also *what* vocabulary to teach them in a written language containing the richest lexicon in the world. English is unique among world languages in its expansion of the original lexicon by the borrowing of foreign words, the adding of new meanings to existing words, and the coining of altogether new words. There are 8000 words computed to be used by Chaucer, 25,000 words used by Shakespeare, an estimated 60,000 words used by Sir Winston Churchill and almost one quarter of a million main entries in *Webster's Third New International Dictionary*; the question of choice now seems to be a staggering one. Moreover, new words continue to be added by a variety of means. Sherwin conjures up the image of a spelling teacher staring at Webster's and praying softly, "Which words, O Lord, which words?"<sup>14</sup> The prayer may be even more appropriate on the lips of the basic writing teacher. Which literate words should first be taught?

It is clearly impossible to teach all the entries in even an abridged dictionary. What rational principle could serve as the basis for selection amid such lexical opulence? One rational principle is the principle of frequency; those words used most frequently in written language are probably the most important words to teach students. The educator to determine the first major list was Edward Thorndike, whose *Teacher's*

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13. W. Petty, C. Herold, and E. Stoll, *The State of Knowledge in the Teaching of Vocabulary* (Champaign, Ill.: National Council of Teachers of English, 1968), p. 84.

14. J.S. Sherwin, *Four Problems in Teaching English: A Critique of Research* (Scranton, Penn.: International Textbook Co., 1969), p. 37.

*Word Book* published in 1921 consisted of a list of the 10,000 most frequently-used words culled from large samples of all varieties of written English. Additions from further frequency-counts resulted in Thorndike and Lorge's final list of the 30,000 most frequently-used words.<sup>15</sup> Used by educational publishers and researchers for decades, this list remains the single most useful compilation of written English words to date, even though some words have inevitably become less frequently-used and others (e.g., *television*) are used much more frequently.

Other major lists of words based on frequency counts have appeared in recent years, but they may not be as useful to basic writing teachers or as easy to use as the Thorndike-Lorge (T-L) list. For example, the Kucera and Francis list,<sup>16</sup> while based on a corpus of adult material drawn from fifteen different genres of materials, includes formulas, arabic numbers, and technical words that are not strictly speaking part of a general literate vocabulary. The *American Heritage Word Frequency Book* (AHWFB), compiled by Carroll, Davies, and Richman (Houghton-Mifflin, 1971), is drawn from samples of school materials published for the most part in the 1960's for use in Grade 3 to Grade 9. The frequency counts in both lists are based solely upon graphic appearance and do not take semantic distinctions, such as the different uses of the noun *run*, into account; the T-L list is no better in this respect. Moreover, since many of the texts sampled for the AHWFB were written, to a large extent, guided by the T-L list, one would not expect great divergence in general ordering between these two lists. There are other, shorter frequency lists available, but they tend to be general lists for the elementary grades or technical lists at an advanced level.

The major difficulty with these lists seems to be the lack of a concise, usable list for the intermediate range. If teachers of basic writers must select a small number of words to teach in a relatively short period of time, the list among those mentioned above that provides the most help is the T-L list, especially words numbered from 19 down to 3 (i.e., words appearing 3 or more times per million running words and recommended by T-L for Grades 5 to 11). But even that range represents a total of almost 8000 words. A more concise list of some use for the intermediate

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15. Edward Thorndike and Irving Lorge, *The Teacher's Word Book of 30,000 Words* (New York: Columbia University Teachers College Press, 1944).

16. Henry Kucera and W. Nelson Francis, *Computational Analysis of Present Day American English* (Providence, R.I.: Brown University Press, 1967).

range is *A Revised Core Vocabulary* (RCV), compiled by Taylor, Frackenpohl, & White,<sup>17</sup> providing both a basic vocabulary for Grades 1 to 8 (derived mostly from a vocabulary count of nine basal reading series whose construction, in turn, reflects in large part the T-L frequency counts) and a recommended advanced vocabulary for Grades 9 to 13 (based primarily on the T-L list and various vocabulary improvement materials in wide use at those levels). The list for Grades 5 to 8 contains 4043 words and that for Grades 9 to 11, 1439 words, for a total of 5482 words for Grades 5 to 11.

While this is a smaller number than the 8000 words for Grades 5 to 11 suggested by the T-L list (and T-L also recommends knowledge of their first 15,000 words by graduation from high school), it is still too large a number for teachers to work with in the course of one year. However, it is important to note that these lists include not only base words but also many derivatives (e.g., *distinguish*, *distinguished*, *distinct*, *distinction*). If one groups derivatives with their base words, then the number of different words to be taught in all of these lists can be considerably reduced.

Another factor to consider is the nature of the vocabulary in the intermediate and advanced range of both the T-L list and the RCV. The final compilations make no distinction between words more useful or frequently-used in expository prose ("scientific" writing) and words more useful or frequently-used in literary writing. As the major emphasis of basic writing teachers is the first, or the language of academic discourse, not of literature, what is needed is a narrower list emphasizing primarily the general literate vocabulary of academic language. Where might one find such a list? English as a Second Language (ESL) materials are often useful sources for helping those native or bilingual American students whose experience with formal written English is not too dissimilar from that of foreign students. Lists recommended for *intensive* courses for non-English speaking students continuing their education at English-speaking colleges or universities might therefore be valuable sources to use in selecting a vocabulary to teach basic writers.

One such list is Barnard's Advanced English Vocabulary (AEV), a list of 3000 words taught in a series of 5 workbooks; knowledge of about

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17. Sanford E. Taylor, Helen Frackenpohl, and Catherine E. White, *A Revised Core Vocabulary: A Basic Vocabulary for Grades 1-8; An Advanced Vocabulary for Grades 9-13*, Research and Information Bulletin No. 5 (revised) (Huntington, N.Y.: Educational Development Laboratories, 1969).

1000 words plus 275 function words is assumed for using the workbooks. Developed at the English Language Institute at Victoria University of Wellington, New Zealand, the list was compiled almost totally "on the basis of counts of non-technical vocabulary in university science and social science textbooks prescribed in Osmania University, Hyderabad, India, and in Victoria University, Wellington. . . . Technical words were excluded because these words form part of the subject-matter of professional disciplines, and are therefore best taught through these disciplines."<sup>18</sup> The list and workbooks were devised for pre-college students who need to learn the vocabulary that will enable them "to read English books and periodicals and understand what they hear in lectures and seminars where English is used."

Another intermediate list has been prepared by Mark Lowe for Newbury House Publishers, Inc. (1973), for writers of materials for ESL students. Aimed for secondary level pupils, the writer's guide contains a vocabulary list of 8000 words divided into six levels or stages. Stages 4, 5, and 6 comprise 6000 words, affixes, or short idiomatic phrases and constitute the upper intermediate range of vocabulary. The vocabulary includes "the language of study, the main professions, science, and technology," as well as "poetic and story-telling words."

Since these two lists are designated for a secondary level student population, and since the author of the Newbury House Writer's Guide (NHWG) relied to a large extent for Stages 4 to 6 on Barnard's AEV list in addition to several other sources, it is not surprising that there is considerable overlap of vocabulary between the two lists. For example, of the first 71 words (excluding affixes) beginning with *e* for Stages 4, 5, and 6 in the NHWG list, only 24 are not on Barnard's list. Five of these 24 are closely related to words on the AEV list (e.g., *equality* is on the NHWG list, *equal* is on the AEV list); thus only 19 of these 71 words are not present in any form in the AEV list. The AEV list, because of its size and nature, would probably be more useful than the NHWG list for basic writers.

Curious to learn more about the vocabulary judged to be important for pre-college ESL students, I decided to examine a large number of words in the Barnard list from the perspective of several other indices of

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18. Helen Barnard, *Advanced English Vocabulary*, Teacher's Book (Rowley, Mass.: Newbury House Publishers, Inc., 1977), p. 7. Workbooks 1 (1971), 2A and 2B (1972), 3A and 3B (1975), are from the same publisher.

word difficulty or frequency of use. In all, 210 words listed under the letters *e* and *p* (and a few under *d*) were selected, 70 words from Workbook 1, 70 from Workbooks 2A and 2B, and 70 from Workbooks 3A and 3B. Table 1 presents the data. The first set of numbers indicates how many of the selected words at each workbook level were judged as known at grade levels 4 to 13+ in Dale and O'Rourke.<sup>19</sup> The next column indicates the number of words in T-L whose frequency per million was 6 or above (recommended for teaching by Grade 8 by T-L) or below 6 (recommended for teaching after Grade 8 by T-L). The third set of numbers shows how many words were recommended for teaching at grade levels 1 to 9+ in the RCV. The final column under Macmillan indicates how many words were found as entries in the *Macmillan Dictionary for Children*, a beginning dictionary for students in Grades 4 to 6.<sup>20</sup> The final sums at the bottom indicate the total number of words from Dale and O'Rourke, T-L, and the RCV that are known or recommended for teaching by Grade 8 or after Grade 8. The sum under Macmillan indicates the total number of words entered in the *Macmillan Dictionary*. To summarize, the data in Table 1 indicate that the vast majority of the words selected from the Barnard list are known by native English speakers by Grade 8 and are recommended for teaching by Grade 8 in the RCV and by T-L. Further, almost all appear in a schoolchild's beginning dictionary. While these words are not as frequently-used as the words a beginning reader learns, the words in his oral vocabulary, they are clearly words used fairly frequently in literate materials.

If this sample of words from the Barnard list is representative of the total number, and if the Barnard list is truly a vocabulary essential and effective in preparing non-English speaking students for expository reading material in college-level courses,<sup>21</sup> then an interesting conclusion

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19. Edgar Dale and Joseph O'Rourke, *The Living Word Vocabulary* (Elgin, Ill.: Dome, Inc., 1976). From a multiple-choice reading test given to a national sample of students at all grade levels, each item in their *Living Word Vocabulary* was judged "known" on the average if 67% of the students at that grade level selected the correct meaning of the word.

20. The words in a beginning dictionary must include all words the child has probably learned to read by Grade 4. To be useful it must also include words judged to be so difficult that the child will probably not know them but so frequently-used in his reading material that he may want to look them up. If they are too infrequently-used, the child may be unmotivated to look them up.

21. Barnard indicates no research findings to support the effectiveness of her list, taught either through her workbook or in other ways. A reviewer of her first workbook, however, does indicate that her materials (and presumably her word list) were judged very successful by the faculty and students at the University of Pittsburgh's English Language Institute. (See C.K. Wicklow's review of *Advanced English Vocabulary*, Workbook 1, in *Language Learning*, 24, 1 (June 1974), pp. 167-70.)

TABLE I

Comparison of a Selected Number of Words in the Barnard List with the Grade Level at which the Words are Known in Dale-O'Rourke, their Recommended Grade Level Placement in the Revised Core Vocabulary and Thorndike-Lorge, and their Entry in the Macmillan Dictionary for Children

Grade Level	Dale-O'Rourke		Thorndike Lorge		Revised Core Vocabulary				Macmillan	
	4 6 8	10 12 13 +	By 8	After 8	1 2 3 4 5 6 7 8	9 + Not Listed				
<u>Barnard List</u> Number of Words Selected From Workbook 1 = 70	29 28 11	1 1	65	5	0 2 9 17 10 5 1	3 6	68			
Number of Words Selected From Workbooks 2A and 2B = 70	32 23 12	2 1	62	8	0 2 6 11 12 14 8 7	2 8	65			
Number of Words Selected From Workbooks 3A and 3B = 70	24 16 14	7 6 3	51	19	1 3 3 9 8 8 7 11	8 12	53			
Total Number = 210	189	21	178	32	171	39	186			

might be drawn. It would seem that completion of the second level of literacy training (i.e., the acquisition of the *first* set of literate words—normally in Grades 4 to 8), *in conjunction* with knowledge of the technical vocabulary of the subject under study, may be sufficient for understanding *reasonably-written* formal discourse. Thus, the understanding of the general literate vocabulary of expository writing should not be beyond the reach of *motivated* young adults in one or two semesters of basic writing courses.

This conclusion may seem unduly optimistic (and the reader must remember that I am discussing the understanding, not the composing of, academic discourse), but I think it could be supported to some extent by an inspection of the words in the Barnard list. Many of them are affixed words, i.e., the nominal, adjectival, or adverbial form of a listed verb (e.g., *emphasize, emphasis, emphatic, emphatically*; or *signify, significance, significant, significantly*). Once the student develops skill in recognizing derivational affixes and the patterns of changes in the base word produced by various suffixes, the number of words a student knows can be immediately tripled or quadrupled with knowledge of the meaning of only the base word.

I think this conclusion can also be supported by Baucom, the author of a most sensible and readable discussion of linguistic and pedagogical issues in literacy training. Discussing the differences between the informative style and the literary style, Baucom states:

[Informative style] is concerned with giving information. Many scientific books or articles are written in this informative style. . . . Everything is written so that the meaning can be easily understood. There is usually little concern for the emotional effect of the material upon the reader, except for the desire to talk about relevant content. . . .

The informative style usually makes use of words of very high frequency with the addition of infrequent specialized or scientific words. The literary style tends to make use of words which are less frequent and which are not technological in nature. This means that the informative style can be easier to understand clearly if the specialized words are carefully explained. The high frequency words are. . . those which bring about little emotional response. As a result materials written in the informative style tend to be linguistically uninteresting.<sup>22</sup>

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22. Kenneth L. Baucom, *The ABCs of Literacy: Lessons from Linguistics* (Tehran, Iran: Hulton Educational Publications, Ltd., in co-operation with the International Institute for Adult Literacy Methods, 1978), pp. 82-3.

What Baucom calls the "informative style" is approximately what I have earlier described as the nominal style. The passages from Baucom suggest another reason why the vocabulary of expository writing may present difficulty for basic writers, even if many of its words occur more frequently than those of the vocabulary of literature. The informative style, because it is designed for a reasoned response, probably requires more motivation and concentration on the part of the reader than does the literary style, which tends to be designed for an emotional response. Also, the informative style usually cannot be read superficially if one is to benefit appropriately from the reading experience. Literature can often be read quickly and responded to even if many words are not known or its deeper meanings are not grasped. The difficulty with the informative style is that it demands prolonged attention to colorless words. The ideas may be exciting but the vocabulary is usually not.

## TEACHING THE VOCABULARY OF ACADEMIC LANGUAGE

The second instructional issue, and the more difficult one practically, is the question of methods and materials. New words are apt to become part of the reader/writer's repertory only when fully and frequently contextualized, that is, studied not in isolation, but in as rich a context as possible. The challenge for teachers (and publishers) is to find or create methods and materials that not only contextualize new vocabulary as soon as possible and in as many ways as possible, but also draw attention to the specific features of academic words, in a way that is as interesting to students as possible.

One way to ensure contextualization of new vocabulary for basic writers is by using a group of non-technical essays on topics in the sciences and social sciences, chosen on the basis of vocabulary. New or difficult vocabulary would be explained before reading selections are assigned, and, not unlike the models of traditional freshman composition courses, these essays should serve as the stimulus for discussion and writing assignments. However, the deficiency of this approach is suggested by James W. Ney.<sup>23</sup> Unadapted reading and experience do not present vocabulary in a pedagogically well-ordered sequence. Thus such readings do not guide students systematically toward the command of a specified vocabulary.

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23. James W. Ney, *Linguistics, Language Teaching, and Composition in the Grades* (The Hague, Netherlands: Mouton Press, 1975).



The technique of introduction, control, and repetition of vocabulary does exist in the reading series available from most educational publishers for Grades 1 to 8. The problem in using the more advanced levels of these series for basic writers, aside from the undemanding level of the content, is the fact that the selections tend to consist of literary rather than expository writing. And the vocabulary in these series is not as useful as it might be for preparing college students to cope with the language of the content subjects.

There are many vocabulary-building materials available for all grade levels, but unfortunately they tend to contain multi-purpose vocabularies. Also, many of them are constructed in such a way that little meaningful reading *and* writing of the new vocabulary is assured. It requires a great deal of planning and preparation to devise interesting or varied formats in which the student *must* read the context in order to decide which newly taught word should be selected and written in a given sentence. In vocabulary materials I helped create for Grades 5 and 6,<sup>24</sup> the format of almost every workpage requires both meaningful reading and writing of the new words in their entirety. Although the content would need to be more sophisticated for basic writers at the college level, the formats of these self-directing, self-contained workbook pages could be used or adapted by teachers interested in creating materials for their own students. (See the Appendix for a sample page.)

Another way to conceptualize new vocabulary in writing is through various forms of précis or summary writing, although this particular value of précis writing has not been mentioned in discussions of précis writing. Summary writing requires selection and generalization in order to reduce passages to a given proportion of words. Sometimes the key words in a passage must be retained; at other times a more general term for specific ideas must be found. Basic writing teachers might consider guiding their students by suggesting beforehand some of the key words they want their students to use in writing the summary of a particular passage. For an excellent discussion of the language techniques involved in précis writing, the reader is referred to Hossack's *The Essence of Précis*, also recommended by Donley in his fine article on the teaching of précis writing.<sup>25</sup>

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24. Helen Popp and Sandra Stotsky, *Reading Essentials—Vocabulary Development, Grades 5 and 6* (Elizabethtown, Penn.: Continental Press, Inc., 1977).

25. A. Hossack, *The Essence of Précis* (London: Methuen Educational Ltd., 1956) and Michael Donley, "Précis Writing: A Rehabilitation," *English Language Teaching*, XXIX, 3 (April 1975), pp. 213-20.

The workbooks devised by Barnard for ESL students incorporate a feature that might be of considerable value for basic writers. The third section in each unit consists of dictation passages and a variety of other aural-to-written exercises. Dictation exercises have long been used for teaching and testing in foreign-language classes but almost no use is made of this technique in native-language teaching. I have written elsewhere of the value of literary dictations.<sup>26</sup> One means of helping basic writers to contextualize new vocabulary in writing and to sharpen their discrimination of, say, affixes or the prepositions following certain words or phrases (e.g., *opposed to*, *differ from*) might well be dictations of interesting and well-written expository passages.

So far I have discussed ways to help students read and use new vocabulary correctly in context. There are other ways to help basic writers become more familiar with the vocabulary of academic language without trying to ensure written contextualization of all new words. I am particularly interested by the technique used in a freshman expository writing course for potential science majors, described by Robbins.<sup>27</sup> In this course, students analyzed and compared the writing styles of various scientists by computing percentages of kinds of sentence structure usage and word usage (e.g., the number of Latinate, Anglo-Saxon, monosyllabic, or polysyllabic words) in each writer. Not only did such detailed stylistic analysis force students "to review and use their knowledge of grammar," but the repeated reading of a passage to compute another feature helped them "to absorb the gestures of that writer's style."<sup>28</sup> I see no reason why this kind of analysis of short selections from both the sciences and social sciences could not be made occasionally by basic writers. Moreover, such analyses strike me as a particularly interesting way to focus the attention of basic writers on both stylistic and organizational features of formal prose.

A number of other techniques for teaching the vocabulary of formal English are described by Dale, O'Rourke, and Bauman in *Techniques of Teaching Vocabulary*. An excellent reference book for teachers at all levels, it lists 17 categories of word development, supplies sample exercises, and contains lists of words classified in a variety of ways (e.g.,

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26. Sandra Stotsky, "Dictating Literature in the Language Arts Class," *The Leaflet*, LXXVI, 3 (Fall 1977), pp. 9-12.

27. Martin Robbins, "Science Meets Style: Bridging the Two Cultures," *The Key Reporter*, XXXX, 4 (Summer 1975).

28. *Ibid.*, p. 18.

words from mythology, homonyms, antonyms, synonyms, number words, Latin and Greek roots and their English derivatives). Several of these methods deserve particular emphasis by basic writing teachers.

The grouping of derivatives or cognates and the teaching of prefixes, suffixes, and selected roots can be among the most effective techniques for helping basic writers expand their knowledge and use of literate words. Let us consider first the reasons for presenting the many and often complex patterns of word-formation. It might seem obvious that the student who knows the meaning of, for example, *emphasize* also knows the meaning of *emphasis* and *emphatic*. However, according to Dale and O'Rourke, in *The Living Word Vocabulary*, while *emphasize* is known on the average at Grade 8, *emphasis* is not known until Grade 10 and *emphatic* not until Grade 12. One can go through the Dale-O'Rourke text and find dozens of examples of this lack of transfer; for example, *energy* is known at Grade 4, but *energetic* not until Grade 6 and *energize* not until Grade 8; or *paralyze* at Grade 4, but *paralysis* not until Grade 6 and *paralytic* not until Grade 8. This lack of transfer of meaning among such highly related derivatives does seem rather incredible—and suggests that the consistent use of a simple technique at the secondary level by *all* teachers might pay handsome dividends.

Using selected words from assigned readings or from students' own writings, teachers can not only point out the function of the various derivatives of a base word but also help students hear the characteristic shift in the stress patterns of Latinate words. In contrast, native Anglo-Saxon words always have stable stress regardless of affix (e.g., *kingdom*, *kingly*, *unkinglike*). Regular exposure to the pronunciation of the stress pattern in Latinate derivatives is important for students whose listening experience with literate words has been minimal. The student who reads *pyramidal* is apt to recognize its relationship to *pyramid*; the student who only hears *pyramidal* at a lecture and is unfamiliar with this stress pattern may not sense its relationship to the base word he knows and hence will misunderstand it (as I know from personal experience).

Further, students may improve their spelling if taught derivatives with their base words. As Carol Chomsky suggests,<sup>29</sup> knowledge of the vowel sound in the accented syllable of *illustrative* or *janitorial* will help the student spell the vowel sound in the unaccented syllable of *illustrate* and

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29. Carol Chomsky, "Reading, Writing, and Phonology," *Harvard Educational Review*, 40, 2 (1970), 287-309.

*janitor* correctly. This is possible only if the student has been made aware that the derivatives exist.

Teaching the meaning of prefixes, suffixes, and certain roots can be very beneficial if done accurately. Unfortunately, the topic of word analysis has often been treated inaccurately in many texts and teaching materials. I have written more extensively elsewhere about the inaccuracies in the teaching of prefixes;<sup>30</sup> suffice it here to say that English prefixes are dependent morphemes, with fairly stable and literal meanings, that can be attached to or detached from *full* English words (e.g., *prehistoric*, *ex-convict*, *inactive*, *desegregate*). Too often texts offer whole words as examples of prefixed words when in fact the first element (such as in *insert* or *exhaust*) is etymological in nature and not separable. Moreover, the meaning of the etymological element may be very different from that of the graphically similar English prefix. Teaching the meaning and use of prefixes and suffixes to basic writers is important, as they appear with countless words in our language and continue to be used in forming new words. They are also apt to be used more frequently in formal writing than in speech, as they often function to tighten the sentence structure of formal prose (e.g., "a transcontinental railway" is a more concise expression for "a railway that runs across a continent"). According to Simonini, derivatives make up about 13% of new words being coined in present-day English.<sup>31</sup>

Teaching the meaning of roots is also useful within certain limitations. Certain kinds of roots, known as "combining forms," (e.g., *graph*, *meter*) are stable and literal in their meaning and should be taught early by means of grouping cognates (e.g., *megaphone*, *megaton*, *megalo-maniac*). The number word parts (*uni*, *mono*, *bi*, *di*, etc.) are especially worthwhile for students to learn. According to Simonini, "combining forms" make up about 16% of new words being coined in present-day English.

Other kinds of roots do not always have helpful literal translations (e.g., *subliminal* means "under the threshold" and *preliminary* means "before the threshold"). Occasionally one finds a word in which both etymological elements can be translated literally, such as *compress*. But

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30. Sandra Stotsky, "Teaching Prefixes: Facts and Fallacies," *Language Arts* (Nov./Dec. 1977), 887-90, and "Teaching Prefixes in the Elementary School," *The Elementary School Journal* (March 1978), 278-83.

31. R. C. Simonini, Jr., "Word-Making in Present-Day English," *English Journal* (September 1966), 752-57.

the literal translation of *express* is not very useful. Thus, teaching the meaning of these kinds of roots should be done with caution. Burmeister has provided an extensive list of words in specific content areas derived from over 100 common roots and affixes.<sup>32</sup>

An approach to grouping cognates that is more extensive, but that requires more research on the part of the teacher, is described by Laird.<sup>33</sup> Using as an example the Indo-European "base" *meg* or *mag* (with a probable conventional meaning of "great" or "very large"), Laird suggests pointing out how historical changes in the sound patterns of the various Indo-European languages have led to *much* through Old English, *megaton* and *megapolis* through Greek, *maharajah* and *mahatma* through Sanskrit, *magistrate*, *magnitude*, *magnate*, *magnify*, *magnificent*, *maximal*, *maximum* through Latin, *master* and *maxim* through French, and *major*, *mayor*, *majesty*, and *majority* through the comparative form of the Indo-European adjective. Laird's article suggests references teachers could use to develop similar groups of cognates. Clearly, if students develop a fascination with the origin of words as well as some clue to their meaning by means of such an approach, it is a worthwhile undertaking.

Several other approaches to teaching vocabulary should be mentioned, even if briefly, as they too have their places in helping students to master academic language: understanding idiomatic compounds; becoming aware of multiple meanings (e.g., "the steep grade of a hill" and "a grade for a course"); comparing the literal and figurative uses of a word (e.g., "the germinating seeds" and the "seeds of revolution"); and noting the difference between pairs of homographs or homophones. These techniques are all dealt with in the Dale-O'Rourke-Bamman text and have been traditionally adapted in vocabulary-building materials. The most complete list I have found for homographs and homophones, with accompanying exercises, is Whitford's *A Dictionary of American Homophones and Homographs*,<sup>34</sup> an invaluable and inexpensive reference.

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32. Lou E. Burmeister, *Reading Strategies for Middle and Secondary School Teachers* (Reading, Mass.: Addison-Wesley Publishing Co., 1978), pp. 365-88.

33. Charlton Laird, "Down Gaintwife: The Uses of Etymology," *English Journal* (November 1970), 1106-1112.

34. Teachers College Press, 1966.

## CONCLUDING REMARKS AND A MODEST PROPOSAL

The difficult problem of teaching underprepared college students how to cope with the reading and writing of a literate vocabulary is clearly compounded by the fact that this vocabulary is constantly increasing and bears little resemblance to the vocabulary of conversation. In their own comprehensive discussions of the writing errors of basic writers, Mina Shaughnessy and Sarah D'Eloia both highlight the difficulty these students have with the system of derivational and inflectional affixes in formal English words.<sup>35</sup> Even concentrated exposure to literate words cannot guarantee correct formation of the derivative of every English word (recently I incorrectly derived *parataxic* from *paratax* without the familiar pattern *syntax/syntactic* coming to mind as the model). How much progress can one then expect in a year in students with minimal exposure before college?

I would like to end by suggesting a way of helping basic writers that, to my knowledge, has not been proposed anywhere: to offer two or more semesters of Latin instruction as part of a foreign language requirement. So many of the vocabulary difficulties of these students are a reflection of their lack of knowledge of our linguistic heritage. Why not give them this knowledge in the way an older generation acquired it? What better way to learn why *degrade* becomes *degradation* while *evade* becomes *evasion*? Learning the principal parts of a Latin verb may help students understand why *audible* is spelled with *i* and *portable* with *a*. Familiarity with the patterns of compound Latin verbs may also help students make the shift from *emit* to *emission* once they have learned *transmittere* and *admittere*. The benefits of studying a language using a grammar-translation approach might go far beyond the acquisition of insights about early Western civilization and the origins and spelling of many English words. As B.E. Frye, Dean of the College of Literature, Science, and the Arts at the University of Michigan, has suggested:

. . . the decline in skilled literacy has been caused in part by the decline in Latin instruction in this country. . . The development of a strong vocabulary is an immensely important ingredient in developing language skills and without a doubt the study of Latin both enlarges the base and

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35. Mina Shaughnessy, *Errors and Expectations* (N.Y.: Oxford University Press, 1977), 171-72, 212-16, and Sarah D'Eloia, "The Uses— and Limits— of Grammar," *Journal of Basic Writing*, 1, 3 (Spring/Summer 1977), 3, 17.

increases the depth of understanding of words in the English language. Perhaps even more important is the fact that since Latin cannot be learned independently of the fundamentals of grammar and structure, students of Latin inevitably become more sensitive to these elements in the English language. Latin is a model of simplicity of style and clarity of expression, and the study of it must undoubtedly have a beneficial effect on English usage.<sup>36</sup>

There is recent evidence to support these statements. A study of two groups of high school juniors with equivalent scores in verbal ability shows that on a 150-word vocabulary test a group with two years of Latin did significantly better than a group with two years of study in a modern language.<sup>37</sup> As Mavrogenes points out in an assessment of four recent programs providing Latin instruction in the elementary school,<sup>38</sup> all the programs (three of which were in large city school systems) have been judged beneficial and popular. Masciantonio, reviewing findings from eight educational projects in which an experimental group of students taking Latin was pretested, posttested, and compared with regard to English verbal skills to a control group not taking Latin, noted that the evidence from all the studies "documented the relevance of Latin in building English vocabulary and reading skills."<sup>39</sup>

I truly do not believe that offering Latin instruction to college-level basic writing students is a preposterous idea. In recent years too many educators have tended to dismiss the sources that nourished their own growing minds as irrelevant or anachronistic. Perhaps one of these sources deserves serious reconsideration in our efforts to help poorly educated students acquire the heritage of literate words that an older generation received with insufficient gratitude.

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36. B.E. Frye, "Notes from the Dean," *LSA, Publication of the College of Literature, Science, and the Arts at the University of Michigan* (Fall 1976).

37. Richard Bowker, *English Vocabulary Comparison of Latin and Non-Latin Students*, Technical Report 831 (Boston, Mass.: Human Engineering Laboratory, 1975).

38. Nancy A. Mavrogenes, "The Effect of Elementary Latin Instruction on Language Arts Performance," *Elementary School Journal* (March 1977), 268-73.

39. Rudolph Masciantonio, "Tangible Benefits of the Study of Latin: A Review of Research," *American Council on the Teaching of Foreign Languages* (September 1977), p. 375.

## APPENDIX

The prefix *pro* has several meanings. One meaning is "for or in favor of."

For example: Many Americans had *pro*-British feelings before World War II.  
They were "in favor of" helping the British.

The prefix *anti* is sometimes used as the opposite of *pro*. It can mean "against."

For example: Some Americans had *anti*-British feelings before World War II.  
They wanted America to stay out of the war. They were  
"against" helping the British.

Add the prefixes *pro* and *anti* to each base word below. Write the new words beside each base word. Then choose the correct new word to write in each sentence below. No hyphen is needed for these words.

slavery \_\_\_\_\_

war \_\_\_\_\_

1. Harriet Beecher Stowe, who wrote *Uncle Tom's Cabin*, did not think anyone should be a slave. She was deeply \_\_\_\_\_.
2. Many plantation owners were \_\_\_\_\_ because using slave labor was cheaper than paying free men to work in their cotton fields.
3. Before the Civil War, some Southerners were eager to fight. These people were \_\_\_\_\_ because they thought the North could easily be defeated.
4. Most people were \_\_\_\_\_ because they didn't want to see fine young men die in battle. They hoped that the disagreements between the North and the South could be settled peacefully.

The prefix *anti* can also mean "to protect against."

For example: Antimissile rockets were developed to protect a country against an enemy's missiles.

Add the prefix *anti* to each base word below. Write the new words beside each base word. Then choose the correct new word to write in each sentence. No hyphen is needed for these words.



aircraft \_\_\_\_\_ freeze \_\_\_\_\_  
glare \_\_\_\_\_ septic \_\_\_\_\_

5. Automobile manufacturers now use \_\_\_\_\_ headlights on cars so that drivers will not be blinded by the glare of oncoming headlights.
6. As winter approaches, motorists put \_\_\_\_\_ in their cars so that the water in their car radiators does not freeze.
7. Before the airplane was invented, countries at war had no need of \_\_\_\_\_ guns.
8. The word *septic* means "infected." An \_\_\_\_\_ mouthwash helps to fight against an infection of the mouth.