

71-1490

KING, Elizabeth Pendergraft, 1940-
THE UTILITY OF PHONIC GENERALIZATIONS IN
ELEMENTARY SOCIAL STUDIES PROGRAMS.

The University of Oklahoma, Ph.D., 1970
Education, general

University Microfilms, A XEROX Company, Ann Arbor, Michigan

© 1971

Elizabeth Pendergraft King

ALL RIGHTS RESERVED

THIS DISSERTATION HAS BEEN MICROFILMED EXACTLY AS RECEIVED

THE UNIVERSITY OF OKLAHOMA

GRADUATE COLLEGE

THE UTILITY OF PHONIC GENERALIZATIONS IN
ELEMENTARY SOCIAL STUDIES PROGRAMS

A DISSERTATION

SUBMITTED TO THE GRADUATE FACULTY

in partial fulfillment of the requirements for the

degree of

DOCTOR OF PHILOSOPHY

BY

ELIZABETH PENDERGRAFT KING

Norman, Oklahoma

1970

THE UTILITY OF PHONIC GENERALIZATIONS
IN ELEMENTARY SOCIAL STUDIES PROGRAMS

APPROVED BY

Robert Curry

Robert E. Olson

Gene W. Shepard

Mary Ann Petty

DISSERTATION COMMITTEE

ACKNOWLEDGMENTS

Special gratitude is extended to Dr. Robert Curry, chairman of my doctoral committee, for the guidance, time, and kindness given in directing this dissertation. I wish to express my appreciation to the other members of the committee, Dr. Mary Clare Petty, Dr. Robert E. Ohm, and Dr. Gene Shepherd, for their interest and helpfulness.

Sincere gratitude is expressed to Dr. Theodore Clymer, Dr. Mildred Hart Bailey, and The International Reading Association for permission to quote and use articles published in The Reading Teacher. Appreciation is also expressed to Dr. Joe Parker for his willingness to share his data.

To the personnel and publishers of Ginn and Company, Silver Burdett Company, and MacMillan and Company, I wish to express my sincere gratitude for their courtesy, cooperation, and assistance in granting permission and providing their materials for this study.

A very special thanks goes to my husband, Ken, and my daughter, Kim, for their faith, assistance, and understanding through out the study.

I acknowledge my Creator who constantly sustains me.

TABLE OF CONTENTS

	Page
ACKNOWLEDGMENTS.....	iii
LIST OF TABLES.....	vi
CHAPTER	
I. INTRODUCTION AND REVIEW OF LITERATURE.....	1
Review of Literature.....	2
Summary.....	11
II. THE STUDY.....	13
Statement of the Problem.....	13
Procedures.....	14
Summary.....	18
III. ANALYSIS OF THE DATA OF INDIVIDUAL OCCURRENCES OF THE COMPOSITE WORD LIST.....	20
Utility of Generalizations to Social Studies Programs.....	20
Summary.....	46
IV. ANALYSIS OF THE DATA OF THE FREQUENCY OF OCCURRENCES OF THE COMPOSITE WORD LIST.....	48
Utility of Generalizations in Social Studies Programs.....	48
Summary.....	75
V. ANALYSIS OF THE DATA OF INDIVIDUAL OCCURRENCES OF TECHNICAL WORDS.....	77
Utility of Generalizations to Technical Words.....	77
Summary.....	104

Chapter	Page
VI. ANALYSIS OF THE DATA OF FREQUENCY OF OCCURRENCES OF TECHNICAL WORDS.....	106
Utility of Generalizations to Technical Words.....	106
Summary.....	133
VII. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS.....	135
Summary.....	135
Conclusions.....	137
Recommendations.....	138
BIBLIOGRAPHY.....	141
APPENDIX	
A. List of the Forty-five Phonic Generalizations Utilized in the Study.....	144
B. The Composite Vocabulary.....	149
C. Comparison of the Utility of Individual Occurrences and Frequency of Occurrences of the Composite Word List and Technical Word List.....	266
D. Comparison of Utility of Phonic Generalizations to Social Studies and Reading Programs.....	275
E. Correspondence.....	284

LIST OF TABLES

Table	Page
1. Summary of Utility of Phonic Generalizations of Individual Occurrences of the Composite Word List.....	21
2. Summary of Utility of Phonic Generalizations of Frequency of Occurrences of the Composite Word List.....	49
3. Summary of Utility of Phonic Generalizations of Individual Occurrences of the Technical Word List.....	78
4. Summary of Utility of Phonic Generalizations of Frequency of Occurrences of the Technical Word List.....	106
5. Comparison of the Utility of Individual Occurrences and Frequency of Occurrences of the Composite Word List and Technical Word List.....	266
6. Comparison of Utility of Phonic Generalizations to Social Studies and Reading Programs.....	275

THE UTILITY OF PHONIC GENERALIZATIONS
IN ELEMENTARY SOCIAL STUDIES PROGRAMS

CHAPTER I

INTRODUCTION AND REVIEW OF LITERATURE

As the student progresses through the elementary school, his time is increasingly concerned with reading and studying the content of social studies books. Even in first grade, instruction in social studies includes the use of books and at each successive grade level the child is expected to make wider use of social studies textbooks, reference books, biographies, and other supplementary reading materials.¹ One need only look at the size of the textbooks to realize the amount of time a student must spend reading a social studies textbook either inside or outside the classroom in order to cover it completely. If the student is a poor reader, he may cover the material after a long struggle, but his comprehension of the material will be less than what is necessary to glean the needed concepts.

Two areas in the review of literature must be covered to project a complete background for this study. The first area is concerned with the

¹Robert C. Preston, Teaching Social Studies in the Elementary School (New York: Holt, Rinehart and Winston, Inc., 1968), p. 241.

readability and vocabulary control of the social studies material; the second area is concerned with reviewing the studies on the utility of phonic generalizations.

REVIEW OF LITERATURE

Although much material has been written on the place of phonics in the reading program and on reading in the social studies program, this review is limited to phonics and its role as a skill in deciphering words in the social studies program and with the control or lack of control which publishers place on the vocabulary in their material.

Reading difficulties should be divided into two aspects: 1) the limitations and deficiencies of the reader, and 2) the difficulties of the materials.¹ Publishers and authors of social studies textbooks are aware of the problem of vocabulary in their programs. Bierwert states that a good, well-written social studies series could not be restricted to any listing which would be termed a reading word list.² The MacMillan Company checks its books against both the Dale-Chall and Spache readability tests in order to be sure that the grade level of the carrying vocabulary is suitable for the age level for which the book is intended.³ Tiegs of the Ginn Company related that his company uses the combined list of the study of Buckingham and the Thorndike-Lorge The Teacher's Work Book of 30,000

¹Edgar Wesley and Mary Adams, Teaching Social Studies in Elementary Schools, (Boston: D. C. Heath, 1968), pp. 180-181.

²Thane L. Bierwert, personal letter. See Appendix E.

³Dorothy S. Arnof, personal letter. See Appendix E.

Words, as well as introducing new social studies words. He further states that the reading difficulty of social studies books should always be lower than that of books of a reading series on each grade level.¹

Sloan, in his study of readability, found that only eleven of the twenty-one social studies textbooks analyzed had general grade placements which coincided with the grades to which they were assigned. Only two fourth-grade textbooks had levels of readability for content at the fourth-grade level. At no grade level were there more than three textbooks which had appropriate levels of reading difficulty for questions, activities, and project materials. In most textbooks the majority of readability scores were not concentrated at the grade level to which the book was assigned by the publisher.²

Obviously from Sloan's study and from observation of children struggling to read social studies, some control needs to be exercised, however, this control will be limited by the material itself. There are definite limits beyond which specialized vocabulary cannot be limited.³ Restricting vocabulary would prevent the student from acquiring the needed concepts which would unlock the meaning of new vocabulary.⁴

¹Earnest Tiegs, personal letter. See Appendix E.

²Fred Sloan, "Readability of Social Studies Textbooks for Grades 4-5-6 As Measured by the Dale-Chall Formula," Dissertation Abstracts, XX, 1960, pp. 928-929.

³John Jarolimek, Social Studies in Elementary Education (New York: MacMillan Company, 1963), pp. 19-20.

⁴Wesley and Adams, Teaching Social Studies, p. 181.

The teacher's manual of each of the three series used in this study discuss vocabulary control. The MacMillan series¹ and the Silver Burdett series² use the italics to focus attention of the reader on new social studies words. The manual from the Ginn Social Studies Textbooks states that a variety of controls for vocabulary, sentence length, types of sentences, English idioms and the like were used in the preparation of the manuscripts. Pupils, in the grade level where the books were to be used, were asked to list the words they did not understand, the sentences which they could not interpret, and so forth.³ All three of the series have a word list or glossary at the end of each book.

Wesley and Adams state that the main reading problem in social studies is not the difficulty of the vocabulary, but the difficulty of the idea.⁴ Even if a child can identify the word, he often cannot understand its meaning because the word is being used figuratively. Strict control or rewriting the material on an easier level would change the color, tone, or meaning of the passage.⁵

The functioning of the reading skills is dependent upon the relationship of the reading ability of the individual (which can be determined

¹Prudence Cutright, et. al., MacMillan Social Studies Series (New York: MacMillan Company, 1966).

²Kenneth S. Cooper, Clarence W. Sorensen, and Lewis Todd, Silver Burdett Social Studies Series (Morristown, New Jersey: Silver Burdett Company, 1967).

³Ernest Tiegs and Fay Adams, Ginn Social Studies Series (Boston: Ginn and Company, 1966).

⁴Wesley and Adams, Teaching Social Studies, p. 180.

⁵Ibid., p. 181.

relatively easily) and the reading difficulty of materials (which are relatively difficult to determine.)¹ The difficulty of materials has been discussed and it is necessary now to discuss the literature related to phonic generalizations.

Today the value of phonics for a reading program is generally recognized if and when it is given an appropriate role.² Is there an "appropriate role" for phonic generalizations in the social studies program? Does the social studies teacher adhere to Chall's³ theories and others like her who advocate that the phonics skills are the most helpful skills or does the teacher follow a more conservative line on phonics as expressed by Spache?⁴

In order to view the subject more objectively, it is necessary to study the research which has focused on phonic generalizations. A study was completed in 1925 which focused on the vocabulary of 42 primary readers. A total of 2,176 words were divided into three categories, phonetic, phonic or irregular. One thousand six hundred one-syllable words were found, of which 224 were classified as phonetic. There were 1,066 phonic words as determined by vowel placement. Group one, with single vowels, totaled 297 words; group two, with a combination of vowels, totaled 284;

¹Earnest W. Tiegs and Fay Adams, Teaching the Social Studies (Boston: Ginn and Company, 1959), p. 252.

²Deloris Durkin, Phonics and the Teaching of Reading (New York: Teacher College Press, Columbia University, 1966), p. 10.

³Jeanne Chall, Learning to Read: The Great Debate (New York: McGraw Hill, 1967).

⁴George Spache, review of Learning to Read: The Great Debate, by Jeanne Chall, in the Journal of Reading Behavior, I (Winter, 1969), pp. 71-74.

and group three, with no vowel letter to vowel sound, contained 485 words. She found 244 irregular words. Phonic principles could be used to teach 805 of the total of 2,176 words.¹

Horn narrowed his study of the use of phonics to the letter A in Grades I-III. From his data he concluded that in teaching phonics, the many exceptions which confront a child when he reads the letter A must be taken into account.²

In 1952, Oaks studied a selected group of readers to determine the frequency with which vowel situations adhered to the generalizations which were applied to them. Data from this study indicated that the eight vowel principles were applicable in approximately 50 per cent of the total vowel situations and were exceptions in approximately 25 per cent of the total vowel situations.³

A later study on the reliability of the two vowel rule was reported by Burrows and Lourie. Of the 5,000 words studied, 1,728 words were found to have two vowels together. Only 688 of these words were found to conform to the generalization, which was stated as "when there are two vowels side by side, the first vowel has its long sound, and the second is usually silent."⁴

¹Anna D. Cordts, "An Analysis and Classification of the Sounds of English Words in Primary Reading Vocabulary," (unpublished Ph. D. dissertation, State University of Iowa, 1925).

²Earnest Horn, "The Child's Early Experience with the Letter A," Journal of Education Psychology, XX (March, 1929), pp. 161-168.

³Ruth E. Oaks, "A Study of the Vowel Situations in a Primary Vocabulary," Education, LXXII (May, 1952), pp. 604-617.

⁴Alvin Truet Burrows and Zyra Lourie, "When 'Two Vowels Go Walking,'" The Reading Teacher, XVII (November, 1963), pp. 79-82.

Clymer identified forty-five phonic generalizations most frequently found in four basal reading series and their utility in teaching reading.¹ A word list of some twenty-six hundred words was assembled by inclusion of all words introduced in the primary-grade reading textbooks used in the study. Webster's New Collegiate Dictionary² was used as the authority in recording the pronunciations of the words.³ Eighteen of the forty-five generalizations were found to be useful according to the criteria of 75 per cent utility and a minimum of twenty words to which the generalization might apply.⁴

Bailey applied the generalizations identified by Clymer to the entire vocabularies of eight basal reading series from grades one through six to investigate their utility.⁵ A composite list of 5,773 words was collected from the vocabularies of the eight basal textbooks. She recommended use of six of the forty-five generalizations.⁶ She also suggested thoughtful reconsideration of inclusion of eight other generalizations.⁷

¹Theodore Clymer, "The Utility of Phonic Generalizations in the Primary Grades," The Reading Teacher, XVI (January, 1963), pp. 252-258.

²Webster's New Collegiate Dictionary. (Springfield, Mass.: G and C. Merriam Company, Publishers, 1961).

³Clymer, "Utility of Phonic Generalizations," p. 254.

⁴Ibid., pp. 255, 258.

⁵Mildred Hart Bailey, "The Utility of Phonic Generalizations in Grades One Through Six," The Reading Teacher, XX (February, 1967), pp. 413-418.

⁶Ibid., p. 101.

⁷Ibid., p. 101.

A replication of Clymer's study was done by Emans to test the usefulness of phonic generalizations above the primary grades.¹ A list of 1,944 words were subjected to the procedure and criteria established by Clymer.² From his data he concluded that modification and substitution for some of the commonly taught rules would prove beneficial in helping children learn to read.³

Burmeister compared seven studies which investigated the utility of phonic generalizations. She concluded that the usefulness of phonic generalizations would be increased if vowels were looked at as either single vowels or double vowels, and if the level of difficulty of words in general was disregarded in the utility level for a generalization. She also found that when the size of the sample is large, the "utility levels" of almost all generalizations are fairly standard.⁴

Bailey had recommended that further studies be used to investigate the vocabulary derived from the various subject-matter areas in the elementary school -- such as science, social studies, and arithmetic.⁵ Davis, in her study of the utility of phonic generalizations in the spelling program, analyzed 5,431 words drawn from the spelling lists that were found

¹Robert Emans, "The Usefulness of Phonic Generalizations Above the Primary Grades," The Reading Teacher, XX (February, 1967), pp. 419-425.

²Clymer, "Utility of Phonic Generalizations," pp. 252-258.

³Robert Emans, "When Two Vowels Go Walking and Other Such Things," The Reading Teacher, XXI (December, 1967), p. 209.

⁴Lou E. Burmeister, "Usefulness of Phonic Generalizations," The Reading Teacher, XXI (January, 1968), pp. 349-356.

⁵Bailey, "Utility of Phonic Generalizations," p. 104.

in thirty books in six different series. Some conclusions from her study are as follows:

1. Phonic generalizations related to single consonants, consonant elements, and pronunciation of vowels in accented syllables show substantial percentages of applicability to spelling programs.
2. Phonic generalizations apply more consistently to prefixes and suffixes which are separate syllable in multi-syllabic words than they do to other parts of these words.
3. The absence of a minimum per cent of applicability for fourteen of the twenty generalizations that apply to short and long vowels, vowel diagraphs, and vowel sounds affected by l, w, u, and r is significant.¹

In an investigation of the utility of phonic generalizations when applied to science words, Jernigan identified approximately 12,000 words in eighteen textbooks used in grades one through six. She found twenty-eight of the forty-five generalizations which were identified by Clymer² to be useful. Nine were useful for pronunciation by the use of syllabic division and accent placement. She also found that nine had 100 per cent utility. She identified approximately 1,500 science words. Seventeen of the generalizations met both of the criteria set by Clymer³ of 75 per cent utility and a minimum of twenty words to which the generalization might apply.⁴

¹Lillie Smith Davis, "The Applicability of Phonic Generalizations to Selected Spelling Programs," (unpublished Ed. D. dissertation, University of Oklahoma, 1969), pp. 108-109.

²Clymer, "Utility of Phonic Generalizations," pp. 252-258.

³Ibid., pp. 252-258.

⁴Mary Jernigan, "The Study of Utility of Specific Phonic Generalizations to vocabularies in Science Textbooks," (unpublished Ed. D. dissertation, University of Oklahoma, 1969), pp. 18-19, 41.

Ferguson, in her study of the applicability of generalizations to words and frequencies of mathematics textbooks, identified 5,314 words, with 541,747 frequencies in three series of mathematics textbooks. Twenty generalizations were found to be applicable for both words and frequencies in meeting the established criteria. One generalization was applicable for words but not for frequencies. Conclusions were drawn that the teaching of generalizations related to consonants are more reliable than generalizations related vowels. She found an increasingly stronger correlation between grade level findings and composite findings as one moves upward from grade one through grade six. Research in the prospective teacher-training program in an effort to determine information for developing pre-service training programs was recommended.¹

The study most closely aligned with this study was completed by Parker.² Words utilized in this study numbered 2,513 and were drawn from fifty-one textbooks and teachers' manuals approved by the Louisiana State Board of Education. The Thorndike-Barnhart High School Dictionary, 1965 edition, was used in this study, whereas the Webster's New Collegiate Dictionary was used in the previous studies. Seventeen generalizations satisfied both criteria in the study. Utilities of 100 per cent were computed for ten generalizations, but two among this number had fewer

¹Loree H. Ferguson, "The Applicability of Specific Phonic Generalizations to Elementary Mathematics Textbooks," (unpublished Ed. D. dissertation, University of Oklahoma, 1970).

²Jesse Joe Parker, "The Utility of Phonic Generalizations in their Application to the History and Geography Vocabularies in Certain Specified Textbooks Adopted for Grades Four, Five, and Six," Dissertation Abstracts, XXIX, pp. 1372A-1373A.

than twenty applications in the vocabulary. Some conclusions that Parker drew from his data are:

1. Fewer than one-half of the generalizations consistently satisfied the evaluative criteria.
2. The dictionary selected as the pronunciation authority may strongly influence the utility of percentages of generalizations.

Summary

The vocabulary of social studies textbooks is not controlled as it is in basal reading books. This lack of control is felt to be necessary by most social studies experts in order to develop the necessary concepts.¹ Even if the vocabulary were controlled as to phonetic regularity, the figurative use of words would hinder a complete understanding of many passages. To be efficient in the social studies, the child must be able to read effectively, but the social studies is not primarily a curriculum area for concentration on reading skills.² A child is expected to carry over any skills he learns in reading to the reading of social studies textbooks. One skill which he might apply to this reading is his use of phonic generalizations. During the last ten years there has been a revision of

¹Bierwert; Jarolimek, Social Studies, pp. 19-20; Wesley and Adams, Teaching Social Studies, p. 181.

²William Ragan and John McAulay, Social Studies for Today's Children (New York: Appleton-Century-Crofts, 1964), p. 247.

interest in doing research to determine the usefulness of these generalizations.¹ The basic procedures and criteria for determining utility was established by Clymer.² The findings generally refute the utility of generalizations related to vowels. Several researchers recommended applying the generalizations to subject matter textbooks.

¹Burrows and Lourie, "Two Vowels," pp. 79-82; Clymer, "Utility of Phonic Generalizations," pp. 252-258; Bailey, "Utility of Phonic Generalizations," pp. 413-418; Emans, "Usefulness of Phonic Generalizations," pp. 419-425; Burmeister, "Usefulness of Phonic Generalizations," pp. 349-356; Davis, "Applicability of Phonic Generalizations," pp. 108-109; Jernigan, "Specific Phonics Generalizations," pp. 18-19, 41; Ferguson, "Applicability of Specific Generalizations," p. 98; Parker, "Utility of Phonic Generalizations," pp. 1372A-1373A.

²Clymer, "Utility of Phonic Generalizations," pp. 252-258.

CHAPTER II

THE STUDY

The review of literature sets the stage for using materials other than basal reading series to determine the usefulness of phonic generalizations. Since content subjects occupy an increasing amount of the student's reading time, the utility of phonic generalizations in regard to the vocabulary in other materials should be investigated.

Statement of the Problem

The purpose of this study is to investigate the utility of specific phonic generalizations in social studies textbooks in grades one through six. The following sub-problems were used for study and reporting: (1) What is the percentage of utility of each phonic generalization for individual occurrences and frequency of occurrences in the composite vocabulary taken from the social studies textbooks in grades one through three, grades four through six, and grades one through six? (2) What is the percentage of utility of each phonic generalization for individual occurrences and frequency of occurrences of the technical words taken from the social studies textbooks for grades one through three, grades four through six, and grades one through six? (3) Which of the forty-five phonic generalizations are useful in identifying words in social studies textbooks?

Procedures

Basic Assumptions. The basic assumptions of the study are as follows:

1. That the forty-five phonic generalizations identified by Clymer's study are representative of the phonic generalizations that may be utilized in the elementary social studies program.¹
2. That the Clymer and Bailey studies of phonic generalizations utilized in selected reading programs offer a suitable basis for comparison of phonic generalizations applicable to elementary school social studies programs.²
3. That adequate "selection criteria" can be established for selecting representative social studies textbooks for analysis in the study.

Delimitations of the Study. There are specific terms in this study which will be defined for a better understanding of the data.

Utility: Useability of rules as expressed in percentage when attempting to unlock unknown words.

Phonic generalization: The application of principles to determine the sounds associated with letters and combination of letters.

Incidence of occurrences: The incidence of occurrences is divided into two subheadings:

1. Individual occurrence: The word or part of the word to which a generalization might be applied.

¹Clymer, "Utility of Phonic Generalizations," pp. 252-258.

²Bailey, "Utility of Phonic Generalizations," pp. 415-418.

2. Frequency of occurrences: The number of times a word or part of a word occurs to which a generalization might be applied.

Technical words: Words will be considered technical that have a special meaning as it relates to the specific content being considered. For example, longitude would be considered a technical word because of its unique meaning in the social studies area.

Selection of Textbooks for Analysis. Since most schools favor the unified textbooks rather than the separate subject textbooks, total social studies programs were used in this study.¹ The social studies series to be analyzed were selected from those listed in Textbooks in Print.² The following criteria were used to make the selections:

- a. The series encompassed grades one through six.
- b. The series were published since 1965.
- c. The series were on the Oklahoma state adopted textbook list.
- d. Judgment was made after consulting with Dr. Gene Shepherd and Mrs. Helen Carter, elementary consultant, Oklahoma City Public Schools, who listed the following as the most wide-used textbooks:

1. Kenneth Cooper, Clarence Sorensen, and Lewis Todd. Silver Burdett Social Studies Series, Morristown, New Jersey: Silver Burdett Company, 1967.
2. Prudence Cutright and John Jarolimek. MacMillan Social Studies Series, New York: MacMillan Company, 1966.

¹Preston, Teaching Social Studies, p. 255.

²Textbooks in Print. New York: R. R. Bowker, 1968.

3. Earnest Tiegs and Fay Adams. Ginn Social Studies Series,
Boston: Ginn and Co., 1966.

Selection of Generalizations. The generalizations, procedures, and criteria utilized in the study were those used by Clymer in his study of the utility of phonic generalizations in the primary reading program.¹ The generalizations were selected from the teacher's manuals and consisted of five general types: 1) vowels, 2) consonants, 3) endings, 4) syllabication, and 5) miscellaneous relationships.

Compilation of a word list. The word list was compiled by counting the different words and the number of times they occurred in the nineteen social studies textbooks. A card was made for each word on which the word, the pronunciation of the word, the generalizations which might apply to the word, and the number of times each word occurred in each of the nineteen textbooks was recorded.

Selection of the dictionary of authority. The Webster's New Collegiate Dictionary² was used as an authority in this study because it had previously been used in the Bailey³ and Clymer⁴ studies. The 1961 edition was chosen because certain phonetic changes in pronunciations were made in later editions of the dictionary.

¹Clymer, "Utility of Phonic Generalizations," pp. 252-258.

²Webster's New Collegiate Dictionary (Springfield, Mass.: G & C Merriam Company, Publishers, 1961).

³Bailey, "Utility of Phonic Generalizations," p. 39.

⁴Clymer, "Utility of Phonic Generalizations," pp. 252-258.

Recording of pronunciations of words. The pronunciation, including the division by syllables and accent marks, was recorded for all words on the composite word list. Where there was more than one pronunciation, the pronunciation listed first was always the one used.

Determining the applicable words for each of the generalizations.

Each word on the composite list was analyzed to determine which generalizations might apply to it. Each card, with the word recorded on it, was put into the appropriate pile and tabulated for each of the generalizations.

The letters a, e, i, o, and u were considered vowels. W and y were considered vowels under the conditions outlined by Bailey:¹

1. The letter w in the initial position in a word or syllable was considered to have a consonant sound.
Examples: wade, be-wil-der
2. When the letter w appeared as the second letter in a word or syllable and the first letter was a consonant, the w was considered to have a consonant sound. Examples: dwarf, be-tween.
3. In all other situations, the letter w was considered to have a vowel sound. Examples: brown, aw-ful.
4. The letter y in the initial position in a word or syllable comprised of two or more letters was considered to have a consonant sound. Examples: be-yond, yank.

¹Bailey, "Utility of Phonic Generalizations," p. 43.

5. In all other situations, the letter y was considered to have a vowel sound. Examples: bun-ny, an-y, cry.

The word the was not included in the final tabulation, although it is listed in the composite word list, because the sound of the final e is determined by the word that follows. It was determined that inclusion of the would contaminate the data.

Determining percentage of utility. Each incident was determined to be either a conformation or an exception to each of the generalizations. The per cent of utility was computed by dividing the number of applicable words or incidents by the total number of words or incidents investigated for the generalizations.

Criteria for degree of utility. The criteria to determine usefulness was developed by Clymer¹ and is stated as follows:

1. The first criterion was that the composite word list must contain a minimum of twenty words to which the generalization might apply. Generalizations with lower frequencies of application do not seem to merit instructional time.
2. The second criterion was a per cent of utility of a least seventy-five. To state the matter another way, if the pupil applied the generalization to twenty words, it should aid him in getting the correct pronunciation in fifteen of the twenty words.

Summary. Three series of social studies textbooks were selected and the composite word list was determined, as well as the number of times each word occurred in the nineteen textbooks. After limiting the inclusion of some words, a list of over 12,000 words was compiled. The total frequency of words was approximately 1,539,000 total words.

¹Clymer, "Utility of Phonic Generalizations," pp. 252-258.

The pronunciations, number of times each word occurred in the textbooks, and the generalizations which might apply to the words were recorded on individual cards.

All occurrences were determined either to be conformations or exceptions to each of the forty-five generalizations. The percentage of utility was determined by dividing the number of conformations by the number of words to which the generalization might apply.

CHAPTER III

ANALYSIS OF THE DATA OF INDIVIDUAL OCCURRENCES OF THE COMPOSITE WORD LIST

This chapter is concerned with analyzing the data derived from applying the forty-five generalizations identified by Clymer¹ to individual occurrences of the composite list taken from three social studies series. Appendix A lists the forty-five generalizations.

Utility of Generalizations to Social Studies Programs

The generalizations are stated and a table containing the composite list of the forty-five generalizations will follow the discussion. This table will be divided into three groups; grades one through three, grades four through six, and grades one through six.

Generalization 1. Generalization 1 states, "when there are two vowels side by side, the long sound of the first vowel is heard, and the second vowel is usually silent."

In this study as reported in Table 1, there was a total of 1,278 occurrences for grades one through three, with 556 conformations and 722 exceptions, resulting in a utility of 44 per cent. There was a total of 4,410 occurrences in grades four through six, with 1,658 conformations

¹Clymer, "Utility of Phonic Generalizations," pp. 252-258.

TABLE 1

SUMMARY OF UTILITY OF PHONIC GENERALIZATIONS OF
INDIVIDUAL OCCURRENCES OF THE COMPOSITE WORD LIST

Generalization	Grade Level	Total Number of Words	Number of Conformations	Number of Exceptions	Per Cent of Utility
1. When there are two vowels side by side, the long sound of the first one is heard and the second is usually silent.	1-3	1278	556(beat)	722(chief)	44
	4-6	4410	1658(meat)	2752(bear)	38
	1-6	4522	1704(seen) ^a	2818(theirs) ^a	38
2. When a vowel is in the middle of a one-syllable word, the vowel is short.	1-3	621	433	188	70
	4-6	1528	1033	495	68
	1-6	1565	1061	504	68
middle letter	1-3	(96) ^b	(81)(bed)	(15)(for)	(84)
	4-6	(229)	(199)(hill)	(30)(her)	(87)
	1-6	(237)	(206)(tug)	(31)(was)	(87)
one of the middle two letters in a word of four letters	1-3	(273)	(193)(trim)	(80)(what)	(71)
	4-6	(680)	(434)(back)	(246)(kind)	(64)
	1-6	(700)	(449)(nest)	(251)(tall)	(64)
one vowel <u>within</u> a word of more than four letters	1-3	(252)	(159)(fifth)	(93)(right)	(63)
	4-6	(619)	(400)(spring)	(219)(girls)	(65)
	1-6	(628)	(406)(sting)	(222)(blind)	(65)
3. If the only vowel letter is at the end of a word, the letter usually stands for a long sound.	1-3	20	16(he)	4(to)	80
	4-6	31	23(so)	8(do)	74
	1-6	32	24(she)	8(ski)	75

TABLE 1--CONTINUED

Generalization	Grade Level	Total Number of Words	Number of Conformations	Number of Exceptions	Per Cent of Utility
4. When there are two vowels, one of which is final <u>e</u> , the first vowel is long and the <u>e</u> is silent.	1-3	215	154(rate)	61(come)	72
	4-6	584	405(kite)	179(move)	69
	1-6	591	411(shame)	180(some)	70
5. The <u>r</u> gives the preceding vowel a sound that is neither long nor short.	1-3	1244	1022(circle)	222(more)	82
	4-6	4603	3781(dark)	822(core)	82
	1-6	4733	3887(cord)	846(store)	82
6. The first vowel is usually long and the second silent in the digraphs <u>ai</u> , <u>ea</u> , <u>oa</u> , and <u>ui</u> .	1-3	393	262	131	67
	4-6	1273	807	466	63
	1-6	1300	827	473	64
ai	1-3	(105)	(64)(rain)	(41)(again)	(61)
	4-6	(332)	(229)(mail)	(103)(pair)	(69)
	1-6	(345)	(239)(maid)	(106)(said)	(69)
ea	1-3	(216)	(150)(reach)	(66)(great)	(69)
	4-6	(701)	(441)(least)	(260)(heard)	(63)
	1-6	(709)	(447)(eat)	(262)(bread)	(63)
oa	1-3	(48)	(47)(oak)	(1)(broad)	(99)
	4-6	(146)	(130)(roar)	(16)(broader)	(89)
	1-6	(150)	(134)(coal)	(16)(abroad)	(89)
ui	1-3	(24)	(1)(suit)	(23)(guide)	(4)
	4-6	(94)	(7)(juice)	(87)(quick)	(7)
	1-6	(96)	(7)(juices)	(89)(quite)	(7)

TABLE 1--CONTINUED

Generalization	Grade Level	Total Number of Words	Number of Conformations	Number of Exceptions	Per Cent of Utility
7. In the phonogram <u>ie</u> , the <u>i</u> is silent and the <u>e</u> has a long sound.	1-3	81	13(field)	68(cried)	16
	4-6	306	47(believe)	259(tie)	15
	1-6	315	52(piece)	263(lies)	17
8. Words having double <u>e</u> usually have the long <u>e</u> sound.	1-3	166	157(kneel)	9(been)	95
	4-6	367	333(freeze)	34(beer)	91
	1-6	382	345(street)	37(queer)	90
9. When words end with silent <u>e</u> , the preceding <u>a</u> or <u>i</u> is long.	1-3	255	162(hike)	93(give)	64
	4-6	821	499(page)	322(care)	61
	1-6	833	507(haze)	326(have)	61
10. In <u>ay</u> the <u>y</u> is silent and gives <u>a</u> its long sound.	1-3	49	49(stay)	0	100
	4-6	121	117(clay)	4(says)	97
	1-6	124	120(pay)	4(prayer)	97
11. When the letter <u>i</u> is followed by the letters <u>gh</u> , the <u>i</u> usually stands for its long sound and the <u>gh</u> is silent.	1-3	43	21(light)	22(weight)	49
	4-6	120	50(blight)	70(eight)	42
	1-6	121	51(night)	70(freight)	42
12. When <u>a</u> follows <u>w</u> in a word, it usually has the sound of <u>a</u> as in <u>was</u> .	1-3	80	22(want)	58(awake)	28
	4-6	226	56(watch)	170(wax)	25
	1-6	235	59(wash)	176(wait)	25
13. When <u>e</u> is followed by <u>w</u> , the vowel sound is the same as represented by <u>oo</u> .	1-3	27	5(drew)	22(few)	19
	4-6	62	15(flew)	47(stew)	24
	1-6	65	15(grew)	50(sew)	23

TABLE 1--CONTINUED

Generalization	Grade Level	Total Number of Words	Number of Conformations	Number of Exceptions	Per Cent of Utility
14. The two letters <u>ow</u> make the long <u>o</u> sound.	1-3	109	76(know)	33(brown)	70
	4-6	300	203(row)	97(cow)	68
	1-6	305	205(owe)	100(how)	67
15. <u>W</u> is sometimes a vowel and follows the vowel digraph rule.	1-3	150	62(grow)	88(knew)	41
	4-6	437	199(own)	238(blew)	46
	1-6	449	200(known)	249(lawn)	45
16. When <u>y</u> is the final letter in a word, it usually has a vowel sound.	1-3	203	158(any)	45(pay)	78
	4-6	744	643(carry)	101(stay)	86
	1-6	757	653(glory)	104(money)	86
17. When <u>y</u> is used as a vowel in words, it sometimes has the sound of long <u>i</u>	1-3	307	22(cry)	285(many)	7
	4-6	1126	79(my)	1047(story)	7
	1-6	1167	79(ply)	1088(firmly)	7
18. The letter <u>a</u> has the same sound (Ⓕ) when followed by <u>l</u> , <u>w</u> , and <u>u</u> .	1-3	181	90(call)	91(calf)	50
	4-6	621	247(walk)	374(tales)	40
	1-6	634	255(cause)	379(sale)	40
19. When <u>a</u> is followed by <u>r</u> and final <u>e</u> , we expect to hear the sound heard in <u>care</u> .	1-3	6	5(share)	1(are)	83
	4-6	23	22(hare)	1(are)	96
	1-6	23	22(bare)	1(are)	96

TABLE 1--CONTINUED

Generalization	Grade Level	Total Number of Words	Number of Conformations	Number of Exceptions	Per Cent of Utility
20. When <u>c</u> and <u>h</u> are next to each other, they make only one sound.	1-3	132	132(lunch)	0	100
	4-6	439	439(chick)	0	100
	1-6	446	446(chain)	0	100
21. <u>Ch</u> is usually pronounced as it is in <u>kitchen</u> , <u>catch</u> , and <u>chair</u> , not like <u>sh</u> .	1-3	132	113(touch)	19(chute)	87
	4-6	439	360(much)	79(machine)	83
	1-6	446	367(change)	79(mustache)	83
22. When <u>c</u> is followed by <u>e</u> or <u>i</u> , the sound <u>s</u> is likely to be heard.	1-3	134	128(nice)	6(ocean)	96
	4-6	417	376(recent)	41(social)	90
	1-6	431	390(once)	41(social)	90
23. When the letter <u>c</u> is followed by <u>o</u> or <u>a</u> , the sound of <u>k</u> is likely to be heard.	1-3	278	278(care)	0	100
	4-6	809	809(corral)	0	100
	1-6	835	835(catch)	0	100
24. The letter <u>g</u> often has a sound similar to that of <u>j</u> in <u>jump</u> when it precedes the letters <u>i</u> or <u>e</u> .	1-3	100	72(rage)	28(give)	78
	4-6	366	294(gem)	72(get)	80
	1-6	370	298(region)	72(gill)	81
25. When <u>ght</u> is seen in a word, <u>gh</u> is silent.	1-3	35	35(flight)	0	100
	4-6	124	124(might)	0	100
	1-6	126	126(sight)	0	100
26. When a word begins <u>kn</u> , the <u>k</u> is silent.	1-3	12	12(knot)	0	100
	4-6	30	30(kneel)	0	100
	1-6	30	30(knife)	0	100

TABLE 1--CONTINUED

Generalization	Grade Levels	Total Number of Words	Number of Conformations	Number of Exceptions	Per Cent of Utility
27. When a word begins with <u>wr</u> , the <u>w</u> is silent.	1-3	11	11(write)	0	100
	4-6	29	29(wrists)	0	100
	1-6	29	29(wrong)	0	100
28. When two of the same consonants are side by side, only one is heard.	1-3	410	410 (middle)	0	100
	4-6	1799	1772 (funny)	27 (accept)	98
	1-6	1848	1821(dinner)	27(succeed)	98
29. When a word ends in <u>ck</u> , it has the same last sound as in <u>look</u> .	1-3	75	75 (chick)	0	100
	4-6	242	246 (lock)	0	100
	1-6	246	246(luck)	0	100
30. In most two-syllable words, the first syllable is accented.	1-3	1408	1238 (pony)	170 (about)	88
	4-6	4730	4106 (chosen)	624 (remind)	87
	1-6	4869	4233 (barber)	636 (across)	87
31. If <u>a</u> , <u>in</u> , <u>re</u> , <u>de</u> , <u>ex</u> , or <u>be</u> is the first syllable in a word, it is usually unaccented.	1-3	170	144 (begin)	26 (area)	85
	4-6	793	711 (design)	82 (acres)	90
	1-6	808	723 (request)	85 (extra)	89
32. In most two syllable words that end in a consonant followed by <u>y</u> , the first syllable is accented and the last is unaccented.	1-3	81	80 (many)	1 (reply)	99
	4-6	263	260 (plenty)	3 (supply)	99
	1-6	269	266 (copy)	3 (apply)	99
33. One vowel letter in an accented syllable has its short sound.	1-3	1458	827 (little)	631 (fable)	57
	4-6	5697	3473 (better)	2224 (sirens)	61
	1-6	5844	3566 (cabin)	2278 (marker)	61

TABLE 1--CONTINUED

Generalization	Grade Levels	Total Number of Words	Number of Conformations	Number of Exceptions	Per Cent of Utility
34. When <u>y</u> or <u>ey</u> is seen in the last syllable that is not accented, the long sound of <u>e</u> is heard.	1-3	165	0	165(marry)	0
	4-6	609	0	609(funny)	0
	1-6	623	0	623(jolly)	0
35. When <u>ture</u> is the final syllable in a word, it is unaccented.	1-3	11	11(mixture)	0	100
	4-6	37	37(capture)	0	100
	1-6	37	37(picture)	0	100
36. When <u>tion</u> is the final syllable in a word, it is unaccented.	1-3	77	77(addition)	0	100
	4-6	158	158(mention)	0	100
	1-6	165	165(question)	0	100
37. In many two- and three-syllable words, the final <u>e</u> lengthens the vowel in the last syllable.	1-3	125	54(profile)	71(purchase)	43
	4-6	546	297(remote)	247(fortune)	54
	1-6	557	302(refuse)	255(lecture)	54
38. If the first vowel sound in a word is followed by two consonants, the first syllable usually ends with the first of the two consonants.	1-3	915	692(wander)	223(packets)	76
	4-6	3677	2930(winter)	747(reflect)	80
	1-6	3783	3021(worry)	762(mother)	80

TABLE 1--CONTINUED

Generalization	Grade Levels	Total Number of Words	Number of Conformations	Number of Exceptions	Per Cent of Utility
39. If the first vowel sound in a word is followed by a single consonant, that consonant usually begins the second syllable.	1-3	742	277(began)	465(many)	37
	4-6	3148	1400(basis)	1748(chisel)	44
	1-6	3223	1435(relax)	1788(damage)	45
40. If the last syllable of a word ends in <u>le</u> , the consonant preceding the <u>le</u> usually begins the last syllable.	1-3	28	19(trouble)	9(buckle)	68
	4-6	126	99(uncle)	27(puddle)	71
	1-6	143	101(table)	42(trickle)	71
41. When the first vowel element in a word is followed by <u>th</u> , <u>ch</u> , or <u>sh</u> , these symbols are not broken when the word is divided into syllables and may go with either the first or second syllable.	1-3	56	56(richer)	0	100
	4-6	171	171(whether)	0	100
	1-6	175	175(brother)	0	100
42. In a word of more than one syllable, the letter <u>v</u> usually goes with the preceding vowel to form a syllable.	1-3	90	69(cover)	21(over)	77
	4-6	362	241(seven)	121(devour)	67
	1-6	369	247(every)	122(oval)	67

TABLE 1--CONTINUED

Generalization	Grade Levels	Total Number of Words	Number of Conformations	Number of Exceptions	Per Cent of Utility
43. When a word has only one vowel letter, the vowel sound is likely to be short.	1-3	640	434(bill)	206(mind)	68
	4-6	1251	869(melt)	382(climb)	69
	1-6	1284	897(lick)	387(loss)	70
44. When there is one <u>e</u> in a word that ends in a consonant, the <u>e</u> usually has a short sound.	1-3	322	82(men)	240(lies)	25
	4-6	737	157(spends)	580(her)	21
	1-6	748	158(shelf)	590(threw)	21
45. When the last syllable is the sound <u>r</u> , it is unaccented.	1-3	369	355(better)	14(before)	96
	4-6	1405	1303(idler)	102(inspire)	93
	1-6	1458	1356(hunger)	102(alert)	93

^aWords in parentheses are examples of words that conform or of exceptions.

^bFigures in parentheses indicate specific applications of the generalization.

and 2,752 exceptions, resulting in a utility of 38 per cent. There were 4,522 occurrences in grades one through six, with 1,704 conformations and 2,818 exceptions, resulting in a utility of 38 per cent.

Generalization 2. Generalization 2 states, "when a vowel is in the middle of a one-syllable word, the vowel is short." This generalization had three sub-groups which were concerned with the position of the vowel in relation to the length of the word. These three groups are: middle letter; one of the middle two letters in a word of four letters; and one vowel within a word of more than four letters.

There was a total of 621 occurrences for grades one through three, with 433 conformations and 188 exceptions, resulting in a utility of 70 per cent. In the first sub-group concerned with the middle letter, there were 96 occurrences, with 81 conformations and 15 exceptions, resulting in a utility of 84 per cent. In the second sub-group, there were 273 occurrences, with 193 conformations and 80 exceptions, resulting in a utility of 71 per cent. In the third sub-group, there was a total of 252 occurrences, with 159 conformations and 93 exceptions, resulting in a utility of 63 per cent.

In grades four through six, there was a total of 1,528 occurrences, with 1,033 conformations and 495 exceptions, resulting in a utility of 68 per cent. In the first sub-group, there was a total of 229 occurrences, with 199 conformations and 30 exceptions, resulting in a utility of 87 per cent. In the second sub-group, there was a total of 680 occurrences, with 434 conformations and 246 exceptions, resulting in a utility of 64 per cent. In the third sub-group, there were 619 occurrences, with 400 conformations and 219 exceptions, resulting in a utility of 65 per cent.

In grades one through six, there was a total of 1,565 occurrences, with 1,061 conformations and 504 exceptions, resulting in a utility of 68 per cent. In the first sub-group, there was a total of 237 occurrences, with 206 conformations and 31 exceptions, resulting in a utility of 87 per cent. In sub-group two, there was a total of 700 occurrences, with 449 conformations and 251 exceptions, resulting in a utility of 64 per cent. In the third sub-group, there were 628 occurrences, with 406 conformations and 222 exceptions, resulting in a utility of 65 per cent.

Generalization 3. Generalization 3 states, "if the only vowel letter is at the end of a word, the letter usually stands for a long sound."

There was a total of 20 occurrences for grades one through three, with 16 conformations and 4 exceptions, resulting in a utility of 80 per cent. There was a total of 31 occurrences in grades four through six, with 23 conformations and 8 exceptions, resulting in a utility of 74 per cent. There was a total of 32 occurrences in grades one through six, with 24 conformations and 8 exceptions, resulting in a utility of 75 per cent.

Generalization 4. Generalization 4 states, "when there are two vowels, one of which is final e, the first is long and the e is silent."

There was a total of 215 occurrences in grades one through three, with 154 conformations and 61 exceptions, resulting in a utility of 72 per cent. There was a total of 584 occurrences in grades four through six, with 405 conformations and 179 exceptions, resulting in a utility of 69 per cent. There were 591 occurrences in grades one through six, with 411 conformations and 180 exceptions, resulting in a utility of 70 per cent.

Generalization 5. Generalization 5 states, "the r gives the preceding vowel a sound that is neither long nor short."

In this study, there was a total of 1,244 occurrences for grades one through three, with 1,022 conformations and 222 exceptions, resulting in a utility of 82 per cent. There was a total of 4,603 occurrences in grades four through six, with 3,781 conformations and 822 exceptions, resulting in a utility of 82 per cent. There were 4,733 occurrences in grades one through six, with 3,887 conformations and 846 exceptions, resulting in a utility of 82 per cent.

Generalization 6. Generalization 6 states, "the first vowel is usually long and the second is silent in the digraphs ai, ea, oa, and ui." The sub-groups of ai, ea, oa, and ui were compiled and their totals will be given, as well as the grand totals for this generalization.

In this study, there was a total of 393 occurrences in grades one through three, with 262 conformations and 131 exceptions, resulting in a utility of 67 per cent. For the sub-group ai, there was a total of 105 occurrences, with 64 conformations and 41 exceptions, resulting in a utility of 61 per cent. For the sub-group ea, there was a total of 216 occurrences, with 150 conformations and 66 exceptions, resulting in a utility of 69 per cent. For the sub-group oa, there was a total of 48 occurrences, with 47 conformations and 1 exception, resulting in a utility of 99 per cent. There was a total of 24 occurrences in sub-group ui, with 1 conformation and 23 exceptions, resulting in a 4 per cent utility.

In grades four through six, there was a total of 1,273 occurrences, with 807 conformations and 466 exceptions, resulting in a utility of 63 per cent. In sub-group ai, there was a total of 332 occurrences, with 229

conformations and 103 exceptions, resulting in a utility of 69 per cent. In sub-group ea, there was a total of 701 occurrences, with 441 conformations and 260 exceptions, resulting in a utility of 63 per cent. For sub-group oa, there was a total of 146 occurrences, with 130 conformations and 16 exceptions, resulting in a utility of 89 per cent. For sub-group ui, there were 94 occurrences, with 7 conformations and 87 exceptions, resulting in a utility of 7 per cent.

In grades one through six, there was a total of 1,300 occurrences, with 827 conformations and 473 exceptions, resulting in a utility of 64 per cent. In sub-group ai, there was a total of 345 occurrences, with 239 conformations and 106 exceptions, resulting in a utility of 69 per cent. In sub-group ea, there were 709 occurrences, with 447 conformations and 262 exceptions, resulting in a utility of 63 per cent. In sub-group oa, there was a total of 150 occurrences, with 134 conformations and 16 exceptions, resulting in a utility of 89 per cent. In sub-group ui, there were 96 occurrences, with 7 conformations and 89 exceptions, resulting in a utility of 7 per cent.

Generalization 7. Generalization 7 states, "in the phonogram ie, the i is silent and the e has a long sound."

In this study, there was a total of 81 occurrences for grades one through three, with 13 conformations and 68 exceptions, resulting in a utility of 16 per cent. There was a total of 306 occurrences in grades four through six, with 47 conformations and 259 exceptions, resulting in a utility of 15 per cent. In grades one through six, there was a total of 315 occurrences, with 52 conformations and 263 exceptions, resulting in a utility of 17 per cent.

Generalization 8. Generalization 8 states, "words having double e usually have the long e sound."

In this study, there was a total of 166 occurrences for grades one through three, with 157 conformations and 9 exceptions, resulting in a utility of 95 per cent. There was a total of 367 occurrences in grades four through six, with 333 conformations and 34 exceptions, resulting in a utility of 91 per cent. There were 382 occurrences in grades one through six, with 345 conformations and 37 exceptions, resulting in a utility of 90 per cent.

Generalization 9. Generalization 9 states, "when words end with silent e, the preceding a or i is long."

In this study, there was a total of 255 occurrences for grades one through three, with 162 conformations and 93 exceptions, resulting in a utility of 64 per cent. In grades four through six, there was a total of 821 occurrences, with 499 conformations and 322 exceptions, with a resulting utility of 61 per cent. There were 833 occurrences in grades one through six, with 507 conformations 326 exceptions, resulting in a utility of 61 per cent.

Generalization 10. Generalization 10 states, "in ay the y is silent and gives a its long sound."

There was a total of 49 occurrences for grades one through three, with 49 conformations and no exceptions, resulting in a utility of 100 per cent. There was a total of 121 occurrences in grades four through six, with 117 conformations and 4 exceptions, resulting in a utility of 97 per cent. There were 124 occurrences in grades one through six, with 120 conformations and 4 exceptions, resulting in a utility of 97 per cent.

Generalization 11. Generalization 11 states, "when the letter i is followed by the letters gh, the i usually stands for its long sound and the gh is silent."

There was a total of 43 occurrences for grades one through three, with 21 conformations and 22 exceptions, resulting in a utility 49 per cent. There was a total of 120 occurrences in grades four through six, with 50 conformations and 70 exceptions, resulting in a utility of 42 per cent. There were 121 occurrences in grades one through six, with 51 conformations and 70 exceptions, resulting in a utility of 42 per cent.

Generalization 12. Generalization 12 states, "when a follows w in a word, the a usually has the sound of a as in was."

There was a total of 80 occurrences in grades one through three, with 22 conformations and 58 exceptions, resulting in a utility of 28 per cent. There were 226 occurrences in grades four through six, with 56 conformations and 170 exceptions, resulting in a utility of 25 per cent. There were 235 occurrences in grades one through six, with 59 conformations and 176 exceptions, resulting in a utility of 25 per cent.

Generalization 13. Generalization 13 states, "when e is followed by w, the vowel sound is the same as represented by oo."

There was a total of 27 occurrences in grades one through three, with 5 conformations and 22 exceptions, resulting in a utility of 19 per cent. There was a total of 62 occurrences in grades four through six, with 15 conformations and 47 exceptions, resulting in a utility of 24 per cent. There were 65 occurrences in grades one through six, with 15 conformations and 50 exceptions, resulting in a utility of 23 per cent.

Generalization 14. Generalization 14 states, "the two letters ow make the long o sound."

There was a total of 109 occurrences in grades one through three, with 76 conformations and 33 exceptions, resulting in a utility of 70 per cent. There was a total of 300 occurrences in grades four through six, with 203 conformations and 97 exceptions, resulting in a utility of 68 per cent. There was a total of 305 occurrences in grades one through six, with 205 conformations and 100 exceptions, resulting in a utility of 67 per cent.

Generalization 15. Generalization 15 states, "w is sometimes a vowel and follows the vowel digraph rule."

There was a total of 150 occurrences in grades one through three, with 62 conformations and 88 exceptions, resulting in a utility of 41 per cent. There was a total of 437 occurrences in grades four through six, with 199 conformations and 238 exceptions, resulting in a utility of 46 per cent. There were 449 occurrences in grades one through six, with 200 conformations and 249 exceptions, resulting in a utility of 45 per cent.

Generalization 16. Generalization 16 states, "when y is the final letter in a word, it usually has a vowel sound."

There was a total of 203 occurrences in grades one through three, with 158 conformations and 45 exceptions, resulting in a utility of 78 per cent. There were 744 occurrences in grades four through six, with 643 conformations and 101 exceptions, resulting in a utility of 86 per cent. There was a total of 757 occurrences in grades one through six, with 653 conformations and 104 exceptions, resulting in a utility of 86 per cent.

Generalization 17. Generalization 17 states, "when y is used as a vowel in words, it sometimes has the sound of long i."

There was a total of 307 occurrences in grades one through three, with 22 conformations and 285 exceptions, resulting in a utility of 7 per cent. There was a total of 1,126 occurrences in grades four through six, with 79 conformations and 1,047 exceptions, resulting in a utility of 7 per cent. There were 1,167 occurrences in grades one through six, with 79 conformations and 1,088 exceptions, resulting in a utility of 7 per cent.

Generalization 18. Generalization 18 states, "the letter a has the same sound (â) when followed by l, w, and u."

There was a total of 181 occurrences in grades one through three, with 90 conformations and 91 exceptions, resulting in a utility of 50 per cent. There were 621 occurrences in grades four through six, with 247 conformations and 374 exceptions, resulting in a utility of 40 per cent. There was a total of 634 occurrences in grades one through six, with 255 conformations and 379 exceptions, resulting in a utility of 40 per cent.

Generalization 19. Generalization 19 states, "when a is followed by r and final e, we expect to hear the sound heard in care."

There was a total of 6 occurrences in grades one through three, with 5 conformations and 1 exception, resulting in a utility of 83 per cent. There was a total of 23 occurrences in grades four through six, with 22 conformations and 1 exception, resulting in a utility of 96 per cent. There were 23 occurrences in grades one through six, with 22 conformations and 1 exception, resulting in a utility of 96 per cent.

Generalization 20. Generalization 20 states, "when c and h are next to each other, they make only one sound."

There was a total of 132 occurrences in grades one through three, 439 occurrences in grades four through six, and 446 occurrences in grades one through six. There were no exceptions, resulting in a utility of 100 per cent.

Generalization 21. Generalization 21 states, "ch is usually pronounced as it is in kitchen, catch, and chair, not like sh."

There was a total of 132 occurrences in grades one through three, with 113 conformations and 19 exceptions, resulting in a utility of 87 per cent. There was a total of 439 occurrences in grades four through six, with 360 conformations and 79 exceptions, resulting in a utility of 83 per cent. There was a total of 446 occurrences in grades one through six, with 367 conformations and 79 exceptions, resulting in a utility of 83 per cent.

Generalization 22. Generalization 22 states, "when c is followed by e or i, the sound of s is likely to be heard."

There was a total of 134 occurrences in grades one through three, with 128 conformations and 6 exceptions, resulting in a utility of 96 per cent. There was a total of 417 occurrences in grades four through six, with 376 conformations and 41 exceptions, resulting in a utility of 90 per cent. There were 431 occurrences in grades one through six, with 390 conformations and 41 exceptions, resulting in a utility of 90 per cent.

Generalization 23. Generalization 23 states, "when the letter c is followed by o or a, the sound of k is likely to be heard."

There was a total of 278 occurrences in grades one through three, 809 occurrences in grades four through six, and 835 occurrences in grades one through six. There were no exceptions to this generalization, resulting in a utility of 100 per cent.

Generalization 24. Generalization 24 states, "the letter g often has a sound similar to that of j of jump when it precedes the letter i or e."

There was a total of 100 occurrences in grades one through three, with 72 conformations and 28 exceptions, resulting in a utility of 72 per cent. There was a total of 366 occurrences in grades four through six, with 294 conformations and 72 exceptions, resulting in a utility of 80 per cent. There was a total of 370 occurrences in grades one through six, with 298 conformations and 72 exceptions, resulting in a utility of 81 per cent.

Generalization 25. Generalization 25 states, "when ght is seen in a word, gh is silent."

There was a total of 35 occurrences in grades one through three, 124 occurrences in grades four through six, and 126 occurrences in grades one through six. There were no exceptions to the generalization, resulting in a 100 per cent utility.

Generalization 26. Generalization 26 states, "when a word begins with kn, the k is silent."

There was a total of 12 occurrences in grades one through three, 30 occurrences in grades four through six, and 30 occurrences in grades one through six. There were no exceptions to this generalization, resulting in a 100 per cent utility.

Generalization 27. Generalization 27 states, "when a word begins with wr, the w is silent."

There was a total of 11 occurrences in grades one through three, 29 occurrences in grades four through six, and 29 occurrences in grades one through six. There were no exceptions to this generalization, resulting in a 100 per cent utility.

Generalization 28. Generalization 28 states, "when two of the same consonants are side by side, only one is heard."

There was a total of 410 occurrences in grades one through three, with 410 conformations and no exceptions, resulting in a utility of 100 per cent. There was a total of 1,799 occurrences in grades four through six, with 1,772 conformations and 27 exceptions, resulting in a utility of 98 per cent. There were 1,848 occurrences in grades one through six, with 1,821 conformations and 27 exceptions, resulting in a utility of 98 per cent.

Generalization 29. Generalization 29 states, "when a word ends in ck, it has the same last sound as in look."

There was a total of 75 occurrences in grades one through three, 242 occurrences in grades four through six, and 246 occurrences in grades one through six. There were no exceptions to this generalization, resulting in a 100 per cent utility.

Generalization 30. Generalization 30 states, "in most two-syllable words, the first syllable is accented."

There was a total of 1,408 occurrences in grades one through three, with 1,238 conformations and 170 exceptions, resulting in a utility of 88 per cent. There was a total of 4,730 occurrences in grades four through six, with 4,106 conformations and 624 exceptions, resulting in a utility of 87 per cent. There was a total of 4,869 occurrences in grades one through six, with 4,233 conformations and 636 exceptions, resulting in a utility of 87 per cent.

Generalization 31. Generalization 31 states, "if a, in, re, ex, de, or be is the first syllable in a word, it is usually unaccented."

There was a total of 170 occurrences in grades one through three, with 144 conformations and 26 exceptions, resulting in a utility of 85 per cent. There was a total of 793 occurrences in grades four through six, with 711 conformations and 82 exceptions, resulting in a utility of 90 per cent. There was a total of 808 occurrences in grades one through six, with 723 conformations and 85 exceptions, resulting in a utility of 89 per cent.

Generalization 32. Generalization 32 states, "in most two-syllable words that end in a consonant followed by y, the first syllable is accented and the last is unaccented."

There was a total of 81 occurrences in grades one through three, with 80 conformations and 1 exception, resulting in a utility of 99 per cent. There was a total of 263 occurrences in grades four through six, with 260 conformations and 3 exceptions, resulting in a utility of 99 per cent. There were 269 occurrences in grades one through six, with 266 conformations and 3 exceptions, resulting in a utility of 99 per cent.

Generalization 33. Generalization 33 states, "one vowel in an accented syllable has its short sound."

There was a total of 1,458 occurrences in grades one through three, with 827 conformations and 631 exceptions, resulting in a utility of 57 per cent. There was a total of 5,697 occurrences in grades four through six, with 3,473 conformations and 2,224 exceptions, resulting in a utility of 61 per cent. There was a total of 5,844 occurrences in grades one

though six, with 3,566 conformations and 2,278 exceptions, resulting in a utility of 61 per cent.

Generalization 34. Generalization 34 states, "when y or ey is seen in the last syllable that is not accented, the long sound of e is heard."

There was a total of 165 occurrences in grades one through three, 609 occurrences in grades four through six, and 623 occurrences in grades one through six. There were no conformations to this generalization, resulting in a utility of zero per cent.

Generalization 35. Generalization 35 states, "when ture is the final syllable in a word, it is unaccented."

There were 11 occurrences in grades one through three, 37 occurrences in grades four through six, and 37 occurrences in grades one through six. There were no exceptions to this generalization, resulting in a utility of 100 per cent.

Generalization 36. Generalization 36 states, "when tion is the final syllable in a word, it is unaccented."

There was a total of 77 occurrences in grades one through three, 158 occurrences in grades four through six, and 165 occurrences in grades one through six. There were no exceptions to this generalization, resulting in a utility of 100 per cent.

Generalization 37. Generalization 37 states, "in many two- and three-syllable words, the final e lengthens the vowel in the last syllable."

There was a total of 125 occurrences in grades one through three, with 54 conformations and 71 exceptions, resulting in a utility of 43 per cent. There was a total of 546 occurrences in grades four through six,

with 297 conformations and 247 exceptions, resulting in a utility of 54 per cent. There was a total of 557 occurrences in grades one through six, with 302 conformations and 255 exceptions, resulting in a utility of 54 per cent.

Generalization 38. Generalization 38 states, "if the first vowel sound in a word is followed by two consonants, the first syllable usually ends with the first of the two consonants."

There was a total of 915 occurrences in grades one through three, with 692 conformations and 223 exceptions, resulting in a utility of 76 per cent. There was a total of 3,677 occurrences in grades four through six, with 2,930 conformations and 747 exceptions, resulting in a utility of 80 per cent. There was a total of 3,783 occurrences in grades one through six, with 3,021 conformations and 762 exceptions, resulting in a utility of 80 per cent.

Generalization 39. Generalization 39 states, "if the first vowel sound in a word is followed by one consonant, that consonant usually begins the second syllable."

There was a total of 742 occurrences in grades one through three, with 277 conformations and 465 exceptions, resulting in a utility of 37 per cent. There was a total of 3,148 occurrences in grades four through six, with 1,400 conformations and 1,748 exceptions, resulting in a utility of 44 per cent. There was a total of 3,223 occurrences in grades one through six, with 1,435 conformations and 1,788 exceptions, resulting in a utility of 45 per cent.

Generalization 40. Generalization 40 states, "if the last syllable ends in le, the consonant preceding the le usually begins the last syllable."

There was a total of 28 occurrences in grades one through three, with 19 conformations and 9 exceptions, resulting in a utility of 68 per cent. There was a total of 126 occurrences in grades four through six, with 99 conformations and 27 exceptions, resulting in a utility of 71 per cent. There was a total of 143 occurrences in grades one through six, with 101 conformations and 42 exceptions, resulting in a utility of 71 per cent.

Generalization 41. Generalization 41 states, "when the first vowel element in a word is followed by th, ch, or sh, these symbols are not broken when the word is divided into syllables and may go with either the first or second syllable."

There was a total of 56 occurrences in grades one through three, 171 occurrences in grades four through six, and 175 occurrences in grades one through six. There were no exceptions to this generalization, resulting in a utility of 100 per cent.

Generalization 42. Generalization 42 states, "in a word of more than one syllable, the letter y usually goes with the preceding vowel to form a syllable."

There was a total of 90 occurrences in grades one through three, with 69 conformations and 21 exceptions, resulting in a utility of 77 per cent. There was a total of 362 occurrences in grades four through six, with 241 conformations and 121 exceptions, resulting in a utility of 67 per cent. There was a total of 369 occurrences in grades one through six, with 247 conformations and 122 exceptions, resulting in a utility of 67 per cent.

Generalization 43. Generalization 43 states, "when a word has only one vowel letter, the vowel sound is likely to be short."

There was a total of 640 occurrences in grades one through three, with 434 conformations and 206 exceptions, resulting in a utility of 68 per cent. There was a total of 1,251 occurrences in grades four through six, with 869 conformations and 382 exceptions, resulting in a utility of 69 per cent. There was a total of 1,284 occurrences in grades one through six, with 897 conformations and 387 exceptions, resulting in a utility of 70 per cent.

Generalization 44. Generalization 44 states, "when there is one e in a word that ends in a consonant, the e usually has a short sound."

There was a total of 322 occurrences in grades one through three, with 82 conformations and 240 exceptions, resulting in a utility of 25 per cent. There was a total of 737 occurrences in grades four through six, with 157 conformations and 580 exceptions, resulting in a utility of 21 per cent. There was a total of 748 occurrences in grades one through six, with 158 conformations and 590 exceptions, resulting in a utility of 21 per cent.

Generalization 45. Generalization 45 states, "when the last syllable is the sound r, it is unaccented."

There was a total of 369 occurrences in grades one through three, with 355 conformations and 14 exceptions, resulting in a utility of 96 per cent. There was a total of 1,405 occurrences in grades four through six, with 1,303 conformations and 102 exceptions, resulting in a utility of 93 per cent. There was a total of 1,458 occurrences in grades one through six, with 1,356 conformations and 102 exceptions, resulting in a utility of 93 per cent.

Summary

This chapter was concerned with the individual occurrences of both technical and non-technical words found in the three social studies series.

In grades one through three, four generalizations (19, 26, 27, and 35) did not have the minimum number of twenty words. All of the generalizations had the minimum number of words for grades four through six and grades one through six.

Twenty-three generalizations (3, 5, 8, 10, 16, 19, 20, 21, 22, 23, 25, 26, 27, 28, 29, 30, 31, 32, 35, 36, 38, 41, 45) had above the minimum seventy-five per cent utility for grades one through three. Generalizations 10, 20, 23, 25, 26, 27, 28, 29, 35, 36, and 41 had 100 per cent utility. Eleven generalizations (2, 4, 6, 9, 14, 18, 24, 33, 40, 42, 43) had between fifty per cent and seventy-four per cent utility. There were eleven generalizations (1, 7, 11, 12, 13, 15, 17, 34, 37, 39, 44) with less than fifty per cent utility.

There were nine generalizations (20, 23, 25, 26, 27, 29, 35, 36, 41) having 100 per cent utility for grades four through six. Fourteen other generalizations (5, 8, 10, 16, 19, 21, 22, 24, 28, 30, 31, 32, 38, 45) had over seventy-five per cent utility. There were eleven generalizations (2, 3, 4, 6, 9, 14, 33, 37, 40, 42, 43) with between fifty and seventy-four per cent utility. There were eleven generalizations (1, 7, 11, 12, 13, 15, 17, 18, 34, 39, 44) which had less than fifty per cent utility.

Nine generalizations had 100 per cent utility for grades one through six. Fifteen other generalizations had greater than the minimum utility of seventy-five per cent.

There were seventeen generalizations in grades one through three that had a higher percentage of utility than the same generalizations at grades four through six and one through six. There were eleven generalizations with the same utility at each level.

CHAPTER IV

ANALYSIS OF THE DATA OF THE FREQUENCY OF OCCURRENCES OF THE COMPOSITE WORD LIST

This chapter and chapter III are concerned with the same group of words, i.e., both technical and non-technical words. In this chapter, frequency of occurrence will be defined as the number of times a word or part of a word occurs to which a generalization might be applied. For example, in the data in the previous chapter we would have been counted once for each generalization that might have application to it; whereas, in this chapter, the total number of times we appeared in the nineteen textbooks would be used in the data for frequency of occurrences.

Utility of Generalizations in Social Studies Programs

The generalizations are stated and a table containing the composite list of the forty-five generalizations will follow the discussion. This table will be divided into three groups; grades one through three, grades four through six, and grades one through six.

Generalization 1. Generalization 1 states, "when there are two vowels side by side, the long sound of the first vowel is heard, and the second vowel is usually silent."

In this study as reported in Table 2, there was a total frequency of 30,407 occurrences for grades one through three, with 10,369 conformations

TABLE 2

SUMMARY OF UTILITY OF PHONIC GENERALIZATIONS OF
FREQUENCY OF OCCURRENCES OF THE COMPOSITE WORD LIST

Generalization	Grade Levels	Total Number of Words	Number of Conformations	Number of Exceptions	Per Cent of Utility
1. When there are two vowels side by side, the long sound of the first one is heard and the second is usually silent.	1-3	30,407	10,369(beat) ^a	20,038(chief) ^a	34
	4-6	302,315	100,184(meat)	202,131(bear)	33
	1-6	332,722	110,553(seen)	222,169(theirs)	33
2. When a vowel is in the middle of a one-syllable word, the vowel is short.	1-3	25,448	16,586	8,862	65
	4-6	264,919	181,399	83,520	68
	1-6	290,367	197,985	92,382	67
middle letter	1-3	(7,760) ^b	(4,668)(bed)	(3,092)(for)	(60)
	4-6	(87,031)	(57,420)(hill)	(29,611)(her)	(66)
	1-6	(94,791)	(62,088)(tug)	(32,703)(was)	(65)
one of the middle two letters in a word of four letters	1-3	(13,330)	(9,330)(trim)	(4,000)(what)	(70)
	4-6	(132,665)	(99,046)(back)	(33,619)(kind)	(75)
	1-6	(145,995)	(108,376)(nest)	(37,619)(tall)	(74)
one vowel <u>within</u> a word of more than four letters	1-3	(4,358)	(2,588)(fifth)	(1,770)(right)	(59)
	4-6	(45,223)	(24,933)(spring)	(20,290)(girls)	(55)
	1-6	(49,581)	(27,521)(sting)	(22,060)(blind)	(56)
3. If the only vowel letter is at the end of a word, the letter usually stands for a long sound.	1-3	9,424	3,867(he)	5,557(to)	41
	4-6	68,186	25,188(so)	42,998(do)	37
	1-6	77,610	29,055(she)	48,555(ski)	37

TABLE 2--CONTINUED

Generalization	Grade Levels	Total Number of Words	Number of Conformations	Number of Exceptions	Per Cent of Utility
4. When there are two vowels, one of which is final <u>e</u> , the first vowel is long and the <u>e</u> is silent.	1-3	13,223	5,776(rate)	7,447(come)	44
	4-6	120,083	52,039(kite)	68,044(move)	43
	1-6	133,306	57,815(shame)	75,491(some)	43
5. The <u>r</u> gives the preceding vowel a sound that is neither long nor short.	1-3	23,334	21,157(circle)	2,177(more)	91
	4-6	246,665	223,876(dark)	22,789(core)	91
	1-6	269,999	245,033(cord)	24,966(store)	91
6. The first vowel is usually long and the second silent in the digraphs <u>ai</u> , <u>ea</u> , <u>oa</u> , and <u>ui</u> .	1-3	7,106	3,624	3,482	51
	4-6	70,470	43,552	26,918	62
	1-6	77,576	47,176	30,400	61
ai	1-3	(2,378)	(811)(rain)	(1,567)(again)	(34)
	4-6	(17,020)	(10,046)(mail)	(6,974)(pair)	(59)
	1-6	(19,398)	(10,857)(maid)	(8,541)(said)	(56)
ea	1-3	(3,179)	(2,147)(reach)	(1,032)(great)	(68)
	4-6	(41,927)	(27,844)(least)	(14,083)(heard)	(66)
	1-6	(45,106)	(29,991)(eat)	(15,115)(bread)	(66)
oa	1-3	(690)	(665)(oak)	(25)(broad)	(96)
	4-6	(6,009)	(5,514)(roar)	(495)(broader)	(92)
	1-6	(6,699)	(6,179)(coal)	(520)(abroad)	(92)
ui	1-3	(859)	(1)(suit)	(858)(guide)	(1)
	4-6	(5,514)	(148)(juice)	(5,366)(quick)	(3)
	1-6	(6,373)	(149)(juices)	(6,224)(quite)	(2)

TABLE 2--CONTINUED

Generalization	Grade Levels	Total Number of Words	Number of Conformation	Number of Exceptions	Per Cent of Utility
7. In the phonogram <u>ie</u> , the <u>i</u> is silent and the <u>e</u> has a long sound.	1-3	973	152(field)	821(cried)	16
	4-6	14,367	2,185(beleve)	12,182(tie)	15
	1-6	15,340	2,337(piece)	13,003(lies)	15
8. Words having double <u>e</u> usually have the long <u>e</u> sound.	1-3	2,753	2,467(kneel)	286(been)	90
	4-6	23,137	19,825(freeze)	3,312(beer)	86
	1-6	25,890	22,292(street)	3,598(queer)	89
9. When words end with silent <u>e</u> , the preceding <u>a</u> or <u>i</u> is long.	1-3	8,109	4,430(hike)	3,679(give)	55
	4-6	85,738	45,712(page)	40,026(care)	53
	1-6	93,847	50,142(haze)	43,705(have)	53
10. In <u>ay</u> the <u>y</u> is silent and gives <u>a</u> its long sound.	1-3	1,728	1,728(stay)	0	100
	4-6	14,182	14,099(may)	83(says)	99
	1-6	15,910	15,827(pay)	83(prayer)	99
11. When the letter <u>i</u> is followed by the letters <u>gh</u> , the <u>i</u> usually stands for its long sound and the <u>gh</u> is silent.	1-3	612	503(light)	109(weight)	82
	4-6	7,180	6,253(blight)	927(eight)	87
	1-6	7,792	6,756(night)	1,036(freight)	87
12. When <u>a</u> follows <u>w</u> in a word, it usually has the sound of <u>a</u> as in <u>was</u> .	1-3	3,147	1,352(want)	1,795(awake)	43
	4-6	31,048	17,367(watch)	13,681(wax)	56
	1-6	34,195	18,719(wash)	15,476(wait)	55
13. When <u>e</u> is followed by <u>w</u> the vowel sound is the same as represented by <u>oo</u> .	1-3	463	131(drew)	332(few)	28
	4-6	6,445	1,385(flew)	5,060(stew)	21
	1-6	6,908	1,516(grew)	5,392(sew)	22

TABLE 2--CONTINUED

Generalization	Grade Levels	Total Number of Words	Number of Conformations	Number of Exceptions	Per Cent of Utility
14. The two letters <u>ow</u> make the long <u>o</u> sound.	1-3	3,269	1,604(know)	1,665(brown)	49
	4-6	28,156	16,197(row)	11,959(cow)	58
	1-6	31,425	17,801(owe)	13,624(how)	57
15. <u>W</u> is sometimes a vowel and follows the vowel digraph rule.	1-3	3,460	1,587(grow)	1,873(knew)	46
	4-6	34,541	15,801(own)	18,740(blew)	46
	1-6	38,001	17,388(known)	20,613(lawn)	46
16. When <u>y</u> is the final letter in a word, it usually has a vowel sound.	1-3	6,540	2,310(any)	4,230(pay)	35
	4-6	58,604	28,869(carry)	29,735(stay)	49
	1-6	65,144	31,179(glory)	33,965(money)	48
17. When <u>y</u> is used as a vowel in words, it sometimes has the sound of long <u>i</u> .	1-3	13,235	758(cry)	12,477(many)	6
	4-6	88,972	10,050(my)	78,922(story)	11
	1-6	102,207	10,808(ply)	91,399(firmly)	11
18. The letter <u>a</u> has the same sound (<u>o</u>) when followed by <u>l</u> , <u>w</u> , and <u>u</u> .	1-3	3,359	1,865(call)	1,494(calf)	55
	4-6	41,652	22,319(walk)	19,333(tales)	54
	1-6	45,011	24,184(cause)	20,827(sale)	54
19. When <u>a</u> is followed by <u>r</u> and final <u>e</u> , we expect to hear the sound heard in <u>care</u> .	1-3	1,554	103(share)	1,451(are)	7
	4-6	14,860	627(hare)	14,233(are)	4
	1-6	16,414	730(bare)	15,684(are)	4

TABLE 2--CONTINUED

Generalization	Grade Levels	Total Number of Words	Number of Conformations	Number of Exceptions	Per Cent of Utility
20. When <u>c</u> and <u>h</u> are next to each other, they make only one sound.	1-3	2,501	2,501(lunch)	0	100
	4-6	24,225	24,225(chick)	0	100
	1-6	26,726	26,726(chain)	0	100
21. <u>Ch</u> is usually pronounced as it is in <u>kitchen</u> , <u>catch</u> , and <u>chair</u> , not like <u>sh</u> .	1-3	2,501	1,880(touch)	621(chute)	76
	4-6	24,225	21,572(much)	2,653(machine)	90
	1-6	26,726	23,452(change)	3,274(mustache)	89
22. When <u>c</u> is followed by <u>e</u> or <u>i</u> , the sound <u>s</u> is likely to be heard.	1-3	2,322	2,161(nice)	161(ocean)	93
	4-6	22,930	21,046(recent)	1,884(social)	92
	1-6	25,252	23,207(once)	2,045(social)	92
23. When the letter <u>c</u> is followed by <u>o</u> or <u>a</u> , the sound of <u>k</u> is likely to be heard.	1-3	3,931	3,931(care)	0	100
	4-6	42,160	42,160(corral)	0	100
	1-6	46,091	46,091(catch)	0	100
24. The letter <u>g</u> often has a sound similar to that of <u>j</u> in <u>jump</u> when it precedes the letters <u>i</u> or <u>e</u> .	1-3	1,738	984(rage)	754(give)	57
	4-6	25,549	20,385(gem)	5,164(get)	80
	1-6	27,287	21,369(region)	5,918(gill)	78
25. When <u>ght</u> is seen in a word, <u>gh</u> is silent.	1-3	564	564(flight)	0	100
	4-6	7,149	7,149(might)	0	100
	1-3	7,713	7,213(sight)	0	100
26. When a word begins <u>kn</u> , the <u>k</u> is silent.	1-3	289	289(knot)	0	100
	4-6	3,392	3,392(kneel)	0	100
	1-6	3,681	3,681(knife)	0	100

TABLE 2--CONTINUED

Generalization	Grade Levels	Total Number of Words	Number of Conformations	Number of Exceptions	Per Cent of Utility
27. When a word begins with <u>wr</u> , the <u>w</u> is silent.	1-3	72	72(wrong)	0	100
	4-6	1,462	1,462(write)	0	100
	1-6	1,534	1,534(wrists)	0	100
28. When two of the same consonants are side by side, only one is heard.	1-3	6,733	6,733(middle)	0	100
	4-6	72,742	72,012(funny)	730(accept)	99
	1-6	79,475	78,745(dinner)	730(succeed)	99
29. When a word ends in <u>ck</u> , it has the same last sound as in <u>look</u> .	1-3	675	675(chick)	0	100
	4-6	8,721	8,721(lock)	0	100
	1-6	9,396	9,396(luck)	0	100
30. In most two-syllable words, the first syllable is accented.	1-3	21,786	19,292(pony)	2,494(about)	89
	4-6	250,302	211,489(chosen)	38,813(remind)	84
	1-6	272,088	230,781(barber)	41,307(across)	85
31. If <u>a</u> , <u>in</u> , <u>re</u> , <u>de</u> , <u>ex</u> , or <u>be</u> is the first syllable in a word, it is usually unaccented.	1-3	2,959	2,275(begin)	684(area)	82
	4-6	47,978	37,985(design)	9,993(acres)	79
	1-6	50,937	40,260(request)	10,677(extra)	79
32. In most two syllable words that end in a consonant followed by <u>y</u> , the first syllable is accented and the last is unaccented.	1-3	1,903	1,877(many)	26(reply)	99
	4-6	22,532	22,415(plenty)	117(supply)	99
	1-6	24,435	24,292(copy)	143(apply)	99
33. One vowel letter in an accented syllable has its short sound.	1-3	20,801	9,533(cabin)	11,268(marker)	46
	4-6	258,351	131,455(little)	126,896(fable)	51
	1-6	279,152	140,988(better)	138,164(sirens)	51

TABLE 2--CONTINUED

Generalization	Grade Levels	Total Number of Words	Number of Conformations	Number of Exceptions	Per Cent of Utility
34. When <u>y</u> or <u>ey</u> is seen in the last syllable that is not accented, the long sound of <u>e</u> is heard.	1-3	4,050	0	4,050(marry)	0
	4-6	41,757	0	41,757(funny)	0
	1-6	45,807	0	45,807(jolly)	0
35. When <u>ture</u> is the final syllable in a word, it is unaccented.	1-3	353	353(mixture)	0	100
	4-6	3,424	3,424(capture)	0	100
	1-6	3,777	3,777(picture)	0	100
36. When <u>tion</u> is the final syllable in a word, it is unaccented.	1-3	339	339(addition)	0	100
	4-6	5,626	5,626(mention)	0	100
	1-6	5,965	5,965(question)	0	100
37. In many two- and three-syllable words, the final <u>e</u> lengthens the vowel in the last syllable.	1-3	1,274	519(profile)	755(purchase)	41
	4-6	21,242	9,813(remote)	11,429(fortune)	46
	1-6	22,516	10,332(refuse)	12,184(lecture)	46
38. If the first vowel sound in a word is followed by two consonants, the first syllable usually ends with the first of the two consonants.	1-3	11,345	7,155(wander)	4,190(packets)	63
	4-6	150,237	106,931(winter)	43,306(reflect)	71
	1-6	161,582	114,086(worry)	47,496(mother)	71

TABLE 2--CONTINUED

Generalization	Grade Levels	Total Number of Words	Number of Conformations	Number of Exceptions	Per Cent of Utility
39. If the first vowel sound in a word is followed by a single consonant, that consonant usually begins the second syllable.	1-3	14,243	6,489(began)	7,754(many)	46
	4-6	170,914	86,069(basis)	84,845(chisel)	50
	1-6	185,157	92,558(relax)	92,599(damage)	50
40. If the last syllable of a word ends in <u>le</u> , the consonant preceding the <u>le</u> usually begins the last syllable.	1-3	385	114(trouble)	271(buckle)	30
	4-6	5,860	2,557(uncle)	3,303(puddle)	44
	1-6	6,245	2,671(table)	3,574(trickle)	43
41. When the first vowel element in a word is followed by <u>th</u> , <u>ch</u> or <u>sh</u> , these symbols are not broken when the word is divided into syllables and may go with either the first or second syllable.	1-3	1,513	1,513(richer)	0	100
	4-6	12,962	12,962(whether)	0	100
	1-6	14,475	14,475(brother)	0	100
42. In a word of more than one syllable, the letter <u>y</u> usually goes with the preceding vowel to form a syllable.	1-3	1,478	1,159(cover)	319(over)	78
	4-6	24,209	18,619(seven)	5,590(devour)	77
	1-6	25,687	19,778(every)	5,909(oval)	77

TABLE 2--CONTINUED

Generalization	Grade Levels	Total Number of Words	Number of Conformations	Number of Exceptions	Per Cent of Utility
43. When a word has only one vowel letter, the vowel sound is likely to be short.	1-3	60,654	35,600(bill)	25,054(mind)	59
	4-6	587,374	381,237(melt)	206,137(climb)	65
	1-6	648,028	416,837(lick)	231,191(loss)	64
44. When there is one <u>e</u> in a word that ends in a consonant, the <u>e</u> usually has a short sound.	1-3	6,524	2,356(men)	4,168(before)	36
	4-6	58,211	20,166(spends)	38,045(her)	35
	1-6	64,735	22,522(shelf)	42,213(threw)	35
45. When the last syllable is the sound <u>r</u> , it is unaccented.	1-3	6,741	6,391(better)	350(before)	95
	4-6	73,575	69,338(idler)	4,237(inspire)	94
	1-6	80,316	75,729(hunger)	4,587(alert)	94

57

^aWords in parentheses are examples of words that conform or of exceptions.

^bFigures in parentheses indicate specific applications of the generalization.

and 20,038 exceptions, resulting in a utility of 34 per cent. There was a total of 302,315 occurrences in grades four through six, with 100,184 conformations and 202,131 exceptions, resulting in a utility of 33 per cent. There was a total of 332,722 occurrences in grades one through six, with 110,553 conformations and 222,169 exceptions, resulting in a utility of 33 per cent.

Generalization 2. Generalization 2 states, "when a vowel is in the middle of a one-syllable word, the vowel is short." This generalization has three sub-groups which were concerned with the position of the vowel in relation to the length of the word. These three sub-groups are: middle letter; one of the middle two letters in a word of four letters; and one vowel within a word of more than four letters.

There was a total frequency of 25,448 occurrences in grades one through three, with 16,586 conformations and 8,862 exceptions, resulting in a utility of 65 per cent. There was a total frequency of 7,760 occurrences in the first sub-group concerned with the middle letter, with 4,668 conformations and 3,092 exceptions, resulting in a utility of 60 per cent. There was a total frequency of 13,330 occurrences in the second sub-group, with 9,330 conformations and 4,000 exceptions, resulting in a utility of 70 per cent. There was a total frequency of 4,358 occurrences in the third sub-group, with 2,588 conformations and 1,770 exceptions, resulting in a utility of 59 per cent.

There was a total frequency of 264,919 occurrences in grades four through six, with 181,399 conformations and 83,520 exceptions, resulting in a utility of 68 per cent. There was a total frequency of 87,031 occurrences in the first sub-group, with 57,420 conformations and 29,611 exceptions,

resulting in a utility of 66 per cent. There was a total frequency of 132,665 occurrences in the second sub-group, with 99,046 conformations and 33,619 exceptions, resulting in a utility of 75 per cent. In this study, there was a total frequency of 45,223 occurrences in the third sub-group, with 24,933 conformations and 20,290 exceptions, resulting in a utility of 55 per cent.

In this investigation, there was a total frequency of 290,367 occurrences in grades one through six, with 197,985 conformations and 92,382 exceptions, resulting in a utility of 67 per cent. There was a total frequency of 94,791 occurrences in the first sub-group, with 62,088 conformations and 32,703 exceptions, resulting in a utility of 65 per cent. There was a total frequency of 145,995 occurrences in the second sub-group, with 108,376 conformations and 37,619 exceptions, resulting in a utility of 74 per cent. There was a total frequency of 49,581 occurrences in the third sub-group, with 27,521 conformations and 22,060 exceptions, resulting in a utility of 56 per cent.

Generalization 3. Generalization 3 states, "if the only vowel letter is at the end of a word, the letter usually stands for a long sound.

In this investigation, there was a total frequency of 9,424 occurrences for grades one through three, with 3,867 conformations and 5,557 exceptions, resulting in a utility of 41 per cent. There was a total frequency of 68,186 occurrences in grades four through six, with 25,188 conformations and 42,998 exceptions, resulting in a utility of 37 per cent. In this study, there was a total frequency

of 77,610 occurrences in grades one through six, with 29,055 conformations and 48,555 exceptions, resulting in a utility of 37 per cent.

Generalization 4. Generalization 4 states, "when there are two vowels, one of which is final e, the first vowel is long and the e is silent."

There was a total frequency of 13,223 occurrences in grades one through three, with 5,776 conformations and 7,447 exceptions, resulting in a utility of 44 per cent. There was a total frequency of 120,083 occurrences in grades four through six, with 52,039 conformations and 68,044 exceptions, resulting in a utility of 43 per cent. There was a total frequency of 133,306 occurrences in grades one through six, with 57,815 conformations and 75,491 exceptions, resulting in a utility of 43 per cent.

Generalization 5. Generalization 5 states, "the r gives the preceding vowel a sound that is neither long nor short."

There was a total frequency of 23,334 occurrences in grades one through three, with 21,157 conformations and 2,177 exceptions, resulting in a utility of 91 per cent. There was a total frequency of 246,665 occurrences in grades four through six, with 223,876 conformations and 22,789 exceptions, resulting in a utility of 91 per cent. There was a total frequency of 269,999 occurrences in grades one through six, with 245,033 conformations and 24,966 exceptions, resulting in a utility of 91 per cent.

Generalization 6. Generalization 6 states, "the first vowel is usually long and the second silent in the digraphs ai, ea, oa, and ui."

The sub-groups of ai, ea, oa, and ui were compiled and their totals will be given, as well as the grand totals for this generalization.

There was a total frequency of 7,106 occurrences for grades one through three, with 3,624 conformations and 3,482 exceptions, resulting in a utility of 51 per cent. In the sub-group ai, there was a total frequency of 2,378 occurrences, with 811 conformations and 1,567 exceptions, resulting in a utility of 34 per cent. There was a total frequency of 3,179 occurrences in the sub-group ea, with 2,147 conformations and 1,032 exceptions, resulting in a utility of 68 per cent. There was a total frequency of 690 occurrences for sub-group oa, with 665 conformations and 25 exceptions, resulting in a utility of 96 per cent. There was a total frequency of 859 occurrences in the sub-group ui, with 1 conformation and 858 exceptions, resulting in a utility of 0 per cent.

There was a total frequency of 70,470 occurrences in grades four through six, with 43,552 conformations and 26,918 exceptions, resulting in a utility of 62 per cent. There was a total frequency of 17,020 occurrences in the sub-group ai, with 10,046 conformations and 6,974 exceptions, resulting in a utility of 59 per cent. There was a total frequency of 41,927 occurrences in sub-group ea, with 27,844 conformations and 14,083 exceptions, resulting in a utility of 66 per cent. There was a total frequency of 6,009 occurrences in sub-group oa, with 5,514 conformations and 495 exceptions, resulting in a utility of 92 per cent. There was a total frequency of 5,514 occurrences in the sub-group ui, with 148 conformations and 5,366 exceptions, resulting in a utility of 3 per cent.

There was a total frequency of 77,576 occurrences in grades one

through six, with 47,176 conformations and 30,400 exceptions, resulting in a utility of 61 per cent. There was a total frequency of 19,398 occurrences in the sub-group ai, with 10,857 conformations and 8,541 exceptions, resulting in a utility of 56 per cent. There was a total frequency of 45,106 occurrences in sub-group ea, with 29,991 conformations and 15,115 exceptions, resulting in a utility of 66 per cent. There was a total frequency of 6,699 occurrences in sub-group oa, with 6,179 conformations and 520 exceptions, resulting in a utility of 92 per cent. There was a total frequency of 6,373 occurrences in sub-group ui, with 149 conformations and 6,224 exceptions, resulting in a utility of 2 per cent.

Generalization 7. Generalization 7 states, "in the phonogram ie, the i is silent and the e has a long sound."

There was a total frequency of 973 occurrences in grades one through three, with 152 conformations and 821 exceptions, resulting in a utility of 16 per cent. There was a total frequency of 14,367 occurrences, with 2,185 conformations and 12,182 exceptions, resulting in a utility of 15 per cent. There was a total frequency of 15,340 occurrences in grades one through six, with 2,337 conformations and 13,003 exceptions, resulting in a utility of 15 per cent.

Generalization 8. Generalization 8 states, "words having double e usually have the long e sound."

There was a total frequency of 2,753 occurrences for grades one through three, with 2,467 conformations and 286 exceptions, resulting in a utility of 90 per cent. There was a total frequency of 23,137 occurrences in grades four through six, with 19,825 conformations and 3,312 exceptions, resulting in a utility of 86 per cent. There was a total

frequency of 25,890 occurrences in grades one through six, with 22,292 conformations and 3,598 exceptions, resulting in a utility of 89 per cent.

Generalization 9. Generalization 9 states, "when words end with silent e, the preceding a or i is long."

There was a total frequency of 8,109 occurrences in grades one through three, with 4,430 conformations and 3,679 exceptions, resulting in a utility of 55 per cent. There was a total frequency of 85,738 occurrences in grades four through six, with 45,712 conformations and 40,026 exceptions, resulting in a utility of 53 per cent. There was a total frequency of 93,847 occurrences in grades one through six, with 50,142 conformations and 43,705 exceptions, resulting in a utility of 53 per cent.

Generalization 10. Generalization 10 states, "in ay the y is silent and gives a its long sound."

There was a total frequency of 1,728 occurrences in grades one through three, with 1,728 conformations and no exceptions, resulting in a utility of 100 per cent. There was a total frequency of 14,182 occurrences in grades four through six, with 14,099 occurrences conformations and 83 exceptions, resulting in a utility of 99 per cent. There was a total frequency of 15,910 occurrences in grades one through six, with 15,827 conformations and 83 exceptions, resulting in a utility of 99 per cent.

Generalization 11. Generalization 11 states, "when the letter i is followed by the letters gh, the i usually stands for its long sound and the gh is silent."

There was a total frequency of 612 occurrences in grades one through three, with 503 conformations and 109 exceptions, resulting in a utility of

82 per cent. There was a total frequency of 7,180 occurrences in grades four through six, with 6,253 conformations and 927 exceptions, resulting in a utility of 87 per cent. There was a total frequency of 7,792 occurrences in grades one through six, with 6,756 conformations and 1,036 exceptions, resulting in a utility of 87 per cent.

Generalization 12. Generalization 12 states, "when a follows w in a word, the a usually has the sound of a as in was."

There was a total frequency of 3,147 occurrences in grades one through three, with 1,352 conformations and 1,795 exceptions, resulting in a utility of 43 per cent. There was a total frequency of 31,048 occurrences in grades four through six, with 17,367 conformations and 13,681 exceptions, resulting in a utility of 56 per cent. There was a total frequency of 34,195 occurrences in grades one through six, with 18,719 conformations and 15,476 exceptions, resulting in a utility of 55 per cent.

Generalization 13. Generalization 13 states, "when e is followed by w, the vowel sound is the same as represented by oo."

There was a total frequency of 463 occurrences in grades one through three, with 131 conformations and 332 exceptions, resulting in a utility of 28 per cent. There was a total frequency of 6,445 occurrences in grades four through six, with 1,385 conformations and 5,060 exceptions, resulting in a utility of 21 per cent. There was a total frequency of 6,908 occurrences in grades one through six, with 1,516 conformations and 5,392 exceptions, resulting in a utility of 22 per cent.

Generalization 14. Generalization 14 states, "the two letters ow make the long o sound."

There was a total frequency of 3,269 occurrences in grades one through three, with 1,604 conformations and 1,665 exceptions, resulting in a utility of 49 per cent. There was a total frequency of 28,156 occurrences in grades four through six, with 16,197 conformations and 11,959 exceptions, resulting in a utility of 58 per cent. There were 31,425 occurrences in grades one through six, with 17,801 conformations and 13,624 exceptions, resulting in a utility of 57 per cent.

Generalization 15. Generalization 15 states, "w is sometimes a vowel and follows the vowel digraph rule."

There was a total frequency of 3,460 occurrences in grades one through three, with 1,587 conformations and 1,873 exceptions, resulting in a utility of 46 per cent. There was a total frequency of 34,541 occurrences in grades four through six, with 15,801 conformations and 18,740 exceptions, resulting in a utility of 46 per cent. There was a total frequency of 38,001 occurrences in grades one through six, with 17,388 conformations and 20,613 exceptions, resulting in a utility of 46 per cent.

Generalization 16. Generalization 16 states, "when y is the final letter in a word, it usually has a vowel sound."

There was a total frequency of 6,540 occurrences in grades one through three, with 2,310 conformations and 4,230 exceptions, resulting in a utility of 35 per cent. There was a total frequency of 58,604 occurrences in grades four through six, with 28,869 conformations and 29,735 exceptions, resulting in a utility of 49 per cent. There was a total frequency of 65,144 occurrences in grades one through six, with 31,179 conformations and 33,965 exceptions, resulting in a utility of 48 per cent.

Generalization 17. Generalization 17 states, "when y is used as a vowel in words, it sometimes has the sound of long i."

There was a total frequency of 13,235 occurrences in grades one through three, with 758 conformations and 12,477 exceptions, resulting in a utility of 6 per cent. There was a total frequency of 88,972 occurrences in grades four through six, with 10,050 conformations and 78,922 exceptions, resulting in a utility of 11 per cent. There was a total frequency of 102,207 occurrences in grades one through six, with 10,808 conformations and 91,399 exceptions, resulting in a utility of 11 per cent.

Generalization 18. Generalization 18 states, "the letter a has the same sound (\hat{o}) when followed by l, w, and u."

There was a total frequency of 3,359 occurrences in grades one through three, with 1,865 conformations and 1,494 exceptions, resulting in a utility of 55 per cent. There was a total frequency of 41,652 occurrences in grades four through six, with 22,319 conformations and 19,333 exceptions, resulting in a utility of 54 per cent. There was a total frequency of 45,011 occurrences in grades one through six, with 24,184 conformations and 20,827 exceptions, resulting in a utility of 54 per cent.

Generalization 19. Generalization 19 states, "when a is followed by r and final e, we expect to hear the sound heard in care."

There was a total frequency of 1,554 occurrences in grades one through three, with 103 conformations and 1,451 exceptions, resulting in a utility of 7 per cent. There was a total frequency of 14,860 occurrences in grades four through six, with 627 conformations and 14,233 exceptions, resulting in a utility of 4 per cent. There was a total frequency of 16,414 occurrences

in grades one through six, with 730 conformations and 15,684 exceptions, resulting in a utility of 4 per cent.

Generalization 20. Generalization 20 states, "when c and h are next to each other, they make only one sound."

There was a total frequency of 2,501 occurrences in grades one through three, 24,255 occurrences in grades four through six, and 26,726 occurrences in grades one through six. There were no exceptions to this generalizations, resulting in a 100 per cent utility.

Generalization 21. Generalization 21 states, "ch is usually pronounced as it is in kitchen, catch, and chair, not like sh."

There was a total frequency of 2,501 occurrences in grades one through three, with 1,880 conformations and 621 exceptions, resulting in a utility of 76 per cent. There was a total frequency of 24,255 occurrences in grades four through six, with 21,572 conformations and 2,653 exceptions, resulting in a utility of 90 per cent. There was a total frequency of 26,726 occurrences in grades one through six, with 23,452 conformations and 3,274 exceptions, resulting in a utility of 89 per cent.

Generalization 22. Generalization 22 states, "when c is followed by e or i, the sound of s is likely to be heard."

There was a total frequency of 2,322 occurrences in grades one through three, with 2,161 conformations and 161 exceptions, resulting in a utility of 93 per cent. There was a total frequency of 22,930 occurrences in grades four through six, with 21,046 conformations and 1,884 exceptions, resulting in a utility of 92 per cent. There was a total frequency of 25,252 occurrences in grades one through six, with 23,207 conformations and 2,045 exceptions, resulting in a utility of 92 per cent.

Generalization 23. Generalization 23 states, "when the letter c is followed by o or a, the sound of k is likely to be heard."

There was a total frequency of 3,931 occurrences in grades one through three, 42,160 occurrences in grades four through six, and 46,091 occurrences in grades one through six. There were no exceptions to this generalization, resulting in a utility of 100 per cent.

Generalization 24. Generalization 24 states, "the letter g often has a sound similar to that of j in jump when it precedes the letter i or e."

There was a total frequency of 1,738 occurrences in grades one through three, 984 conformations and 754 exceptions, resulting in a utility of 57 per cent. There was a total frequency of 25,549 occurrences in grades four through six, with 20,385 conformations and 5,164 exceptions, resulting in a utility of 80 per cent. There was a total frequency of 27,287 occurrences in grades one through six, with 21,369 conformations and 5,918 exceptions, resulting in a utility of 78 per cent.

Generalization 25. Generalization 25 states, "when ght is seen in a word, gh is silent."

There was a total frequency of 564 occurrences in grades one through three, 7,149 occurrences in grades four through six, and 7,713 occurrences in grades one through six. There were no exceptions to this generalization, resulting in a utility of 100 per cent.

Generalization 26. Generalization 26 states, "when a word begins kn, the k is silent."

There was a total frequency of 289 occurrences in grades one through three, 3,392 occurrences in grades four through six, and 3,681 occurrences

in grades one through six. There were no exceptions to this generalization, resulting in a utility of 100 per cent.

Generalization 27. Generalization 27 states, "when a word begins with wr, the w is silent."

There was a total frequency of 72 occurrences in grades one through three, 1,462 occurrences in grades four through six, and 1,534 occurrences in grades one through six. There were no exceptions to this generalization, resulting in a 100 per cent utility.

Generalization 28. Generalization 28 states, "when two of the same consonants are side by side, only one is heard."

There was a total frequency of 6,733 occurrences in grades one through three, with 6,733 conformations and no exceptions, resulting in a utility of 100 per cent. There was a total frequency of 72,742 occurrences in grades four through six, with 72,012 conformations and 730 exceptions, resulting in a utility of 99 per cent. There was a total frequency of 79,475 occurrences in grades one through six, with 78,745 conformations and 730 exceptions, resulting in a utility of 99 per cent.

Generalization 29. Generalization 29 states, "when a word ends in ck, it has the same last sound as in look."

There was a total frequency of 675 occurrences in grades one through three, 8,721 occurrences in grades four through six, and 9,396 occurrences in grades one through six. There were no exceptions to this generalization, resulting in a utility of 100 per cent.

Generalization 30. Generalization 30 states, "in most two-syllable words, the first syllable is accented."

There was a total frequency of 21,786 occurrences in grades one through three, with 19,292 conformations and 2,494 exceptions, resulting in a utility of 89 per cent. There was a total frequency of 250,302 occurrences in grades four through six, with 211,489 conformations and 38,813 exceptions, resulting in a utility of 84 per cent. There was a total frequency of 272,088 occurrences in grades one through six, with 230,781 conformations and 41,307 exceptions, resulting in a utility of 85 per cent.

Generalization 31. Generalization 31 states, "if a, in, re, ex, de, or be is the first syllable in a word, it is usually unaccented."

There was a total frequency of 2,959 occurrences in grades one through three, with 2,275 conformations and 684 exceptions, resulting in a utility of 82 per cent. There was a total frequency of 47,978 occurrences in grades four through six, with 37,985 conformations and 9,993 exceptions, resulting in a utility of 79 per cent. There was a total frequency of 50,937 occurrences in grades one through six, with 40,260 conformations and 10,677 exceptions, resulting in a utility of 79 per cent.

Generalization 32. Generalization 32 states, "in most two syllable words that end in a consonant followed by y, the first syllable is accented and the last is unaccented."

There was a total frequency of 1,903 occurrences in grades one through three, with 1,877 conformations and 26 exceptions, resulting in a utility of 99 per cent. There was a total frequency of 22,532 occurrences in grades four through six, with 22,415 conformations and 117 exceptions, resulting in a utility of 99 per cent. There was a total frequency of

24,435 occurrences in grades one through six, with 24,292 conformations and 143 exceptions, resulting in a utility of 99 per cent.

Generalization 33. Generalization 33 states, "one vowel letter in an accented syllable has its short sound."

There was a total frequency of 20,801 occurrences in grades one through three, with 9,533 conformations and 11,268 exceptions, resulting in a utility of 46 per cent. There was a total frequency of 258,351 occurrences in grades four through six, with 131,455 conformations and 126,896 exceptions, resulting in a utility of 51 per cent. There was a total frequency of 279,152 occurrences in grades one through six, with 140,988 conformations and 138,164 exceptions, resulting in a utility of 51 per cent.

Generalization 34. Generalization 34 states, "when y or ey is seen in the last syllable in a word that is not accented, the long sound of e is heard."

There was a total frequency of 4,050 occurrences in grades one through three, 41,757 occurrences in grades four through six, and 45,807 occurrences in grades one through six. There were no conformations to this generalizations, resulting in a utility of 0 per cent.

Generalization 35. Generalization 35 states, "when ture is the final syllable in a word, it is unaccented."

There was a total frequency of 353 occurrences in grades one through three, 3,424 occurrences in grades four through six, and 3,777 occurrences in grades one through six. There were no exceptions for this generalization, resulting in a utility of 100 per cent.

Generalization 36. Generalization 36, "when tion is the final syllable in a word, it is unaccented."

There was a total frequency of 339 occurrences in grades one through three, 5,626 occurrences in grades four through six, and 5,965 occurrences in grades one through six. There were no exceptions to this generalization, resulting in a utility of 100 per cent.

Generalization 37. Generalization 37 states, "in many two- and three-syllable words, the final e lengthens the vowel in the last syllable."

There was a total frequency of 1,274 occurrences in grades one through three, with 519 conformations and 755 exceptions, resulting in a 41 per cent utility. There was a total frequency of 21,242 occurrences in grades four through six, with 9,813 conformations and 11,429 exceptions, resulting in a utility of 46 per cent. There was a total frequency of 22,516 occurrences in grades one through six, with 10,332 conformations and 12,184 exceptions, resulting in a utility of 46 per cent.

Generalization 38. Generalization 38 states, "if the first vowel sound in a word is followed by two consonants, the first syllable usually ends with the first of the two consonants."

There was a total frequency of 11,345 occurrences in grades one through three, with 7,155 conformations and 4,190 exceptions, resulting in a utility of 63 per cent. There was a total frequency of 150,237 occurrences in grades four through six, with 106,931 conformations and 43,306 exceptions, resulting in a utility of 71 per cent. There was a total frequency of 161,582 occurrences in grades one through six, with 114,086 conformations and 47,496 exceptions, resulting in a utility of 71 per cent.

Generalization 39. Generalization 39 states, "if the first vowel sound in a word is followed by one consonant, that consonant usually begins the second syllable."

There was a total frequency of 14,243 occurrences in grades one through three, with 6,489 conformations and 7,754 exceptions, resulting in a utility of 46 per cent. There was a total frequency of 170,914 occurrences in grades four through six, with 86,069 conformations and 84,845 exceptions, resulting in a utility of 50 per cent. There was a total frequency of 185,157 occurrences in grades one through six, with 92,558 conformations and 92,599 exceptions, resulting in a utility of 50 per cent.

Generalization 40. Generalization 40 states, "if the last syllable ends in le, the consonant preceding the le usually begins the last syllable."

There was a total frequency of 385 occurrences in grades one through three, with 114 conformations and 271 exceptions, resulting in a utility of 30 per cent. There was a total frequency of 5,860 occurrences in grades four through six, with 2,557 conformations and 3,303 exceptions, resulting in a utility of 44 per cent. There was a total frequency of 6,245 occurrences in grades one through six, with 2,671 conformations and 3,574 exceptions, resulting in a utility of 43 per cent.

Generalization 41. Generalization 41 states, "when the first vowel element in a word is followed by th, ch, or sh, these symbols are not broken when the word is divided into syllables and may go with either the first or second syllable."

There was a total frequency of 1,513 occurrences in grades one through three, 12,962 occurrences in grades four through six, and 14,475 occurrences

in grades one through six. There were no exceptions to this generalization, resulting in a utility of 100 per cent.

Generalization 42. Generalization 42, "in a word of more than one syllable, the letter y usually goes with the preceding vowel to form a syllable."

There was a total frequency of 1,478 occurrences in grades one through three, with 1,159 conformations and 319 exceptions, resulting in a utility of 78 per cent. There was a total frequency of 24,209 occurrences in grades four through six, with 18,619 conformations and 5,590 exceptions, resulting in a utility of 77 per cent. There was a total frequency of 25,687 occurrences in grades one through six, with 19,778 conformations and 5,909 exceptions, resulting in a utility of 77 per cent.

Generalization 43. Generalization 43 states, "when a word has only one vowel letter, the vowel sound is likely to be short."

There was a total frequency of 60,654 occurrences in grades one through three, with 35,600 conformations and 25,054 exceptions, resulting in a utility of 59 per cent. There was a total frequency of 587,374 occurrences in grades four through six, with 381,237 conformations and 206,137 exceptions, resulting in a utility of 65 per cent. There was a total frequency of 648,028 occurrences in grades one through six, with 416,837 conformations and 231,191 exceptions, resulting in a utility of 64 per cent.

Generalization 44. Generalization 44 states, "when there is one e in a word that ends in a consonant, the e usually has a short sound."

There was a total frequency of 6,524 occurrences in grades one through three, with 2,356 conformations and 4,168 exceptions, resulting in a utility

of 36 per cent. There was a total frequency of 58,211 occurrences in grades four through six, with 20,166 conformations and 38,045 exceptions, resulting in a 35 per cent utility. There was a total frequency of 64,735 occurrences in grades one through six, with 22,522 conformations and 42,213 exceptions, resulting in a utility of 35 per cent.

Generalization 45. Generalization 45 states, "when the last syllable is the sound r, it is unaccented."

There was a total frequency of 6,741 occurrences in grades one through three, with 6,391 conformations and 350 exceptions, resulting in a utility of 95 per cent. There was a total frequency of 73,575 occurrences in grades four through six, with 69,338 conformations and 4,237 exceptions, resulting in a utility of 94 per cent. There was a total frequency of 80,316 occurrences in grades one through six, with 75,729 conformations and 4,587 exceptions, resulting in a utility of 94 per cent.

Summary

This chapter was concerned with the frequency of occurrences of both technical and non-technical words and the utility of forty-five generalizations when applied to these occurrences taken from nineteen social studies textbooks.

Eleven generalizations (10, 20, 23, 25, 26, 27, 28, 29, 35, 36, 41) had one hundred per cent utility in grades one through three. Ten other generalizations (5, 8, 11, 21, 22, 30, 31, 32, 42, 45) had greater than seventy-five per cent utility. Those generalizations having between fifty per cent utility and seventy-four per cent utility are 2, 6, 9, 18, 24, 38, and 43. Seventeen generalizations (1, 3, 4, 7, 12, 13, 14, 15, 16, 17, 19,

33, 34, 37, 39, 40, 44) had less than fifty per cent utility for grades one through three.

Nine generalizations (20, 23, 25, 26, 27, 29, 35, 36, 41) had 100 per cent utility for grades four through six. Twelve other generalizations (5, 8, 10, 11, 21, 22, 24, 28, 30, 31, 32, 42, 45) had the minimum utility of seventy-five per cent. Those generalizations having between fifty per cent utility, but less than seventy-five per cent utility included 2, 6, 9, 12, 14, 18, 33, 38, 39, and 43. There were thirteen generalizations (1, 3, 4, 7, 13, 15, 16, 17, 19, 34, 37, 40, 44) which had less than fifty per cent utility. The generalizations for grades one through six would be categorized the same as for grades four through six.

There were nine generalizations, primarily those concerned with consonants and suffixes, had 100 per cent utility at each level.

The generalizations concerned with long vowel sounds had the lowest rate of utility at all grades levels.

Generalization 34, which was concerned with the sound of y at the end of a word, had no utility at any level.

There were twenty-two generalizations that met the requirement of 75 per cent utility in the three grade levels. Thirteen generalizations had less than 50 per cent utility at each level.

There were sixteen generalization in grades one through three which had a higher percentage of utility than the same generalization in grades four through six and one through six. Twelve generalizations had the same percentage of utility at each level.

CHAPTER V

ANALYSIS OF THE DATA OF INDIVIDUAL OCCURRENCES OF TECHNICAL WORDS

This chapter discusses the analysis of the data derived from applying the forty-five generalizations identified by Clymer¹ to individual occurrences of technical words taken from three social studies programs. A technical word is defined as one having a special meaning as it relates to the specific content being considered. Three sources were used to classify the words as technical: 1) glossaries or social studies words designated by each textbook; 2) the composite list from Parker's study²; and 3) this writer's judgment, which was used only in tenses of verbs or plurals of nouns which were designated as technical by the first two sources.

Utility of Generalizations to Technical Words

The generalizations are stated and a table containing the composite list of the forty-five generalizations will follow the discussion. This table will be divided into three groups; grades one through three, grades four through six, and grades one through six.

¹Clymer, "Utility of Phonic Generalizations," pp. 252-258.

²Jesse Joe Parker, "The Utility of Phonic Generalizations in Their Application of the History and Geography Vocabularies in Certain Specified Textbooks for Grades Four, Five, and Six," (Unpublished Ph. D. dissertation, Louisiana State University Agricultural and Mechanical College, 1968.)

Generalization 1. Generalization 1 states, "when there are two vowels side by side, the long sound of the first vowel is heard, and the second vowel is usually silent."

In this study as reported in Table 3, there was a total of 574 technical occurrences in grades one through three, with 212 conformations and 362 exceptions, resulting in a utility of 37 per cent. There was a total of 2,123 technical occurrences in grades four through six, with 702 conformations and 1,421 exceptions, resulting in a utility of 33 per cent. There was a total of 2,179 technical occurrences in grades one through six, with 723 conformations and 1,456 exceptions, resulting in a utility of 33 per cent.

Generalization 2. Generalization 2 states, "when a vowel in is the middle of a one-syllable word, the vowel is short." This generalization had three sub-groups, which were concerned with the position of the vowel in relation to the length of the word. These three sub-groups are: middle letter; one of the middle two letters in a word of four letters; and one vowel within a word of more than four letters.

There was a total of 217 technical occurrences for grades one through three, with 143 conformations and 74 exceptions, resulting in a utility of 65 per cent. There was a total of 26 technical occurrences in the first sub-group, with 22 conformations and 4 exceptions, resulting in a utility of 85 per cent. There was a total of 94 technical occurrences in the second sub-group, with 60 conformations and 34 exceptions, resulting in a utility of 64 per cent. There was a total of 97 technical occurrences in the third sub-group, with 61 conformations and 36 exceptions, resulting in a utility of 63 per cent.

TABLE 3

SUMMARY OF UTILITY OF PHONIC GENERALIZATIONS OF
INDIVIDUAL OCCURRENCES OF THE TECHNICAL WORD LIST

Generalization	Grade Levels	Total Number of Words	Number of Conformations	Number of Exceptions	Per Cent of Utility	
1. When there are two vowels side by side, the long sound of the first one is heard and the second is usually silent	1-3	574	212(coast) ^a	362(scout) ^a	37	
	4-6	2,123	702(gourds)	1,421(tour)	33	
	1-6	2,179	723(peace)	1,456(fiord)	33	
2. When a vowel is in the middle of a one-syllable word, the vowel is short.	1-3	217	143	74	65	
	4-6	554	354	200	64	
	1-6	564	363	201	64	
	middle letter	1-3	(26) ^b	(22)(nun)	(4)(car)	(85)
		4-6	(82)	(70)(rig)	(12)(urn)	(85)
		1-6	(84)	(72)(tax)	(12)(mir)	(86)
	one of the middle two letters in a word of four letters	1-3	(94)	(60)(crop)	(34)(mold)	(64)
		4-6	(226)	(136)(flax)	(90)(monk)	(60)
		1-6	(232)	(141)(tusk)	(91)(tzar)	(61)
	one vowel <u>within</u> a word of more than four letters	1-3	(97)	(61)(swift)	(36)(strong)	(63)
		4-6	(246)	(148)(shrimp)	(98)(tombs)	(60)
		1-6	(248)	(150)(script)	(98)(tolls)	(60)
3. If the only vowel letter is at the end of a word, the letter usually stands for a long sound.	1-3	1	1(fly)	0	100	
	4-6	4	3(spy)	1(pa)	75	
	1-6	4	3(sky)	1(pa)	75	

TABLE 3--CONTINUED

Generalization	Grade Levels	Total Number of Words	Number of Conformations	Number of Exceptions	Per Cent of Utility
4. When there are two vowels, one of which is final <u>e</u> , the first vowel is long and the <u>e</u> is silent.	1-3	79	66(vine)	13(fence)	86
	4-6	214	152(hide)	62(barge)	71
	1-6	215	153(code)	62(sludge)	71
5. The <u>r</u> gives the preceding vowel a sound that is neither long nor short.	1-3	457	376(scarce)	81(fire)	82
	4-6	2,244	1,872(hermit)	372(empire)	83
	1-6	2,300	1,922(sparse)	378(shire)	84
6. The first vowel is usually long and the second silent in the digraphs <u>ai</u> , <u>ea</u> , <u>oa</u> , and <u>ui</u> .	1-3	176	106	70	60
	4-6	583	312	271	54
	1-6	596	323	273	54
ai	1-3	(57)	(32)(plain)	(25)(dairy)	(56)
	4-6	(150)	(90)(maize)	(60)(air)	(60)
	1-6	(158)	(97)(aid)	(61)(fair)	(61)
ea	1-3	(73)	(42)(wheat)	(31)(shear)	(58)
	4-6	(278)	(138)(peat)	(140)(health)	(50)
	1-6	(280)	(140)(leaf)	(140)(deaths)	(50)
oa	1-3	(33)	(32)(coach)	(1)(broad)	(99)
	4-6	(96)	(83)(moat)	(13)(abroad)	(86)
	1-6	(98)	(85)(moat)	(13)(broadest)	(86)
ui	1-3	(13)	(0)	(13)(quill)	(0)
	4-6	(59)	(1)(suitable)	(58)(guilds)	(2)
	1-3	(60)	(1)(suitable)	(59)(ruins)	(2)

TABLE 3--CONTINUED

Generalization	Grade Levels	Total Number of Words	Number of Conformations	Number of Exceptions	Per Cent of Utility
7. In the phonogram <u>ie</u> , the <u>i</u> is silent and the <u>e</u> has a long sound.	1-3	33	7(field)	26(skiers)	21
	4-6	179	32(skeins)	147(spies)	18
	1-6	185	37(thieves)	148(dried)	20
8. Words having double <u>e</u> usually have the long <u>e</u> sound.	1-3	51	44(seed)	7(deer)	86
	4-6	148	130(tweed)	18(steer)	88
	1-6	158	138(sheep)	20(steers)	87
9. When words end with silent <u>e</u> , the preceding <u>a</u> or <u>i</u> is long.	1-3	131	71(range)	60(share)	54
	4-6	422	236(cape)	186(caste)	56
	1-6	433	239(cane)	194(prince)	55
10. In <u>ay</u> the <u>y</u> is silent and gives <u>a</u> its long sound.	1-3	25	25(bay)	0	100
	4-6	51	48(rayons)	3(prayers)	94
	1-6	53	50(mayor)	3(prayer)	94
11. When the letter <u>i</u> is followed by the letters <u>gh</u> , the <u>i</u> usually stands for its long sound and the <u>gh</u> is silent.	1-3	13	6(fight)	7(weight)	46
	4-6	34	26(knight)	8(freight)	76
	1-6	34	26(right)	8(eight)	76
12. When <u>a</u> follows <u>w</u> in a word, it usually has the sound of <u>a</u> as in <u>was</u> .	1-3	35	7(swamp)	28(war)	20
	4-6	116	22(washing)	94(wares)	19
	1-6	123	24(watch)	99(water)	20
13. When <u>e</u> is followed by <u>w</u> , the vowel sound is the same as represented by <u>oo</u> .	1-3	15	0	15(news)	0
	4-6	33	4(breweries)	29(sinew)	12
	1-6	35	4(brew)	31(hewn)	11

TABLE 3--CONTINUED

Generalization	Grade Levels	Total Number of Words	Number of Conformations	Number of Exceptions	Per Cent of Utility
14. The two letters <u>ow</u> make the long <u>o</u> sound.	1-3	47	25(tow)	22(plow)	53
	4-6	148	95(arrow)	53(cow)	64
	1-6	151	95(sown)	56(prows)	63
15. <u>W</u> is sometimes a vowel and follows the vowel digraph rule.	1-3	71	22(bowl)	49(laws)	31
	4-6	211	93(flows)	118(brews)	44
	1-6	214	93(mower)	121(sew)	43
16. When <u>y</u> is the final letter in a word, it usually has a vowel sound.	1-3	76	60(dairy)	16(bay)	79
	4-6	322	276(soy)	46(key)	88
	1-6	328	281(supply)	47(way)	86
17. When <u>y</u> is used as a vowel in words, it sometimes has the sound of long <u>i</u> .	1-3	123	11(dry)	112(hay)	9
	4-6	502	47(lyre)	455(pray)	9
	1-6	526	47(scythe)	479(clay)	9
18. The letter <u>a</u> has the same sound (\hat{a}) when followed by <u>l</u> , <u>w</u> , and <u>u</u> .	1-3	88	39(haul)	49(whale)	44
	4-6	362	124(spawn)	238(galleon)	34
	1-6	369	126(raw)	243(scale)	34
19. When <u>a</u> is followed by <u>r</u> and final <u>e</u> , we expect to hear the sound heard in <u>care</u> .	1-3	3	3(hardware)	0	100
	4-6	10	10(welfare)	0	100
	1-6	10	10(warfare)	0	100

TABLE 3--CONTINUED

Generalization	Grade Levels	Total Number of Words	Number of Conformations	Number of Exceptions	Per Cent of Utility
20. When <u>c</u> and <u>h</u> are next to each other, they make only one sound.	1-3	58	58(ranch)	0	100
	4-6	219	219(school)	0	100
	1-6	224	224(cheese)	0	100
21. <u>Ch</u> is usually pronounced as it is in <u>kitchen</u> , <u>catch</u> , and <u>chair</u> , not like <u>sh</u> .	1-3	58	40(church)	18(chutes)	70
	4-6	219	157(choice)	62(machine)	73
	1-6	224	161(choke)	63(machete)	73
22. When <u>c</u> is followed by <u>e</u> or <u>i</u> , the sound <u>s</u> is likely to be heard.	1-3	73	68(ice)	5(glacier)	93
	4-6	199	166(mice)	33(social)	83
	1-6	202	169(rice)	33(ancient)	84
23. When the letter <u>c</u> is followed by <u>o</u> or <u>a</u> , the sound of <u>k</u> is likely to be heard.	1-3	139	139(coke)	0	100
	4-6	533	533(cone)	0	100
	1-6	550	550(count)	0	100
24. The letter <u>g</u> often has a sound similar to that of <u>j</u> in <u>jump</u> when it precedes the letters <u>i</u> or <u>e</u> .	1-3	48	47(germs)	1(gill)	98
	4-6	187	176(merge)	11(girder)	94
	1-6	192	180(gorge)	12(geyser)	94
25. When <u>ght</u> is seen in a word, <u>gh</u> is silent.	1-3	8	8(light)	0	100
	4-6	35	35(drought)	0	100
	1-6	35	35(rights)	0	100
26. When a word begins <u>kn</u> , the <u>k</u> is silent.	1-3	2	2(knit)	0	100
	4-6	8	8(knight)	0	100
	1-6	8	8(knobs)	0	100

TABLE 3--CONTINUED

Generalization	Grade Levels	Total Number of Words	Number of Conformations	Number of Exceptions	Per Cent of Utility
27. When a word begins with <u>wr</u> , the <u>w</u> is silent.	1-3	1	1(writing)	0	100
	4-6	6	6(wrestle)	0	100
	1-6	6	6(wrought)	0	100
28. When two of the same consonants are side by side, only one is heard.	1-3	169	169(settle)	0	100
	4-6	885	881(barracks)	4(midday)	99
	1-6	908	904(impress)	4(succeed)	99
29. When a word ends in <u>ck</u> , it has the same last sound as in <u>look</u> .	1-3	59	59(dock)	0	100
	4-6	195	195(lick)	0	100
	1-6	198	198(truck)	0	100
30. In most two-syllable words, the first syllable is accented.	1-3	584	527(travel)	57(cement)	90
	4-6	2,071	1,834(linens)	237(canal)	89
	1-6	2,138	1,895(statues)	243(adopt)	89
31. If <u>a</u> , <u>in</u> , <u>re</u> , <u>de</u> , <u>ex</u> , or <u>be</u> is the first syllable in a word, it is usually unaccented.	1-3	64	56(accuse)	8(region)	88
	4-6	327	287(example)	40(acre)	88
	1-6	335	293(attend)	42(agency)	87
32. In most two syllable words that end in a consonant followed by <u>y</u> , the first syllable is accented and the last is unaccented.	1-3	18	17(rainy)	1(supply)	94
	4-6	67	66(enemy)	1(supply)	99
	1-6	69	68(jury)	1(supply)	99
33. One vowel letter in an accented syllable has its short sound.	1-3	735	399(models)	336(clothing)	54
	4-6	2,924	1,726(planets)	1,198(pilot)	59
	1-6	2,999	1,770(tenants)	1,229(merchant)	59

TABLE 3--CONTINUED

Generalization	Grade Levels	Total Number of Words	Number of Conformations	Number of Exceptions	Per Cent of Utility
34. When <u>y</u> or <u>ey</u> is seen in the last syllable that is not accented, the long sound of <u>e</u> is heard.	1-3	63	0	63(pottery)	0
	4-6	238	0	238(stony)	0
	1-6	242	0	242(ratify)	0
35. When <u>ture</u> is the final syllable in a word, it is unaccented.	1-3	10	10(picture)	0	100
	4-6	28	28(fixture)	0	100
	1-6	28	28(pasture)	0	100
36. When <u>tion</u> is the final syllable in a word, it is unaccented.	1-3	26	26(aviation)	0	100
	4-6	107	107(nation)	0	100
	1-6	113	113(relation)	0	100
37. In many two- and three-syllable words, the final <u>e</u> lengthens the vowel in the last syllable.	1-3	69	25(rescue)	44(mobile)	36
	4-6	309	157(perfume)	152(income)	51
	1-6	316	160(graphite)	156(outcaste)	51
38. If the first vowel sound in a word is followed by two consonants, the first syllable usually ends with the first of the two consonants.	1-3	440	350(invent)	90(washing)	80
	4-6	1,828	1,487(wilder)	341(worker)	81
	1-6	1,889	1,537(compose)	353(fashion)	81

TABLE 3--CONTINUED

Generalization	Grade Levels	Total Number of Words	Number of Conformations	Number of Exceptions	Per Cent of Utility
39. If the first vowel sound in a word is followed by a single consonant, that consonant usually begins the second syllable.	1-3	445	217(labor)	228(metals)	49
	4-6	1,679	818(rotates)	861(durable)	49
	1-6	1,718	836(plebian)	882(sesame)	49
40. If the last syllable of a word ends in <u>le</u> , the consonant preceding the <u>le</u> usually begins the last syllable.	1-3	13	8(cable)	5(middle)	62
	4-6	53	32(fable)	21(trestle)	60
	1-6	53	32(sable)	21(saddle)	60
41. When the first vowel element in a word is followed by <u>th</u> , <u>ch</u> , or <u>sh</u> , these symbols are not broken when the word is divided into syllables and may go with either the first or second syllable.	1-3	21	21(gushers)	0	100
	4-6	91	91(fishnets)	0	100
	1-6	91	91(machine)	0	100
42. In a word of more than one syllable, the letter <u>v</u> usually goes with the preceding vowel to form a syllable.	1-3	33	23(gravel)	10(favorable)	70
	4-6	197	128(javelin)	69(crevasse)	65
	1-6	197	128(hovels)	69(navigable)	65

TABLE 3--CONTINUED

Generalization	Grade Levels	Total Number of Words	Number of Conformations	Number of Exceptions	Per Cent of Utility
43. When a word has only one vowel letter, the vowel sound is likely to be short.	1-3	211	139(ship)	72(art)	66
	4-6	440	286(acts)	154(arc)	65
	1-6	449	294(ad)	155(comb)	65
44. When there is one <u>e</u> in a word that ends in a consonant, the <u>e</u> usually has a short sound.	1-3	104	24(gem)	80(shipped)	23
	4-6	253	54(thresh)	199(serf)	21
	1-6	255	54(debt)	201(stern)	21
45. When the last syllable is the sound <u>r</u> , it is unaccented.	1-3	215	206(melter)	9(conserves)	96
	4-6	796	742(miner)	54(frontier)	94
	1-6	821	767(rudder)	54(endure)	94

^aWords in parentheses are examples of words that conform or of exceptions.

^bFigures in parentheses indicate specific applications of the generalization.

There was a total of 554 technical occurrences in grades four through six, with 354 conformations and 200 exceptions, resulting in a utility of 64 per cent. There was a total of 82 technical occurrences in the first sub-group, with 70 conformations and 12 exceptions, resulting in a utility of 85 per cent. There was a total of 226 technical occurrences in the second sub-group, with 136 conformations and 90 exceptions, resulting in a utility of 60 per cent. There was a total of 246 technical occurrences in the third sub-group, with 148 conformations and 98 exceptions, resulting in a utility of 60 per cent.

There was a total of 564 technical occurrences in grades one through six, with 363 conformations and 201 exceptions, resulting in a utility of 64 per cent. There was a total of 84 technical occurrences in the first sub-group, with 72 conformations and 12 exceptions, resulting in a utility of 86 per cent. There was a total of 232 technical occurrences in the second sub-group, with 141 conformations and 91 exceptions, resulting in a utility of 61 per cent. There was a total of 248 technical occurrences in the third sub-group, with 150 conformations and 98 exceptions, resulting in a utility of 60 per cent.

Generalization 3. Generalization 3 states, "if the only vowel letter is at the end of a word, the letter usually stands for a long sound."

There was a total of 1 technical occurrence in grades one through three, with 1 conformation and no exceptions, resulting in a utility of 100 per cent utility. There was a total of 4 technical occurrences in grades four through six, with 3 conformations and 1 exception, resulting in a utility of 75 per cent. There was a total of 4 technical occurrences in

grades one through six, with 3 conformations and 1 exception, resulting in a utility of 75 per cent.

Generalization 4. Generalization 4 states, "when there are two vowels, one of which is final e, the first vowel is long and the e is silent.

There was a total of 79 technical occurrences in grades one through three, with 66 conformations and 13 exceptions, resulting in a utility of 86 per cent. There was a total of 214 technical occurrences in grades four through six, with 152 conformations and 62 exceptions, resulting in a utility of 71 per cent. There was a total of 215 technical occurrences in grades one through six, with 153 conformations and 62 exceptions, resulting in a utility of 71 per cent.

Generalization 5. Generalization 5 states, "the r gives the preceding vowel a sound that is neither long nor short."

There was a total of 457 technical occurrences in grades one through three, with 376 conformations and 81 exceptions, resulting in a utility of 82 per cent. There was a total of 2,244 technical occurrences in grades four through six, with 1,872 conformations and 372 exceptions, resulting in a utility of 83 per cent. There was a total of 2,300 technical occurrences in grades one through six, with 1,922 conformations and 378 exceptions, resulting in a utility of 84 per cent.

Generalization 6. Generalization 6 states, "the first vowel is usually long and the second silent in the digraphs ai, ea, oa, and ui." The sub-groups of ai, ea, oa, and ui were compiled and their totals will be given, as well as the grand totals for this generalization.

There was a total of 176 technical occurrences in grades one through three, with 106 conformations and 70 exceptions, resulting in a utility of

60 per cent. There was a total of 57 technical occurrences in the sub-group ai, with 32 conformations and 25 exceptions, resulting in a utility of 56 per cent. There was a total of 73 technical occurrences in the sub-group ea, with 42 conformations and 31 exceptions, resulting in a utility of 58 per cent. There was a total of 33 occurrences in the sub-group oa, with 32 conformations and 1 exception, resulting in a utility of 97 per cent. There was a total of 13 technical occurrences in the sub-group ui, with no conformations and 13 exceptions, resulting in a utility of 0 per cent.

There was a total of 583 technical occurrences in grades four through six, with 312 conformations and 271 exceptions, resulting in a utility of 54 per cent. There was a total of 150 technical occurrences in the sub-group ai, with 90 conformations and 60 exceptions, resulting in a utility of 60 per cent. There was a total of 278 technical occurrences in the sub-group ea, with 138 conformations and 140 exceptions, resulting in a utility of 50 per cent. There was a total of 96 technical occurrences in the sub-group oa, with 83 conformations and 13 exceptions, resulting in a utility of 86 per cent. There was a total of 59 technical occurrences in the sub-group ui, with 1 conformations and 58 exceptions, resulting in a utility of 2 per cent.

There was a total of 596 technical occurrences in grades one through six, with 323 conformations and 273 exceptions, resulting in a utility of 54 per cent. There was a total of 158 technical occurrences in the sub-group ai, with 97 conformations and 61 exceptions, resulting in a utility of 61 per cent. There was a total of 280 technical occurrences in the sub-group ea, with 140 conformations and 140 exceptions, resulting in a utility of 50 per cent. There was a total of 98 technical occurrences in sub-group oa,

with 85 conformations and 13 exceptions, resulting in a utility of 86 per cent. There was a total of 60 technical occurrences in sub-group ui, with 1 conformation and 59 exception, resulting in a utility of 2 per cent.

Generalization 7. Generalization 7 states, "in the phonogram ie, the i is silent and the e has a long sound."

There was a total of 33 technical occurrences in grades one through three, with 7 conformations and 26 exceptions, resulting in a utility of 21 per cent. There was a total of 179 technical occurrences in grades four through six, with 32 conformations and 147 exceptions, resulting in a utility of 18 per cent. There was a total of 185 technical occurrences in grades one through six, with 37 conformations and 148 exceptions, resulting in a utility of 20 per cent.

Generalization 8. Generalization 8 states, "words having double e usually have the long e sound."

There was a total of 51 technical occurrences in grades one through three, with 44 conformations and 7 exceptions, resulting in a utility of 86 per cent. There was a total of 148 technical occurrences in grades four through six, with 130 conformations and 18 exceptions, resulting in a utility of 88 per cent. There was a total of 158 occurrences in grades one through six, with 138 conformations and 20 exceptions, resulting in a utility of 87 per cent.

Generalization 9. Generalization 9 states, "when words end with silent e, the preceding a or i is long."

There was a total of 131 technical occurrences in grades one through three, with 71 conformations and 60 exceptions, resulting in a utility of 54

per cent. There was a total of 422 technical occurrences in grades four through six, with 236 conformations and 186 exceptions, resulting in a utility of 56 per cent. There was a total of 433 technical occurrences in grades one through six, with 239 conformations and 194 exceptions, resulting in a utility of 55 per cent.

Generalization 10. Generalization 10 states, "in ay the y is silent and gives a its long sound."

There was a total of 25 technical occurrences in grades one through three, with 25 conformations and no exceptions, resulting in a utility of 100 per cent. There was a total of 51 technical occurrences in grades four through six, with 48 conformations and 3 exceptions, resulting in a utility of 94 per cent. There was a total of 53 technical occurrences in grades one through six, with 50 conformations and 3 exceptions, resulting in a utility of 94 per cent.

Generalization 11. Generalization 11 states, "when the letter i is followed by the letters gh, the i usually stands for its long sound and the gh is silent."

There was a total of 13 technical occurrences in grades one through three, with 6 conformations and 7 exceptions, resulting in a utility of 46 per cent. There was a total of 34 technical occurrences in grades four through six, with 26 conformations and 8 exceptions, resulting in a utility of 76 per cent. There was a total of 34 technical occurrences in grades one through six, with 26 conformations and 8 exceptions, resulting in a utility of 76 per cent.

Generalization 12. Generalization 12 states, "when a follows w in a word, the a usually has the sound of a as in was."

There was a total of 35 technical occurrences in grades one through three, with 7 conformations and 28 exceptions, resulting in a utility of 20 per cent. There was a total of 116 technical occurrences in grades four through six, with 22 conformations and 94 exceptions, resulting in a utility of 19 per cent. There was a total of 123 technical occurrences in grades one through six, with 24 conformations and 99 exceptions, resulting in a utility of 20 per cent.

Generalization 13. Generalization 13 states, "when e is followed by w, the vowel sound is the same as represented by oo."

There was a total of 15 technical occurrences in grades one through three, with no conformations and 15 conformations, resulting in a utility of 0 per cent. There was a total of 33 technical occurrences in grades four through six, with 4 conformations and 29 exceptions, resulting in a utility of 12 per cent. There was a total of 35 technical occurrences in grades one through six, with 4 conformations and 31 exceptions, resulting in a utility of 11 per cent.

Generalization 14. Generalization 14 states, "the two letters ow make the long o sound."

There was a total of 47 technical occurrences in grades one through three, with 25 conformations and 22 exceptions, resulting in a utility of 53 per cent. There was a total of 148 technical occurrences in grades four through six, with 95 conformations and 53 exceptions, resulting in a utility of 64 per cent. There was a total of 151 technical occurrences in grades one through six, with 95 conformations and 56 exceptions, resulting in a utility of 63 per cent.

Generalization 15. Generalization 15 states, "w is sometimes a vowel and follows the vowel digraph rule."

There was a total of 71 technical occurrences in grades one through three, with 22 conformations and 49 exceptions, resulting in a utility of 31 per cent. There was a total of 211 technical occurrences in grades four through six, with 93 conformations and 118 exceptions, resulting in a utility of 44 per cent. There was a total of 214 technical occurrences in grades one through six, with 93 conformations and 121 exceptions, resulting in a utility of 43 per cent.

Generalization 16. Generalization 16 states, "when y is the final letter in a word, it usually has a vowel sound."

There was a total of 76 technical occurrences in grades one through three, with 60 conformations and 16 exceptions, resulting in a utility of 79 per cent. There was a total of 322 technical occurrences in grades four through six, with 276 conformations and 46 exceptions, resulting in a utility of 88 per cent. There was a total of 328 technical occurrences in grades one through six, with 281 conformations and 47 exceptions, resulting in a utility of 86 per cent.

Generalization 17. Generalization 17 states, "when y is used as a vowel in words, it sometimes has the sound of long i."

There was a total of 123 technical occurrences in grades one through three, with 11 conformations and 112 exceptions, resulting in a utility of 9 per cent. There was a total of 502 technical occurrences in grades four through six, with 47 conformations and 455 exceptions, resulting in a utility of 9 per cent. There was a total of 526 technical occurrences in grades one

through six, with 47 conformations and 479 exceptions, resulting in a utility of 9 per cent.

Generalization 18. Generalization 18 states, "the letter a has the same sound (ô) when followed by l, w, and u."

There was a total of 88 technical occurrences in grades one through three, with 39 conformations and 49 exceptions, resulting in a utility of 44 per cent. There was a total of 362 technical occurrences in grades four through six, with 124 conformations and 238 exceptions, resulting in a utility of 34 per cent. There was a total of 369 technical occurrences in grades one through six, with 126 conformations and 243 exceptions, resulting in a utility of 34 per cent.

Generalization 19. Generalization 19 states, "when a is followed by r and final e, we expect to hear the sound heard in care."

There was a total of 3 technical occurrences in grades one through three, 10 technical occurrences in grades four through six, and 10 technical occurrences in grades one through six. There were no exceptions to this generalization, resulting in a utility of 100 per cent.

Generalization 20. Generalization 20 states, "when c and h are next to each other, they make only one sound."

There was a total of 58 technical occurrences in grades one through three, 219 technical occurrences in grades four through six, and 224 technical occurrences in grades one through six. There were no exceptions to this generalization, resulting in a utility of 100 per cent.

Generalization 20. Generalization 21 states, "ch is usually pronounced as it is in kitchen, catch, and chair, not like sh."

There was a total of 58 technical occurrences in grades one through three, with 40 conformations and 18 exceptions, resulting in a utility of 70 per cent. There was a total of 219 technical occurrences in grades four through six, with 157 conformations and 62 exceptions, resulting in a utility of 73 per cent. There was a total of 224 technical occurrences in grades one through six, with 161 conformations and 63 exceptions, resulting in a utility of 73 per cent.

Generalization 22. Generalization 22 states, "when c is followed by e or i, the sound of s is likely to be heard."

There was a total of 73 technical occurrences in grades one through three, with 68 conformations and 5 exceptions, resulting in a utility of 93 per cent. There was a total of 199 technical occurrences in grades four through six, with 166 conformations and 33 exceptions, resulting in a utility of 83 per cent. There was a total of 202 technical occurrences in grades one through six, with 169 conformations and 33 exceptions, resulting in a utility of 84 per cent.

Generalization 23. Generalization 23 states, "when the letter c is followed by o or a, the sound of k is likely to be heard."

There was a total of 139 technical occurrences in grades one through three, 533 technical occurrences in grades four through six, and 550 technical occurrences in grades one through six. There were no exceptions to this generalization, resulting in a 100 per cent utility.

Generalization 24. Generalization 24 states, "the letter g often has a sound similar to that of j in jump when it precedes the letter i or e."

There was a total of 48 technical occurrences in grades one through three, with 47 conformations and 1 exception, resulting in a utility of 98

per cent. There was a total of 187 technical occurrences in grades four through six, with 176 conformations and 11 exceptions, resulting in a utility of 94 per cent. There was a total of 192 technical occurrences in grades one through six, with 180 conformations and 12 exceptions, resulting in a utility of 94 per cent.

Generalization 25. Generalization 25 states, "when ght is seen in a word, gh is silent."

There was a total of 8 technical occurrences in grades one through three, 35 technical occurrences in grades four through six, and 35 technical occurrences in grades one through six. There were no exceptions to this generalization, resulting in a utility of 100 per cent.

Generalization 26. Generalization 26 states, "when a word begins kn, the k is silent."

There was a total of 2 technical occurrences in grades one through three, 8 technical occurrences in grades four through six, and 8 technical occurrences in grades one through six. There were no exceptions to this generalization, resulting in a 100 per cent utility.

Generalization 27. Generalization 27 states, "when a word begins with wr, the w is silent."

There was a total of 1 technical occurrence in grades one through three, 6 technical occurrences in grades four through six, and 6 technical occurrences in grades one through six. There were no exceptions to this generalization, resulting in a 100 per cent utility.

Generalization 28. Generalization 28 states, "when two of the same consonants are side by side, only one is heard."

There was a total of 169 technical occurrences in grades one through three, with 169 conformations and no exceptions, resulting in a utility of 100 per cent. There was a total of 885 technical occurrences in grades four through six, with 881 conformations and 4 exceptions, resulting in a utility of 99 per cent. There was a total of 908 technical occurrences in grades one through six, with 904 conformations and 4 exceptions, resulting in a utility of 99 per cent.

Generalization 29. Generalization 29 states, "when a word ends in ck, it has the same last sound as in look."

There was a total of 59 technical occurrences in grades one through three, 195 technical occurrences in grades four through six, and 198 occurrences in grades one through six. There were no exceptions to this generalization, resulting in a utility of 100 per cent.

Generalization 30. Generalization 30 states, "in most two-syllable words, the first syllable is accented."

There was a total of 584 technical occurrences in grades one through three, with 527 conformations and 57 exceptions, resulting in a utility of 90 per cent. There was a total of 2,071 technical occurrences in grades four through six, with 1,834 conformations and 237 exceptions, resulting in a utility of 89 per cent. There was a total of 2,138 technical occurrences in grades one through six, with 1,895 conformations and 243 exceptions, resulting in a utility of 89 per cent.

Generalization 31. Generalization 31 states, "if a, in, re, ex, de, or be is the first syllable in a word, it is usually unaccented."

There was a total of 64 technical occurrences in grades one through three, with 56 conformations and 8 exceptions, resulting in a utility of 88

per cent. There was a total of 327 technical occurrences in grades four through six, with 287 conformations and 40 exceptions, resulting in a utility of 88 per cent. There was a total of 335 technical occurrences in grades one through six, with 293 conformations and 42 exceptions, resulting in a utility of 87 per cent.

Generalization 32. Generalization 32 states, "in most two-syllable words that end in a consonant followed by y, the first syllable is accented and the last is unaccented."

There was a total of 18 technical occurrences in grades one through three, with 17 conformations and 1 exception, resulting in a utility of 94 per cent. There was a total of 67 technical occurrences in grades four through six, with 66 conformations and 1 exception, resulting in a utility of 99 per cent. There was a total of 69 technical occurrences in grades one through six, with 68 conformations and 1 exception, resulting in a utility of 99 per cent.

Generalization 33. Generalization 33 states, "one vowel letter in an accented syllable has its short sound."

There was a total of 735 technical occurrences in grades one through three, with 399 conformations and 366 exceptions, resulting in a utility of 54 per cent. There was a total of 2,924 technical occurrences in grades four through six, with 1,726 conformations and 1,198 exceptions, resulting in a utility of 59 per cent. There was a total of 2,999 technical occurrences in grades one through six, with 1,770 conformations and 1,229 exceptions, resulting in a utility of 59 per cent.

Generalization 34. Generalization 34 states, "when y or ey is seen in the last syllable that is not accented, the long sound of e is heard."

There was a total of 63 technical occurrences in grades one through three, 238 technical occurrences in grades four through six, and 242 technical occurrences in grades one through six. There were no conformations to this generalization, resulting in a utility of 0 per cent.

Generalization 35. Generalization 35 states, "when ture is the final syllable in a word, it is unaccented."

There was a total of 10 technical occurrences in grades one through three, 28 technical occurrences in grades four through six, and 28 technical occurrences in grades one through six. There were no exceptions to this generalization, resulting in a utility of 100 per cent.

Generalization 36. Generalization 36 states, "when tion is the final syllable in a word, it is unaccented."

There was a total of 26 technical occurrences in grades one through three, 107 technical occurrences in grades four through six, and 113 technical occurrences in grades one through six. There were no exceptions to this generalization, resulting in a utility of 100 per cent.

Generalization 37. Generalization 37 states, "in many two- and three-syllable words, the final e lengthens the vowel in the last syllable."

There was a total of 69 technical occurrences in grades one through three, with 25 conformations and 44 exceptions, resulting in a utility of 36 per cent. There was a total of 309 technical occurrences in grades four through six, with 157 conformations and 152 exceptions, resulting in a utility of 51 per cent. There was a total of 316 technical occurrences in grades one through six, with 160 conformations and 156 exceptions, resulting in a utility of 51 per cent.

Generalization 38. Generalization 38 states, "if the first vowel sound in a word is followed by two consonants, the first syllable usually ends with the first of the two consonants."

There was a total of 440 technical occurrences in grades one through three, with 350 conformations and 90 exceptions, resulting in a utility of 80 per cent. There was a total of 1,828 technical occurrences in grades four through six, with 1,487 conformations and 341 exceptions, resulting in a utility of 81 per cent. There was a total of 1,889 technical occurrences in grades one through six, with 1,537 conformations and 353 exceptions, resulting in a utility of 81 per cent.

Generalization 39. Generalization 39 states, "if the first vowel sound in a word is followed by one consonant, that consonant usually begins the second syllable."

There was a total of 445 technical occurrences in grades one through three, with 217 conformations and 228 exceptions, resulting in a utility of 49 per cent. There was a total of 1,679 technical occurrences in grades four through six, with 818 conformations and 861 exceptions, resulting in a utility of 49 per cent. There was a total of 1,718 technical occurrences in grades one through six, with 836 conformations and 882 exceptions, resulting in a utility of 49 per cent.

Generalization 40. Generalization 40 states, "if the last syllable ends in le, the consonant preceding the le usually begins the last syllable."

There was a total of 13 technical occurrences in grades one through three, with 8 conformations and 5 exceptions, resulting in a utility of 62 per cent. There was a total of 53 technical occurrences in grades four through six, with 32 conformations and 21 exceptions, resulting in a utility

of 60 per cent. There was a total of 53 technical occurrences in grades one through six, with 32 conformations and 21 exceptions, resulting in a utility of 60 per cent.

Generalization 41. Generalization 41 states, "when the first vowel element in a word is followed by th, ch, or sh, these symbols are not broken when the word is divided into syllables and may go with either the first or second syllable."

There was a total of 21 technical occurrences in grades one through three, 91 technical occurrences in grades four through six, and 91 occurrences in grades one through six. There were no exceptions to this generalization, resulting in a utility of 100 per cent.

Generalization 42. Generalization 42 states, "in a word of more than one syllable, the letter y usually goes with the preceding vowel to form a syllable."

There was a total of 33 technical occurrences in grades one through three, with 23 conformations and 10 exceptions, resulting in a utility of 70 per cent. There was a total of 197 technical occurrences in grades four through six, with 128 conformations and 69 exceptions, resulting in a utility of 65 per cent. There was a total of 197 technical occurrences in grades one through six, with 128 conformations and 69 exceptions, resulting in a utility of 65 per cent.

Generalization 43. Generalization 43 states, "when a word has only one vowel letter, the vowel sound is likely to be short."

There was a total of 211 technical occurrences in grades one through three, with 139 conformations and 72 exceptions, resulting in a utility of 66 per cent. There was a total of 440 technical occurrences in grades four

through six, with 286 conformations and 154 exceptions, resulting in a utility of 65 per cent. There was a total of 449 technical occurrences in grades one through six, with 294 conformations and 155 exceptions, resulting in a utility of 65 per cent.

Generalization 44. Generalization 44 states, "when there is one e in a word that ends in a consonant, the e usually has a short sound."

There was a total of 104 technical occurrences in grades one through three, with 24 conformations and 80 exceptions, resulting in a utility of 23 per cent. There was a total of 253 technical occurrences in grades four through six, with 54 conformations and 199 exceptions, resulting in a utility of 21 per cent. There was a total of 255 technical occurrences in grades one through six, with 54 conformations and 201 exceptions, resulting in a utility of 21 per cent.

Generalization 45. Generalization 45 states, "when the last syllable is the sound r, it is unaccented."

There was a total of 215 technical occurrences in grades one through three, with 206 conformations and 9 exceptions, resulting in a utility of 96 per cent. There was a total of 796 technical occurrences in grades four through six, with 742 conformations and 54 exceptions, resulting in a utility of 94 per cent. There was a total of 821 technical occurrences in grades one through six, with 767 conformations and 54 exceptions, resulting in a utility of 94 per cent.

Summary

This chapter was concerned with the utility of forty-five generalizations when applied to individual occurrences of technical words found in the three social studies series.

There were eleven generalization (3, 11, 13, 19, 25, 26, 27, 32, 35, 40, 41) in grades one through three, which had fewer than the twenty words required. There were four generalizations (3, 19, 26, 27) in grades four through six and one through six which had fewer than the twenty words required..

Thirteen generalizations (3, 10, 19, 20, 23, 25, 26, 27, 28, 29, 35, 36, 41) had 100 per cent utility for grades one through three. There were eleven generalizations (4, 5, 8, 16, 22, 24, 30, 31, 32, 38, 45) with a utility greater than 75 per cent. Nine generalizations (2, 6, 9, 14, 21, 33, 40, 42, 43) had between 50 per cent and 75 per cent utility. Generalizations 1, 7, 11, 12, 13, 15, 17, 18, 34, 37, 39, and 44 had less than 50 per cent utility.

There were ten generalizations (19, 20, 23, 25, 26, 27, 29, 35, 36, 41) with 100 per cent utility. Generalizations 3, 5, 8, 10, 11, 16, 22, 24, 28, 30, 31, 32, 38, and 45 had a utility above 75 per cent. There were eleven generalizations (2, 4, 6, 9, 14, 21, 33, 37, 40, 42, 43) had between 50 per cent and 75 per cent utility. There were ten generalizations (1, 7, 12, 13, 15, 17, 18, 34, 39, 44) which had less than 50 per cent utility. The generalizations for grades one through six would be categorized the same as for grades four through six.

There were ten generalizations which had 100 per cent utility at each level.

There were 24 generalization which met the minimum of 75 per cent utility. There were 4 generalizations which did not meet the requirement of twenty words at all three levels. There were 10 generalizations which had less than 50 per cent utility in the three levels.

Sixteen generalizations in grades one through three had a greater utility than the same generalizations in grades four through six and grades one through six. Thirteen generalizations had the same utility at each of the three levels.

CHAPTER VI

ANALYSIS OF THE DATA OF FREQUENCY OF OCCURRENCES OF TECHNICAL WORDS

This chapter and chapter V are concerned with the same group of words, i.e., technical words. In this chapter frequency of occurrences will be defined as the number of times a word or part of a words occurs to which the generalization might apply.

Utility of Generalizations to Technical Words

The generalizations are stated and a table containing the composite list of the forty-five generalizations will follow the discussion. This table will be divided into three groups; grades one through three, grades four through six, and grades one through six.

Generalization 1. Generalization 1 states, "when there are two vowels side by side, the long sound of the first vowel is heard, and the second vowel is silent."

There was a total frequency of 11,016 technical occurrences in grades one through three, with 4,277 conformations and 6,739 exceptions, resulting in a utility of 39 per cent. There was a total frequency of 112,365 technical occurrences in grades four through six, with 41,249 conformations and 71,116 exceptions, resulting in a utility of 37 per cent. There was a total frequency of 123,381 technical occurrences in

TABLE 4

SUMMARY OF UTILITY OF PHONIC GENERALIZATIONS OF
FREQUENCY OF OCCURRENCES OF THE TECHNICAL WORD LIST

Generalization	Grade Levels	Total Number of Words	Number of Conformations	Number of Exceptions	Per Cent of Utility	
1. When there are two vowels side by side, the long sound of the first one is heard and the second is usually silent.	1-3	11,016	4,277 (coast) ^a	6,739 (scout) ^a	39	
	4-6	112,365	41,249 (gourds)	71,116 (tour)	37	
	1-6	123,381	45,526 (peace)	77,855 (fiord)	37	
2. When a vowel is in the middle of a one-syllable word, the vowel is short.	1-3	5,680	2,857	2,823	50	
	4-6	56,530	30,790	25,740	54	
	1-6	62,210	33,647	28,563	54	
	middle letter	1-3	(898) ^b	(667) (nun)	(231) (car)	(74)
		4-6	(7,770)	(5,902) (rig)	(1,868) (urn)	(76)
		1-6	(8,668)	(6,569) (tax)	(2,099) (mir)	(76)
	one of the middle two letters in a word of four letters	1-3	(3,182)	(1,248) (crop)	(1,934) (mold)	(39)
		4-6	(30,236)	(15,204) (flax)	(15,032) (monk)	(50)
		1-6	(33,418)	(16,452) (tusk)	(16,966) (tzar)	(49)
	one vowel <u>within</u> a word of more than four letters	1-3	(1,600)	(942) (swift)	(658) (strong)	(59)
4-6		(18,524)	(9,684) (shrimp)	(8,840) (tombs)	(53)	
1-6		(20,124)	(10,626) (script)	(9,498) (tolls)	(53)	
3. If the only vowel letter is at the end of a word, the letter usually stands for a long sound.	1-3	82	82 (fly)	0	100	
	4-6	828	824 (spy)	4 (pa)	99	
	1-6	910	906 (sky)	4 (pa)	99	

TABLE 4--CONTINUED

Generalization	Grade Levels	Total Number of Words	Number of Conformations	Number of Exceptions	Per Cent of Utility
4. When there are two vowels, one of which is final <u>e</u> , the first vowel is long and the <u>e</u> is silent.	1-3	2,120	2,032(vine)	88(fence)	96
	4-6	23,916	21,082(hide)	2,834(barge)	90
	1-6	26,036	23,114(code)	2,922(sludge)	89
5. The <u>r</u> gives the preceding vowel a sound that is neither long nor short.	1-3	8,764	7,686(scarce)	1,078(fire)	88
	4-6	74,394	61,753(hermit)	12,641(empire)	83
	1-6	83,158	69,439(sparse)	13,719(shire)	84
6. The first vowel is usually long and the second silent in the digraphs <u>ai</u> , <u>ea</u> , <u>oa</u> , and <u>ui</u> .	1-3	2,868	1,506	1,362	53
	4-6	32,896	16,849	16,047	51
	1-6	35,764	18,355	17,409	51
ai	1-3	(917)	(523) (plain)	(394) (dairy)	(57)
	4-6	(9,348)	(5,088) (maize)	(4,260) (air)	(54)
	1-6	(10,265)	(5,611) (aid)	(4,654) (fair)	(55)
ea	1-3	(965)	(425) (wheat)	(540) (shear)	(44)
	4-6	(15,799)	(7,462) (peat)	(8,337) (health)	(47)
	1-6	(16,764)	(7,887) (leaf)	(8,877) (deaths)	(47)
oa	1-3	(583)	(558) (coach)	(25) (broad)	(96)
	4-6	(4,716)	(4,291) (moat)	(425) (abroad)	(91)
	1-6	(5,299)	(4,849) (coarse)	(450) (broadest)	(92)
ui	1-3	(403)	(0)	(403) (quill)	(0)
	4-6	(3,033)	(8) (suitable)	(3,025) (guilds)	(0)
	1-6	(3,436)	(8) (suitable)	(3,428) (ruins)	(0)

TABLE 4--CONTINUED

Generalization	Grade Levels	Total Number of Words	Number of Conformations	Number of Exceptions	Per Cent of Utility
7. In the phonogram <u>ie</u> , the <u>i</u> is silent and the <u>e</u> has a long sound.	1-3	569	83(field)	486(skiers)	15
	4-6	8,478	1,243(skeins)	7,235(spies)	15
	1-6	9,047	1,326(thieves)	7,721(dried)	15
8. Words having double <u>e</u> usually have the long <u>e</u> sound.	1-3	978	798(seed)	180(deer)	82
	4-6	6,664	5,841(tweed)	823(steer)	88
	1-6	7,642	6,639(sheep)	1,003(steers)	87
9. When words end with silent <u>e</u> , the preceding <u>a</u> or <u>i</u> is long.	1-3	2,179	1,575(range)	604(share)	72
	4-6	28,674	18,117(cape)	10,557(cape)	63
	1-6	30,853	19,692(cane)	11,161(prince)	64
10. In <u>ay</u> the <u>y</u> is silent and gives <u>a</u> its long sound.	1-3	711	711(bay)	0	100
	4-6	4,711	4,688(rayons)	23(prayers)	99
	1-6	5,422	5,399(mayor)	23(prayer)	99
11. When the letter <u>i</u> is followed by the letters <u>gh</u> , the <u>i</u> usually stands for its long sound and the <u>gh</u> is silent.	1-3	327	243(fight)	84(weight)	74
	4-6	2,146	1,639(knight)	507(freight)	76
	1-6	2,473	1,882(right)	591(eight)	76
12. When <u>a</u> follows <u>w</u> in a word, it usually has the sound of <u>a</u> as in <u>was</u> .	1-3	1,308	34(swamp)	1,274(war)	2
	4-6	9,273	446(washing)	8,827(wares)	5
	1-6	10,581	480(watch)	10,101(water)	5
13. When <u>e</u> is followed by <u>w</u> , the vowel sound is the same as represented by <u>oo</u> .	1-3	278	0	278(news)	0
	4-6	4,132	39(breweries)	4,093(sinew)	1
	1-6	4,410	39(brew)	4,371(hewn)	1

TABLE 4--CONTINUED

Generalization	Grade Levels	Total Number of Words	Number of Conformations	Number of Exceptions	Per Cent of Utility
14. The two letters <u>ow</u> make the long <u>o</u> sound.	1-3	679	180(tow)	499(plow)	27
	4-6	6,381	2,942(arrow)	3,439(cow)	46
	1-6	7,060	3,122(sown)	3,938(prows)	44
15. <u>W</u> is sometimes a vowel and follows the vowel digraph rule.	1-3	893	182(bowl)	711(laws)	20
	4-6	12,223	2,931(flows)	9,292(brews)	24
	1-6	13,116	3,113(mower)	10,003(sew)	24
16. When <u>y</u> is the final letter in a word, it usually has a vowel sound.	1-3	2,345	1,721(dairy)	624(hay)	73
	4-6	18,379	14,331(soy)	4,048(pray)	78
	1-6	20,724	16,052(supply)	4,672(clay)	77
17. When <u>y</u> is used as a vowel in words, it sometimes has the sound of long <u>i</u> .	1-3	6,420	115(dry)	6,305(bay)	2
	4-6	25,057	1,678(lyre)	23,379(key)	6
	1-6	31,477	1,793(scythe)	29,684(way)	6
18. The letter <u>a</u> has the same sound (<u>o</u>) when followed by <u>i</u> , <u>w</u> , and <u>u</u> .	1-3	1,543	849(haul)	694(whale)	55
	4-6	19,384	9,898(spawn)	9,486(galleon)	51
	1-6	20,927	10,747(raw)	10,180(scale)	51
19. When <u>a</u> is followed by <u>r</u> and final <u>e</u> , we expect to hear the sound heard in <u>care</u> .	1-3	15	15(hardware)	0	100
	4-6	248	248(welfare)	0	100
	1-6	263	263(warfare)	0	100

TABLE 4--CONTINUED

Generalization	Grade Levels	Total Number of Words	Number of Conformations	Number of Exceptions	Per Cent of Utility
20. When <u>c</u> and <u>h</u> are next to each other, they make only one sound	1-3	977	977(ranch)	0	100
	4-6	7,583	7,583(school)	0	100
	1-6	8,560	8,560(cheese)	0	100
21. <u>Ch</u> is usually pronounced as it is in <u>kitchen</u> , <u>catch</u> , and <u>chair</u> , not like <u>sh</u> .	1-3	977	636(church)	341(chutes)	66
	4-6	7,583	5,004(choice)	2,579(machine)	68
	1-6	8,560	5,640(choke)	2,920(machete)	66
22. When <u>c</u> is followed by <u>e</u> or <u>i</u> , the sound <u>s</u> is likely to be heard.	1-3	1,336	1,176(ice)	160(glacier)	88
	4-6	12,983	11,173(mice)	1,810(social)	86
	1-6	14,319	12,349(rice)	1,970(ancient)	86
23. When the letter <u>c</u> is followed by <u>o</u> or <u>a</u> , the sound of <u>k</u> is likely to be heard.	1-3	1,816	1,816(coke)	0	100
	4-6	20,898	20,898(cone)	0	100
	1-6	22,714	22,714(count)	0	100
24. The letter <u>g</u> often has a sound similar to that of <u>j</u> in <u>jump</u> when it precedes the letters <u>i</u> or <u>e</u> .	1-3	691	686(germs)	5(gill)	99
	4-6	13,790	13,627(merge)	163(girder)	99
	1-6	14,481	14,313(gorge)	168(geyser)	99
25. When <u>ght</u> is seen in a word, <u>gh</u> is silent.	1-3	222	222(light)	0	100
	4-6	1,559	1,559(drought)	0	100
	1-6	1,781	1,781(rights)	0	100
26. When a word begins <u>kn</u> , the <u>k</u> is silent.	1-3	2	2(knit)	0	100
	4-6	107	107(knight)	0	100
	1-6	109	109(knobs)	0	100

TABLE 4--CONTINUED

Generalization	Grade Levels	Total Number of Words	Number of Conformations	Number of Exceptions	Per Cent of Utility
27. When a word begins with <u>wr</u> , the <u>w</u> is silent.	1-3	8	8(writing)	0	100
	4-6	197	197(wrestle)	0	100
	1-6	205	205(wrought)	0	100
28. When two of the same consonants are side by side, only one is heard.	1-3	1,941	1,941(settle)	0	100
	4-6	26,820	26,793(barracks)	27(midday)	99
	1-6	28,761	28,734(impress)	27(succeed)	99
29. When a word ends in <u>ck</u> , it has the same last sound as in <u>look</u> .	1-3	582	582(dock)	0	100
	4-6	7,439	7,439(lick)	0	100
	1-6	8,021	8,021(truck)	0	100
30. In most two-syllable words, the first syllable is accented.	1-3	10,480	9,967(travel)	513(cement)	95
	4-6	109,386	101,277(linens)	8,109(canal)	93
	1-6	119,866	111,244(statues)	8,622(adopt)	93
31. If <u>a</u> , <u>in</u> , <u>re</u> , <u>de</u> , <u>ex</u> , or <u>be</u> is the first syllable in a word, it is usually unaccented.	1-3	525	405(example)	120(region)	77
	4-6	13,960	9,652(accuse)	4,308(acre)	69
	1-6	14,485	10,057(attend)	4,428(agency)	69
32. In most two syllable words that end in a consonant followed by <u>y</u> , the first syllable is accented and the last is unaccented.	1-3	147	121(rainy)	26(supply)	82
	4-6	2,146	2,057(enemy)	89(supply)	96
	1-6	2,293	2,178(jury)	115(supply)	95
33. One vowel letter in an accented syllable has its short sound.	1-3	10,625	4,824(models)	5,801(clothing)	45
	4-6	132,354	71,835(planets)	60,519(pilot)	54
	1-6	142,979	76,659(tenants)	66,320(merchant)	54

TABLE 4--CONTINUED

Generalization	Grade Levels	Total Number of Words	Number of Conformations	Number of Exceptions	Per Cent of Utility
34. When <u>y</u> or <u>ey</u> is seen in the last syllable that is not accented, the long sound of <u>e</u> is heard.	1-3	1,748	0	1,748(pottery)	0
	4-6	14,261	0	14,261(stony)	0
	1-6	16,009	0	16,009(ratify)	0
35. When <u>ture</u> is the final syllable in a word, it is unaccented.	1-3	222	222(picture)	0	100
	4-6	2,623	2,623(fixture)	0	100
	1-6	2,845	2,845(pasture)	0	100
36. When <u>tion</u> is the final syllable in a word, it is unaccented.	1-3	336	336(aviation)	0	100
	4-6	4,764	4,764(nation)	0	100
	1-6	5,100	5,100(relation)	0	100
37. In many two- and three-syllable words, the final <u>e</u> lengthens the vowel in the last syllable.	1-3	709	145(rescue)	564(mobile)	20
	4-6	11,231	3,465(perfume)	7,766(income)	31
	1-6	11,940	3,610(graphite)	8,330(outcaste)	30
38. If the first vowel sound in a word is followed by two consonants, the first syllable usually ends with the first of the two consonants.	1-3	6,213	3,752(invent)	2,461(washing)	60
	4-6	74,769	52,064(wilder)	22,705(worker)	70
	1-6	80,982	55,816(compose)	25,166(fashion)	69

TABLE 4--CONTINUED

Generalization	Grade Levels	Total Number of Words	Number of Conformations	Number of Exceptions	Per Cent of Utility
39. If the first vowel sound in a word is followed by a single consonant, that consonant usually begins the second syllable.	1-3	6,646	3,260(labor)	3,386(metals)	50
	4-6	76,315	41,102(rotates)	35,213(durable)	54
	1-6	82,961	44,362(plebian)	38,599(sesame)	53
40. If the last syllable of a word ends in <u>le</u> , the consonant preceding the <u>le</u> usually begins the last syllable.	1-3	85	53(cable)	32(middle)	62
	4-6	2,475	1,087(fable)	1,388(trestle)	44
	1-6	2,560	1,140(sable)	1,420(saddle)	45
41. When the first vowel element in a word is followed by <u>th</u> , <u>ch</u> , or <u>sh</u> , these symbols are not broken when the word is divided into syllables and may go with either the first or second syllable.	1-3	544	544(gushers)	0	100
	4-6	4,409	4,409(fishnets)	0	100
	1-6	4,953	4,953(machine)	0	100
42. In a word of more than one syllable, the letter <u>v</u> usually goes with the preceding vowel to form a syllable.	1-3	635	582(gravel)	53(favorable)	92
	4-6	11,516	10,099(javelin)	1,417(crevasse)	88
	1-6	12,151	10,681(hovels)	1,470(navigable)	88

TABLE 4--CONTINUED

Generalization	Grade Levels	Total Number of Words	Number of Conformations	Number of Exceptions	Per Cent of Utility
43. When a word has only one vowel letter, the vowel sound is likely to be short.	1-3	6,113	2,955(ship)	3,158(art)	48
	4-6	55,746	29,574(acts)	26,172(arc)	53
	1-6	61,859	32,529(ad)	29,330(comb)	53
44. When there is one <u>e</u> in a word that ends in a consonant, the <u>e</u> usually has a short sound	1-3	1,173	366(gem)	1,407(shipped)	20
	4-6	15,915	3,938(thresh)	11,977(serf)	25
	1-6	17,688	4,304(debt)	13,384(stern)	24
45. When the last syllable is the sound <u>r</u> , it is unaccented.	1-3	4,021	3,820(melter)	201(conserved)	95
	4-6	44,136	42,221(miner)	1,915(frontier)	96
	1-6	48,157	46,041(rudder)	2,116(endure)	95

^a Words in parentheses are examples of words that conform or of exceptions.

^b Figures in parentheses indicate specific applications of the generalization.

grades one through six, with 45,526 conformations and 77,855 exceptions, resulting in a utility of 37 per cent.

Generalization 2. Generalization 2 states, "when a vowel is in the middle of a one-syllable word, the vowel is short." This generalization had three sub-groups which were concerned with the position of the vowel in relation to the length of the word. These three sub-groups are: middle letter; one of the middle two letters in a word of four letters; and one vowel within a word of more than four letters.

There was a total frequency of 5,680 technical occurrences in grades one through three, with 2,857 conformations and 2,823 exceptions, resulting in a utility of 50 per cent. There was a total frequency of 898 technical occurrences in the first sub-group, with 667 conformations and 231 exceptions, resulting in a utility of 74 per cent. There was a total frequency of 3,182 technical occurrences in the second sub-group, with 1,248 conformations and 1,934 exceptions, resulting in a utility of 39 per cent. There was a total frequency of 1,600 technical occurrences in the third sub-group, with 942 conformations and 658 exceptions, resulting in a utility of 59 per cent.

There was a total frequency of 56,530 technical occurrences grades four through six, with 30,790 conformations and 25,740 exceptions, resulting in a utility of 54 per cent. There was a total frequency of 7,770 technical occurrences in the first sub-group, with 5,902 conformations and 1,868 exceptions, resulting in a utility of 76 per cent. There was a total frequency of 30,236 technical occurrences in the second sub-group, with 15,204 conformations and 15,032 exceptions, resulting in a utility of 50 per cent.

There was a total frequency of 18,524 technical occurrences in the third sub-group, with 9,684 conformations and 8,840 exceptions, resulting in a utility of 53 per cent.

There was a total frequency of 62,210 technical occurrences in grades one through six, with 33,647 conformations and 28,563 exceptions, resulting in a utility of 54 per cent. There was a total frequency of 8,668 technical occurrences in the first sub-group, with 6,569 conformations and 2,099 exceptions, resulting in a utility of 76 per cent. There was a total frequency of 33,418 technical occurrences in the second sub-group, with 16,452 conformations and 16,966 exceptions, resulting in a utility of 49 per cent. There was a total frequency of 20,124 technical occurrences in the third sub-group, with 10,626 conformations and 9,498 exceptions, resulting in a utility of 53 per cent.

Generalization 3. Generalization 3 states, "if the only vowel letter is at the end of a word, the letter usually stands for a long sound."

There was a total frequency of 82 technical occurrences in grades one through three, with 82 conformations and no exceptions, resulting in a utility of 100 per cent. There was a total frequency of 828 technical occurrences in grades four through six, with 824 conformations and 4 exceptions, resulting in a utility of 99 per cent. There was a total frequency of 910 technical occurrences in grades one through six, with 906 conformations and 4 exceptions, resulting in a utility of 99 per cent.

Generalization 4. Generalization 4 states, "when there are two vowels, one of which is final e, the first vowel is long and the e is silent."

There was a total frequency of 2,120 technical occurrences in grades one through three, with 2,032 conformations and 88 exceptions, resulting in

a utility of 96 per cent. There was a total frequency of 23,916 technical occurrences in grades four through six, with 21,082 conformations and 2,834 exceptions, resulting in a utility of 90 per cent. There was a total frequency of 26,036 technical occurrences in grades one through six, with 23,114 conformations and 2,922 exceptions, resulting in a utility of 89 per cent.

Generalization 5. Generalization 5 states, "the r gives the preceding vowel a sound that is neither long nor short."

There was a total frequency of 8,764 technical occurrences in grades one through three, with 7,686 conformations and 1,078 exceptions, resulting in a utility of 88 per cent. There was a total frequency of 74,394 technical occurrences in grades four through six, with 61,753 conformations and 12,641 exceptions, resulting in a utility of 83 per cent. There was a total frequency of 83,158 technical occurrences in grades one through six, with 69,439 conformations and 13,719 exceptions, resulting in a utility of 84 per cent.

Generalization 6. Generalization 6 states, "the first vowel is usually long and the second silent in the digraphs ai, ea, oa, and ui." The sub-groups of ai, ea, oa, and ui were compiled and their totals will be given, as well as the grand totals for this generalization.

There was a total frequency of 2,868 technical occurrences in grades one through three, with 1,506 conformations and 1,362 exceptions, resulting in a utility of 53 per cent. There was a total frequency of 917 technical occurrences in sub-group ai, with 523 conformations and 394 exceptions, resulting in a utility of 57 per cent. There was a total frequency of 965 technical occurrences in the sub-group ea, with 425 conformations and 540 exceptions, resulting in a utility of 44 per cent. There was a total of

583 technical occurrences in sub-group oa, with 558 conformations and 25 exceptions, resulting in a utility of 96 per cent. There was a total frequency of 403 technical occurrences in sub-group ui, with no conformations and 403 exceptions, resulting in a utility of 0 per cent.

There was a total frequency of 32,896 technical occurrences in grades four through six, with 16,849 conformations and 16,047 exceptions, resulting in a utility of 51 per cent. There was a total frequency of 9,348 technical occurrences in sub-group ai, with 5,088 conformations and 4,260 exceptions, resulting in a utility of 54 per cent. There was a total frequency of 15,799 technical occurrences in sub-group ea, with 7,462 conformations and 8,337 exceptions, resulting in a utility of 47 per cent. There was a total frequency of 4,716 technical occurrences in sub-group oa, with 4,291 conformations and 425 exceptions, resulting in a utility of 91 per cent. There was a total frequency of 3,033 occurrences in sub-group ui, with 8 conformations and 3,025 exceptions, resulting in a utility of 0 per cent.

There was a total frequency of 35,764 technical occurrences in grades one through six, with 18,355 conformations and 17,409 exceptions, resulting in a utility of 51 per cent. There was a total frequency of 10,625 technical occurrences in sub-group ai, with 5,611 conformations and 4,654 exceptions, resulting in a utility of 55 per cent. There was a total frequency of 16,764 technical occurrences in sub-group ea, with 7,887 conformations and 8,877 exceptions, resulting in a utility of 47 per cent. There was a total frequency of 5,299 technical occurrences in sub-group oa, with 4,849 conformations and 450 exceptions, resulting in a utility of 92 per cent. There was a total frequency of 3,436 technical occurrences in the

sub-group ui, with 8 conformations and 3,428 exceptions, resulting in a utility of 0 per cent.

Generalization 7. Generalization 7 states, "in the phonogram ie, the i is silent and the e has a long sound."

There was a total frequency of 569 technical occurrences in grades one through three, with 83 conformations and 486 exceptions, resulting in a utility of 15 per cent. There was a total frequency of 8,478 technical occurrences in grades four through six, with 1,243 conformations and 7,235 exceptions, resulting in a utility of 15 per cent. There was a total frequency of 9,047 technical occurrences in grades one through six, with 1,326 conformations and 7,721 exceptions, resulting in a utility of 15 per cent.

Generalization 8. Generalization 8 states, "words having double e usually have the long e sound."

There was a total frequency of 978 technical occurrences in grades one through three, with 798 conformations and 180 exceptions, resulting in a utility of 82 per cent. There was a total frequency of 6,664 technical occurrences in grades four through six, with 5,841 conformations and 823 exceptions, resulting in a utility of 88 per cent. There was a total frequency of 7,642 technical occurrences in grades one through six, with 6,639 conformations and 1,003 exceptions, resulting in a utility of 87 per cent.

Generalization 9. Generalization 9 states, "when words end with silent e, the preceding a or i is long."

There was a total frequency of 2,179 technical occurrences in grades one through three, with 1,575 conformations and 604 exceptions, resulting in a utility of 72 per cent. There was a total frequency of 28,674 technical occurrences in grades four through six, with 18,117 conformations and 10,577

exceptions, resulting in a utility of 63 per cent. There was a total of 30,853 technical occurrences in grades one through six, with 19,292 conformations and 11,161 exceptions, resulting in a utility of 64 per cent.

Generalization 10. Generalization 10 states, "in ay the y is silent and gives a its long sound."

There was a total frequency of 711 technical occurrences in grades one through three, with 711 conformations and no exceptions, resulting in a utility of 100 per cent. There was a total frequency of 4,711 technical occurrences in grades four through six, with 4,688 conformations and 23 exceptions, resulting in a utility of 99 per cent. There was a total of 5,422 technical occurrences in grades one through six, with 5,399 conformations and 23 exceptions, resulting in a utility of 99 per cent.

Generalization 11. Generalization 11 states, "when the letter i is followed by the letters gh, the i usually stands for its long sound and the gh is silent."

There was a total frequency of 327 technical occurrences in grades one through three, with 243 conformations and 84 exceptions, resulting in a utility of 74 per cent. There was a total frequency of 2,146 technical occurrences in grades four through six, with 1,639 conformations and 507 exceptions, resulting in a utility of 76 per cent. There was a total frequency of 2,473 technical occurrences in grades one through six, with 1,882 conformations and 591 exceptions, resulting in a utility of 76 per cent.

Generalization 12. Generalization 12 states, "when a follows w in a words, the a usually has the sound of a as in was."

There was a total frequency of 1,308 technical occurrences in grades one through three, with 34 conformations and 1,274 exceptions, resulting in

a utility of 2 per cent. There was a total frequency of 9,273 technical occurrences in grades four through six, with 446 conformations and 8,827 exceptions, resulting in a utility of 5 per cent. There was a total frequency of 10,581 technical occurrences in grades one through six, with 480 conformations and 10,101 exceptions, resulting in a utility of 5 per cent.

Generalization 13. Generalization 13 states, "when e is followed by w, the vowel sound is the same as represented by oo."

There was a total frequency of 278 technical occurrences in grades one through three, with no conformations and 278 exceptions, resulting in a utility of 0 per cent. There was a total frequency of 4,132 technical occurrences in grades four through six, with 39 conformations and 4,093 exceptions, resulting in a utility of 1 per cent. There was a total frequency of 4,410 technical occurrences in grades one through six, with 39 conformations and 4,371 exceptions, resulting in a utility of 1 per cent.

Generalization 14. Generalization 14 states, "the two letters ow make the long o sound."

There was a total frequency of 679 technical occurrences in grades one through three, with 180 conformations and 499 exceptions, resulting in a utility of 27 per cent. There was a total frequency of 6,381 technical occurrences in grades four through six, with 2,942 conformations and 3,439 exceptions, resulting in a utility of 46 per cent. There was a total frequency of 7,060 technical occurrences in grades one through six, with 3,122 conformations and 3,938 exceptions, resulting in a utility of 44 per cent.

Generalization 15. Generalization 15 states, "w is sometimes a vowel and follows the vowel digraph rule."

There was a total frequency of 893 technical occurrences in grades

one through three, with 182 conformations and 711 exceptions, resulting in a utility of 20 per cent. There was a total frequency of 12,223 technical occurrences in grades four through six, with 2,931 conformations and 9,292 exceptions, resulting in a utility of 24 per cent. There was a total frequency of 13,116 technical occurrences in grades one through six, with 3,113 conformations and 10,003 exceptions, resulting in a utility of 24 per cent.

Generalization 16. Generalization 16 states, "when y is the final letter in a word, it usually has a vowel sound."

There was a total frequency of 2,345 technical occurrences in grades one through three, with 1,721 conformations and 624 exceptions, resulting in a utility of 73 per cent. There was a total frequency of 18,379 technical occurrences in grades four through six, with 14,331 conformations and 4,048 exceptions, resulting in a utility of 78 per cent. There was a total frequency of 20,724 technical occurrences in grades one through six, with 16,052 conformations and 4,672 exceptions, resulting in a utility of 77 per cent.

Generalization 17. Generalization 17 states, "when y is used as a vowel in words, it sometimes has the sound of long i."

There was a total frequency of 6,420 technical occurrences in grades one through three, with 115 conformations and 6,305 exceptions, resulting in a utility of 2 per cent. There was a total frequency of 25,057 technical occurrences in grades four through six, with 1,678 conformations and 23,379 exceptions, resulting in a utility of 6 per cent. There was a total frequency of 31,477 technical occurrences in grades one through six, with 1,793 conformations and 29,684 exceptions, resulting in a utility of 6 per cent.

Generalization 18. Generalization 18 states, "the letter a has the same sound (ɑ) when followed by l, w, and u."

There was a total frequency of 1,543 technical occurrences in grades one through three, with 849 conformations and 694 exceptions, resulting in a utility of 55 per cent. There was a total frequency of 19,384 technical occurrences in grades four through six, with 9,898 conformations and 9,486 exceptions, resulting in a utility of 51 per cent. There was a total frequency of 20,927 technical occurrences in grades one through six, with 10,747 conformations and 10,180 exceptions, resulting in a utility of 55 per cent.

Generalization 19. Generalization 19 states, "when a is followed by r and final e, we expect to hear the sound heard in care."

There was a total frequency of 15 technical occurrences in grades one through three, 248 technical occurrences in grades four through six, and 263 technical occurrences in grades one through six. There were no exceptions to this generalization, resulting in a 100 per cent utility.

Generalization 20. Generalization 20 states, "when c and h are next to each other, they make only one sound."

There was a total frequency of 977 technical occurrences in grades one through three, 7,583 technical occurrences in grades four through six, and 8,560 technical occurrences in grades one through six. There were no exceptions to this generalization, resulting in a utility of 100 per cent.

Generalization 21. Generalization 21 states, "ch is usually pronounced as it is in kitchen, catch, and chair, not like sh."

There was a total frequency of 977 technical occurrences in grades one through three, with 636 conformations and 341 exceptions, resulting in

a utility of 66 per cent. There was a total frequency of 7,583 technical occurrences in grades four through six, with 5,004 conformations and 2,579 exceptions, resulting in a utility of 68 per cent. There was a total frequency of 8,560 technical occurrences in grades one through six, with 5,640 conformations and 2,920 exceptions, resulting in a utility of 66 per cent.

Generalization 22. Generalization 22 states, "when c is followed by e or i, the sound of s is likely to be heard."

There was a total frequency of 1,336 technical occurrences in grades one through three, with 1,176 conformations and 160 exceptions, resulting in a utility of 88 per cent. There was a total frequency of 12,983 technical occurrences in grades four through six, with 11,173 conformations and 1,810 exceptions, resulting in a utility of 86 per cent. There was a total frequency of 14,319 technical occurrences in grades one through six, with 12,349 conformations and 1,970 exceptions, resulting in a utility of 86 per cent.

Generalization 23. Generalization 23 states, "when the letter c is followed by o or a, the sound of k is likely to be heard."

There was a total frequency of 1,816 technical occurrences in grades one through three, 20,898 technical occurrences in grades four through six, and 22,714 technical occurrences in grades one through six. There were no exceptions to this generalization, resulting in a utility of 100 per cent.

Generalization 24. Generalization 24 states, "the letter g often has a sound similar to that of j in jump when it precedes the letter i or e."

There was a total frequency of 691 technical occurrences in grades one through three, with 686 conformations and 5 exceptions, resulting in a utility of 99 per cent. There was a total frequency of 13,790 technical

occurrences in grades four through six, with 13,627 conformations and 163 exceptions, resulting in a utility of 99 per cent. There was a total frequency of 14,481 technical occurrences in grades one through six, with 14,313 conformations and 168 exceptions, resulting in a utility of 99 per cent.

Generalization 25. Generalization 25 states, "when ght is seen in a word, gh is silent."

There was a total frequency of 222 technical occurrences in grades one through three, 1,559 technical occurrences in grades four through six, and 1,781 technical occurrences in grades one through six. There were no exceptions to this generalization, resulting in a utility of 100 per cent.

Generalization 26. Generalization 26 states, "when a word begins kn, the k is silent."

There was a total frequency of 2 technical occurrences in grades one through three, 107 technical occurrences in grades four through six, and 109 technical occurrences in grades one through six. There were no exceptions to this generalization, resulting in a utility of 100 per cent.

Generalization 27. Generalization 27 states, "when a word begins with wr, the w is silent."

There was a total frequency of 8 technical occurrences in grades one through three, 197 technical occurrences in grades four through six, and 205 technical occurrences in grades one through six. There were no exceptions to this generalization, resulting in a utility of 100 per cent.

Generalization 28. Generalization 28 states, "when two of the same consonants are side by side, only one is heard."

There was a total frequency of 1,941 technical occurrences in grades

one through three, with 1,941 conformations and no exceptions, resulting in a utility of 100 per cent. There was a total frequency of 26,820 technical occurrences in grades four through six, with 26,793 conformations and 27 exceptions, resulting in a utility of 99 per cent. There was a total frequency of 28,761 technical occurrences in grades one through six, with 28,734 conformations and 27 exceptions, resulting in a utility of 99 per cent.

Generalization 29. Generalization 29 states, "when a word ends in ck, it has the same last sound as in look."

There was a total frequency of 582 technical occurrences in grades one through three, 7,439 technical occurrences in grades four through six, and 8,021 technical occurrences in grades one through six. There were no exceptions to this generalization, resulting in a 100 per cent utility.

Generalization 30. Generalization 30 states, "in most two-syllable words, the first syllable is accented."

There was a total frequency of 10,480 technical occurrences in grades one through three, with 9,967 conformations and 513 exceptions, resulting in a utility of 95 per cent. There was a total frequency of 109,386 technical occurrences in grades four through six, with 101,277 conformations and 8,109 exceptions, resulting in a utility of 93 per cent. There was a total frequency of 119,866 technical occurrences in grades one through six, with 111,244 conformations and 8,622 exceptions, resulting in a utility of 93 per cent.

Generalization 31. Generalization 31 states, "if a, in, re, ex, de, or be is the first syllable in a word, it is usually unaccented."

There was a total frequency of 525 technical occurrences in grades

one through three, with 405 conformations and 120 exceptions, resulting in a utility of 77 per cent. There was a total frequency of 13,960 technical occurrences in grades four through six, with 9,652 conformations and 4,308 exceptions, resulting in a utility of 69 per cent. There was a total frequency of 14,485 technical occurrences in grades one through six, with 10,057 conformations and 4,428 exceptions, resulting in a utility of 69 per cent.

Generalization 32. Generalization 32 states, "in most two-syllable words that end in a consonant followed by y, the first syllable is accented and the last is unaccented."

There was a total frequency of 147 technical occurrences in grades one through three, with 121 conformations and 26 exceptions, resulting in a utility of 82 per cent. There was a total frequency of 2,146 technical occurrences in grades four through six, with 2,057 conformations and 89 exceptions, resulting in a utility of 96 per cent. There was a total frequency of 2,293 technical occurrences in grades one through six, with 2,178 conformations and 115 exceptions, resulting in a utility of 95 per cent.

Generalization 33. Generalization 33 states, "one vowel letter in an accented syllable has its short sound."

There was a total frequency of 10,625 technical occurrences in grades one through three, with 4,824 conformations and 5,801 exceptions, resulting in a utility of 45 per cent. There was a total frequency of 132,354 technical occurrences in grades four through six, with 71,835 conformations and 60,519 exceptions, resulting in a utility of 54 per cent. There was a total frequency of 142,979 technical occurrences in grades one through six, with 76,659 conformations and 66,320 exceptions, resulting in a 54 per cent utility.

Generalization 34. Generalization 34 states, "when y or ey is seen in the last syllable that is not accented, the long sound of e is heard."

There was a total frequency of 1,748 technical occurrences in grades one through three, 14,261 technical occurrences in grades four through six, and 16,009 technical occurrences in grades one through six. There were no conformations to this generalization, resulting in a utility of 100 per cent.

Generalization 35. Generalization 35 states, "when ture is the final syllable in a word, it is unaccented."

There was a total frequency of 222 technical occurrences in grades one through three, 2,623 technical occurrences in grades four through six, and 2,845 technical occurrences in grades one through six. There were no exceptions to this generalization, resulting in a utility of 100 per cent.

Generalization 36. Generalization 36 states, "when tion is the final syllable in a word, it is unaccented."

There was a total frequency of 336 technical occurrences in grades one through three, 4,764 technical occurrences in grades four through six, and 5,100 technical occurrences in grades one through six. There were no exceptions to this generalization, resulting in a 100 per cent utility.

Generalization 37. Generalization 37 states, "in many two- and three-syllable words, the final e lengthens the vowel in the last syllable."

There was a total frequency of 709 technical occurrences in grades one through three, with 145 conformations and 564 exceptions, resulting in a utility of 20 per cent. There was a total frequency of 11,231 technical occurrences in grades four through six, with 3,465 conformations and 7,766 exceptions, resulting in a utility of 31 per cent. There was a total frequency of 11,940 technical occurrences in grades one through six, with

3,610 conformations and 8,330 exceptions, resulting in a utility of 30 per cent.

Generalization 38. Generalization 38 states, "if the first vowel sound in a word is followed by one consonant, that consonant usually begins the second syllable."

There was a total frequency of 6,213 technical occurrences in grades one through three, with 3,752 conformations and 2,461 exceptions, resulting in a utility of 60 per cent. There was a total frequency of 74,769 technical occurrences in grades four through six, with 52,064 conformations and 22,705 exceptions, resulting in a utility of 70 per cent. There was a total frequency of 80,982 technical occurrences in grades one through six, with 55,816 conformations and 25,166 exceptions, resulting in a utility of 69 per cent.

Generalization 39. Generalization 39 states, "if the first vowel sound in a word is followed by one consonant, that consonant usually begins the second syllable."

There was a total frequency of 6,646 technical occurrences in grades one through three, with 3,260 conformations and 3,386 exceptions, resulting in a utility of 50 per cent. There was a total frequency of 76,315 technical occurrences in grades four through six, with 41,102 conformations and 35,213 exceptions, resulting in a utility of 54 per cent. There was a total frequency of 82,961 technical occurrences in grades one through three, with 44,362 conformations and 38,599 exceptions, resulting in a utility of 53 per cent.

Generalization 40. Generalization 40 states, "if the last syllable ends in le, the consonant preceding the le usually begins the last syllable."

There was a total frequency of 85 technical occurrences in grades one through three, with 53 conformations and 32 exceptions, resulting in a utility of 62 per cent. There was a total frequency of 2,475 technical occurrences in grades four through six, with 1,087 conformations and 1,388 exceptions, resulting in a utility of 44 per cent. There was a total frequency of 2,560 technical occurrences in grades one through six, with 1,140 conformations and 1,420 exceptions, resulting in a utility of 45 per cent.

Generalization 41. Generalization 41 states, "when the first vowel element in a word is followed by th, ch, or sh, these symbols are not broken when the word is divided into syllables and may go with either the first or second syllable."

There was a total frequency of 544 technical occurrences in grades one through three, 4,409 technical occurrences in grades four through six, and 4,953 technical occurrences in grades one through six. There were no exceptions to this generalization, resulting in a utility of 100 per cent.

Generalization 42. Generalization 42 states, "in a word of more than one syllable, the letter y usually goes with the preceding vowel to form a syllable."

There was a total frequency of 635 technical occurrences in grades one through three, with 582 conformations and 53 exceptions, resulting in a utility of 92 per cent. There was a total frequency of 11,516 technical occurrences in grades four through six, with 10,099 conformations and 1,417 exceptions, resulting in a utility of 88 per cent. There was a total frequency of 12,151 technical occurrences in grades one through six, with 10,681 conformations and 1,470 exceptions, resulting in a utility of 88 per cent.

Generalization 43. Generalization 43 states, "when a word has only one vowel letter, the vowel sound is likely to be short."

There was a total frequency of 6,113 technical occurrences in grades one through three, with 2,955 conformations and 3,158 exceptions, resulting in a utility of 48 per cent. There was a total frequency of 55,746 technical occurrences in grades four through six, with 29,574 conformations and 26,172 exceptions, resulting in a utility of 53 per cent. There was a total frequency of 61,859 technical occurrences in grades one through six, with 32,529 conformations and 29,330 exceptions, resulting in a utility of 53 per cent.

Generalization 44. Generalization 44 states, "when there is one e in a word that ends in a consonant, the e usually has its short sound."

There was a total frequency of 1,773 technical occurrences in grades one through three, with 366 conformations and 1,407 exceptions, resulting in a utility of 20 per cent. There was a total frequency of 15,915 technical occurrences in grades four through six, with 3,938 conformations and 11,977 exceptions, resulting in a utility of 25 per cent. There was a total frequency of 17,688 technical occurrences in grades one through six, with 4,304 conformations and 13,384 exceptions, resulting in a utility of 24 per cent.

Generalization 45. Generalization 45 states, "when the last syllable is the sound r, it is unaccented."

There was a total frequency of 4,021 technical occurrences in grades one through three, with 3,820 conformations and 201 exceptions, resulting in a utility of 95 per cent. There was a total frequency of 44,136 technical occurrences in grades four through six, with 42,221 conformations and 1,915

exceptions, resulting in a utility of 96 per cent. There was a total frequency of 48,157 technical occurrences in grades one through six, with 46,041 conformations and 2,116 exceptions, resulting in a utility of 95 per cent.

Summary

This chapter was concerned with the frequency of occurrences of technical words and the applicability of forty-five generalizations to these occurrences.

In grades one through three, three generalizations (19, 26, 27) did not have the minimum of twenty words. In grades four through six, and one through six, all of the forty-five generalizations met the requirement of twenty words.

There were twenty-three generalizations (3, 4, 5, 8, 10, 19, 20, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 35, 36, 41, 42, 45) with the minimum of 75 per cent utility in grades one through three. Thirteen generalizations (3, 10, 19, 20, 23, 25, 26, 27, 28, 29, 35, 36, 41) had 100 per cent utility. Generalization having between 50 and 75 per cent utility included 2, 6, 9, 11, 16, 18, 21, 38, and 40. There were thirteen generalizations (1, 7, 12, 13, 14, 15, 17, 33, 34, 37, 39, 43, 44) which had less than 50 per cent utility.

For grades four through six and one through six, ten generalizations (19, 20, 23, 25, 26, 27, 29, 35, 36, 41) had 100 per cent utility. There were fourteen other generalizations (3, 4, 5, 8, 10, 11, 16, 22, 24, 28, 30, 32, 42, 45) with the minimum of 75 per cent utility. There were ten generalizations (2, 6, 9, 18, 21, 31, 33, 38, 39, 43) with between 50 and 75 per cent utility. There were eleven generalizations (1, 7, 12, 13, 14, 15, 17, 34, 37, 40, 44) had less than 50 per cent utility.

There were thirteen generalizations analyzed for grades one through three that had a greater utility than the same generalization for grades four through six and one through six. There were thirteen generalizations that had the same utility at each level.

At all three levels, ten generalizations had 100 per cent utility, twenty-four generalizations met the minimum of 75 per cent utility, forty-two generalizations had the minimum of twenty words, and eleven generalizations had less than 50 per cent utility.

CHAPTER VII

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

In recent years several studies have been undertaken to determine the usefulness of certain phonic generalizations when applied to the vocabularies of textbooks used by children in elementary schools. The present study was undertaken to determine the utility of forty-five generalizations identified by Clymer¹ when applied to the vocabularies of three series of social studies textbooks. A composite list of over 12,000 different words, which had a total frequency of over 1,500,000 words, was compiled from the nineteen social studies textbooks which covered grades one through six.

The Webster's New Collegiate Dictionary,² 1961 edition, was used as the authority for syllabic division, accents, and pronunciation of each word. A card was made for each word on which the pronunciation, the generalizations which might apply to the word, and the number of times the words appeared in each book at each grade level were recorded.

Every word was determined to be either a conformation or an exception

¹Clymer, "Utility of Phonic Generalizations," pp. 252-258.

²Webster's New Collegiate Dictionary. (Springfield, Mass.: G and C Merriam Company, Publishers, 1961).

to the generalization. To compute the percentage of utility, the conformations to the generalizations were divided by the total occurrences investigated for the generalizations.

Individual occurrences, the word or part of a word to which the generalization might apply, and frequency of occurrences, the number of times the word or part of the word to which a generalization might apply occurs, were derived from the composite word list. The individual occurrences and frequency of occurrences of technical words were studied as sub-divisions of the composite word list. The three social studies series were divided into three sub-groups; grades one through three, grades four through six, and grades one through six.

Two criteria developed by Clymer¹ and which were standards for the present study are: 1) a minimum of twenty words to which the generalization might apply and 2) seventy-five per cent utility.

There were eleven generalizations (3, 11, 13, 19, 25, 26, 27, 32, 35, 40, 41) with less than twenty words in at least one sub-group, primarily in the grades one through three group; however, all forty-five generalizations had twenty words in grades one through six for individual occurrences.

Ten generalizations had 100 per cent utility for the three levels for technical words. There were nine generalizations which had a 100 per cent utility when applied to the composite word list. Generalization 34 had zero per cent utility in all three categories.

There were seven generalizations with more than a 25 per cent difference in the utility for individual occurrences and the utility of

¹Clymer, "Utility of Phonic Generalizations," pp. 252-258.

frequency of occurrences of the composite word list. No generalization had a span of 25 per cent between the utility of individual occurrences and the utility of frequency of occurrences of technical words.

A summary of the findings for individual occurrences and frequency of occurrences of the composite word list and for technical words to which the generalizations were applied is presented in Table 5.

Conclusions

From the data derived from the study of the utility of phonic generalizations in social studies programs, the following conclusions are drawn:

1. Inclusion of past tense of verbs and plurals of nouns, particularly when the endings are changed from y to i or ed is added and the word remains monosyllabic, decreases the utility of certain generalizations.
2. The frequency of occurrences makes a substantial difference in the utility of certain generalizations, but little or no difference in other generalizations.
3. The generalizations when applied to technical words alone have generally the same utility as the same generalizations when applied to the composite word list.
4. More than 90 per cent of the generalizations concerned with consonants met the minimum criteria of 75 per cent utility; less than 10 per cent of the generalizations concerned with vowel sounds met the minimum criteria of 75 per cent utility.

5. The difference between the utility of individual occurrences and frequency of occurrences can usually be attributed to a small number of sight words such as are, to, do, and some.

6. The percentage of utility for grades one through three was the same or higher than the percentage of utility for grades four through six and grades one through six in more than half of the generalizations.

7. Inclusion of generalizations 1, 7, 12, 13, 15, 17, 18, 34, 39, and 44 in phonics instruction without clarification and without some re-statement of the generalization is not justified by the data from this study.

8. Inclusion of generalizations 8, 20, 22, 23, 28, 29, 36, and 41 in phonics instruction seems to be justified by: 1) clarity of the statement of the generalization, 2) a large number of occurrences and 3) a high percentage of utility.

Recommendations

The data from this study indicates that further study needs to be undertaken to further clarify the role phonic generalizations can and should play in the elementary student's reading.

1. A study needs to be undertaken to determine when and if a student uses phonic generalizations to determine pronunciations of words.

2. Compilation of all the word lists from the studies on phonic generalizations should be undertaken to determine if phonic generalizations are useful for the total reading a student must do.

3. A more recent edition of the dictionary used in this study should

be applied to this same group of words to determine what difference in utility would be found, if any.

4. A study should be undertaken with restatement of several of the generalizations to determine if the utility would be increased .

5. An investigation of the transference of phonic generalizations learned in reading to technical words used in social studies should be undertaken.

BIBLIOGRAPHY

BIBLIOGRAPHY

- Bailey, Mildred Hart. "The Utility of Phonic Generalizations in Grades One Through Six," The Reading Teacher, XX (February, 1967), 413-418.
- Burmeister, Lou E. "Usefulness of Phonic Generalizations," The Reading Teacher, XXI (January, 1968), 349-356.
- Burrows, Alvin Truet and Zyra Lourie, "When 'Two Vowels Go Walking,'" The Reading Teacher, XVII (November, 1963), 79-82.
- Chal, Jeanne. Learning To Read: The Great Debate. New York: McGraw Hill, 1967.
- Clymer, Theodore. "The Utility of Phonic Generalizations in the Primary Grades," The Reading Teacher, XVI (January, 1963), 252-258.
- Cooper, Kenneth S., Clarence W. Sorensen, and Lewis Todd. Silver Burdett Social Studies Series. Morristown, New Jersey: Silver Burdett Company, 1967.
- Cordts, Anna D. "An Analysis and Classification of the Sounds of English Words in Primary Reading Vocabulary," Unpublished Ph. D. dissertation, State University of Iowa, 1925.
- Cutright, Prudence, et. al. MacMillan Social Studies Series. New York: MacMillan Company, 1966.
- Davis, Lillie Smith. "The Applicability of Phonic Generalizations to Selected Spelling Programs," Unpublished Ed. D. dissertation, University of Oklahoma, 1969.
- Durkin, Deloris. Phonics and the Teaching of Reading. New York: Teacher College Press, Columbia University, 1966.
- Emans, Robert. "The Usefulness of Phonic Generalizations Above the Primary Grades," The Reading Teacher, XX (February, 1967), 419-425.
- _____. "When Two Vowels Go Walking and Other Such Things," The Reading Teacher, XXI (December, 1967), 262-269.
- Horn, Earnest. "The Child's Early Experience with the Letter A," Journal of Educational Psychology, XX (March, 1929), 161-168.
- Jarolimek, John. Social Studies in Elementary Education. New York: MacMillan Company, 1963.
- Jernigan, Mary. "The Study of Utility of Specific Phonic Generalizations to Vocabularies in Science Textbooks," Unpublished Ed. D. dissertation, University of Oklahoma, 1969.

- Oaks, Ruth E. "A Study of the Vowel Situations in a Primary Vocabulary," Education, LXXII (May, 1952), 604-17.
- Parker, Jesse Joe. "The Utility of Phonic Generalizations in Their Application to the History and Geography Vocabularies in Certain Specified Textbooks Adopted for Grades Four, Five, and Six," Dissertation Abstracts, XXIX, 1969, 1372A-1373A.
- Preston, Robert C. Teaching Social Studies in the Elementary School. New York: Holt, Rinehart and Winston, Inc., 1968.
- Ragan, William and John McAulay. Social Studies for Today's Children. New York: Appleton-Century-Crofts, 1964.
- Sloan, Fred. "Readability of Social Studies Textbooks for Grades 4-5-6 As Measured by the Dale-Chall Formula," Dissertation Abstracts, XX, 1960, 928-929.
- Spache, George. Review of Learning to Read: The Great Debate, by Jeanne Chall. Journal of Reading Behavior, I (Winter, 1969), 71-74.
- Textbooks in Print. New York: R. R. Bowker., 1968.
- Tiegs, Earnest and Fay Adams. Ginn Social Studies Series. Boston: Ginn and Company, 1966.
- _____. Teaching the Social Studies. Boston: Ginn and Company, 1959.
- Wesley, Edgar and May Adams, Teaching Social Studies in Elementary Schools. Boston: D. C. Heath, 1968.
- Webster's New Collegiate Dictionary. Springfield, Mass.: G and C Merriam Company, Publishers, 1961.

APPENDIX A

LIST OF THE FORTY-FIVE PHONIC GENERALIZATIONS
UTILIZED IN THE STUDY

1. When there are two vowels side by side, the long sound of the first one is heard and the second is usually short.

2. When a vowel is in the middle of a one-syllable word, the vowel is short.

middle letter

one of the middle two letters
in a word of four letters

one vowel within a word of
more than four letters

3. If the only vowel letter is at the end of a word, the letter usually stands for a long sound.

4. When there are two vowels, one of which is final e, the first vowel is long and the e is silent.

5. The r gives the preceding vowel a sound that is neither long nor short.

6. The first vowel is usually long and the second silent in the digraphs ai, ea, oa, and ui.

ai

ea

oa

ui

7. In the phonogram ie, the i is silent and the e has a long sound.

8. Words having double e usually have the long e sound.

9. When the words end with silent e, the preceding a or i is long.

10. In ay the y is silent and gives a its long sound.
11. When the letter i is followed by the letters gh, the i usually stands for its long sound and the gh is silent.
12. When a follows w in a word, the a usually has the sound of a as in was.
13. When e is followed by w, the vowel sound is the same as represented by oo.
14. The two letters ow make the long o sound.
15. W is sometimes a vowel and follows the vowel digraph rule.
16. When y is the final letter in a word, it usually has a vowel sound.
17. When y is used as a vowel in words, it sometimes has the sound of long i.
18. The letter a has the same sound (ô) when followed by l, w, and u.
19. When a is followed by r and final e, we expect to hear the sound heard in care.
20. When c and h are next to each other, they make one one sound.
21. Ch is usually pronounced as it is in kitchen, catch, and chair, not like sh.
22. When c is followed by e or i, the sound of s is likely to be heard.
23. When the letter c is followed by o or a, the sound of k is likely to be heard.
24. The letter g often has a sound similar to that of j in jump when it precedes the letter i or e.

25. When ght is seen in a word, gh is silent.
26. When a word begins kn, the k is silent.
27. When a word begins with wr, the w is silent.
28. When two of the same consonants are side by side, only one is heard.
29. When a word ends in ck, it has the same last sound as in look.
30. In most two-syllable words, the first syllable is accented.
31. If a, in, re, ex, de, or be is the first syllable in a word, it is usually unaccented.
32. In most two-syllable words that end in a consonant followed by y, the first syllable is accented and the last is unaccented.
33. One vowel letter in an accented syllable has its short sound.
34. When y or ey is seen in the last syllable that is not accented, the long sound of e is heard.
35. When ture is the final syllable in a word, it is unaccented.
36. When tion is the final syllable in a word, it is unaccented.
37. In many two- and three-syllable words, the final e lengthen the vowel in the last syllable.
38. If the first vowel sound in a word is followed by two consonants, the first syllable usually ends with the first of the two consonants.
39. If the first vowel sound in a word is followed by a single consonant, that consonant usually begins the second syllable.

40. If the last syllable of a word ends in le, the consonants preceding the le usually begins the last syllable.

41. When the first vowel element in a word is followed by th, ch, or sh, these symbols are not broken when the word is divided into syllables and may go with either the first or second syllable.

42. In a word of more than one syllable, the letter y usually goes with the preceding vowel to form a syllable.

43. When a word has only one vowel letter, the vowel sound is likely to be short.

44. When there is one e in a word that ends in a consonant, the e usually has a short sound.

45. When the last syllable is the sound r, it is unaccented.

APPENDIX B

THE COMPOSITE VOCABULARY

a	absentee*	accuse*	activity*
a	absolute	accused*	actors
abaca*	absolutely	accustomed	actor
abacas*	abundance*	ached	actors'
abandoned*	abundant*	aches	acts
abbot*	abused	achieve*	actual
abbreviation*	acacia*	achievement*	actually
abbreviations*	acacias*	acid	ad
abdicate*	academies*	acids	adapt
abdication*	academy*	acknowledged	adapted
abide	accept	acorns	add
ability*	accepted	acquaintances	added
able	accepts	acquainted	adding
ablaze	accident	acquired	addition
ablest	accidental	acquires	additions
abloom	accientally	acre*	address
abroad*	accidents	acres*	addressed
abolish*	accomodated	acroplis*	adds
abolitionist*	accompanied	across	adjoining
abolitionists*	accomplished*	act*	adjusting
aborigines*	according*	acted	admirals*
abounds	account	acting	admiration*
about	accounts	action	admire*
above	accuracy	actions	admired*
aboveground	accurate	active*	admit
abroad	accurately	activities*	admitted

*Denotes Technical Words

adobe*	afar	aggressive	airlines*
adopt*	affair	agile	airmail*
adopted*	affairs	ago	airplane*
adorn	affect	agree	airplanes*
adorned	affected	agreed	airplants*
adrift	affection	agreement	airport*
ads*	affects	agreements	airports*
adult*	afflicted	agricultural*	airship*
advance*	afford*	agriculture*	air-routes*
advanced*	afire	ah	air-speed*
advances*	afraid	ahead	airstrip*
advantage*	acrophobia*	aid*	airview*
advantages*	adjourn	aided*	airy*
adventure*	afresh	aim	alarm
adventurer*	after	aimlessly	alarmed
adventurers*	afternoon	aims	alas
adventures*	afternoons	air*	albacore*
adventuring*	afterward	air-conditioned*	alcohol*
adventurous*	again	aircraft*	alcove
advertisements*	against	air-cured*	alert
advice	age*	airfield*	alertness
advise	agencies*	airfields*	alfa*
advisers*	agents*	air-line*	alfalfa*
advisor*	agency*	airline*	algebra*
advisors*	age-old*	airliner*	alike
advisory*	ages*	airliners*	alive

all	alpaca*	ambush*	anger
all-day	alpacas*	amen	angered
allegiance*	alpha*	amend*	angles
alleys	alphabet*	amendment*	angrily
allied*	alphabetic*	amendments*	angry
allies*	alphabetical*	amid	animal*
alligator	alphabets*	ammunition*	animals*
alligators	alps*	among	anklets*
all-out	already	amount*	annex*
allow*	also	amounts*	annex*
allowed*	altar	amphitheater*	annexed*
all-powerful	although	amphitheaters*	announced
all-round	altitude*	amplify	announcement
all-water	altitudes*	ample	announcer
ally*	altogether	amusement	annoy
almanac*	aluminum*	amusements	annoyance
almond*	always	an	annual*
almonds*	am	ancestor*	another
almost	amaryllis	ancestors*	another's
aloft	amazed	ancestry*	answer
aloha*	amazement	anchor*	answered
alone	amazing	anchored*	answering
along	ambassador*	anchors*	answers
alongside*	amber*	ancient*	ant*
aloud	ambitions	and	antarctic*
alp*	ambitious	angels	anteater*

antelope*	appeal*	approval*	arctic*
antelopes*	appear	approve*	are
antennas	appearance	approved*	area*
anthem*	appeared	approximate*	areas*
anthill*	appears	approximately*	arena*
anthracite*	appetite	apricot	arenas*
anthropologist*	appetites	apricots	argued
anthropologists*	appetizers	apt	arguments*
anthropology*	apple	aquafoil*	arid*
antics	apple-growing	aquarium*	arise
ants*	apple-picking	aqueduct*	arises
anxious	apples	aqueducts*	arithmetic*
anxiously	apply	arc*	arm
any	appoint	arch*	armada*
anybody	appointed	arched*	armchair
anyone	appointing	archaeologist*	armed
anything	appoints	archaeologists	armies*
anyway	appreciate	archaeology*	armor*
anywhere	appreciative	archers*	arms*
apart*	apprentice*	archery*	army*
apartheid*	apprentices*	arches*	arose
apartment*	apprenticeship*	architect*	around
apartment-like*	approach	architects*	around-the-world
apartments*	approaches	architect's*	aroused*
apes	approaching	architecture	arousing*
appeal*	appropriate	archway*	arrange

arranged	ascended	astronomers*	attendance*
arrangement	ascent	astronomy*	attendants*
arrangements	ash*	at	attended*
arranging	ashamed	ate	attending*
arrest	ashes*	athelete*	attention
arrested	ashore*	athletes*	attic
arrival	aside	athletic*	attitude*
arrive	ask	athletics*	attract
arrived	asked	atlas*	attracted
arrives	asking	atoll*	attractions
arriving	asks	atolls*	attractive
arrow*	asleep	atmosphere*	attracts
arrowheads*	asparagus*	atom*	audible
arrows*	asphalt*	atomic*	audience
art*	assassinated*	atomic-energy*	author
artesian*	assault	atomic-power*	authoritative*
article	assemble*	atomic-powered	authority*
articles	assembled*	atoms*	authors
artifact*	assemblies*	atop	auto*
artificial*	assembly*	attached*	auto-bahn*
artist*	associates	attack	autobiography*
artists*	assumed	attached	autocracy*
artist's*	assured	attacks	autograph*
arts*	astrolabe*	attar*	automation*
as	astronaut*	attempt	automobile*
asbestos*	astronauts*	attend*	automobile*

automobiles*	axheads*	badly	ballot*
automobile- assembly*	axis*	bag	ballots*
autoparts*	ay	baggage	ballroom
autos*	aye	baggy*	balls
autumn*	aye	bags	ball-shaped
available*	babassu*	bake	balmy
availability*	babies	baked	balsa*
avenues*	baboon*	baker*	balsam*
average*	baby	bakeries*	balsas*
aviation*	baby's	bakers*	bamboo*
aviators*	bachelors	bakery*	banana*
avoid	back*	bakes*	banana-growing*
await	backbone*	baking*	bananas*
awaiting	back-breaking	balance*	band
awake	backed*	balanced	bandage
awaken	backers*	balconies	bandages
awakening	background*	balcony	banded*
aware	backs*	bale*	bandit-lord*
away	back-to-school	baled*	bandits*
awhile	backward	bales*	bands*
awkward	backwoods*	ball	bang
awls*	backwoodsman*	ballast*	bangles
awnings	bacon*	ball-bearing	banished
awoke	bacteria*	ballet*	bank
ax*	bad	balloon	banker
axes*	badgers*	balloons	bankers

banks	barking	bask	battleship*
banner	barley*	basket	battleships*
banners	barn	baskets	battle-torn*
banquet	barns	bathe*	bauxite*
baptized	barnyards	bathed*	bay*
baptizing	baron*	bathers*	bays
bar	barons*	bathhouse*	bazaar*
barbarian*	barracks*	bathhouses*	bazaars*
barbarians*	barracuda*	bathing*	beaches*
barbecue*	barred	bathroom	beads
barbed*	barrels*	bathrooms	beak
barbed-wire	barrel*	baths*	beam*
barber	barren*	bathtubs	beamed*
barbers	barrier*	bathyscaphe*	beams*
barbs*	barriers*	batik*	bean
bare	bars	batik-dyed*	bean-curd*
barefoot	base*	batter	beans
barefooted	baseball	battered	bear*
bare-legged	based	batteries	beard
barely	basement	battering	bearded
bargain*	bases	battering-ram*	beard-shaving
bargaining*	basic	battle*	bearers
barge*	basin*	battlefield*	bearing*
barges*	basing	battlefields*	bearings*
bark	basins*	battlement*	bears*
bark-covered	basics	battles*	bearskin*

beast	beehives *	belfry*	beltway*
beasts	been	belief	bench
beat	beer	beliefs	benches
beaten	bees *	believe	bend
beats	beeswax*	believed	bends
beautiful	beet	believer	beneath
beautifully	beets	believes	benefit
beauty	beet-sugar	believing	benefited
beaver*	beeves	bell	benefits
beavers*	before	bellowing	bent
became	began	bellows	berries
because	beggar	bells	berth
become	begged	belly	berths
becomes	begging	belong	beside
becoming	begin	belonged	besides
bed*	beginners	belonging	best
bedding	beginning	belongings	best-educated
bed-platform	beginnings	belongs	best-known
bedrooms	begins	beloved	bet
beds*	begun	below	beta*
bedstead	behave	belt*	betray
bee*	beheaded	belted*	better
beechnuts*	beheading	belts*	better-looking
beef	behind	be	between
beefs	being	beach*	between-meal
beefsteak	beings	belt's*	bewildering

beyond	biology*	bitter-cold*	blast*
bibliography*	birch*	bitterly*	blasted*
bibliophile*	birches*	bitterly-cold*	blasting
bicycle	bird*	bitterness*	blaze*
bicycle-repair	birds*	bitter-tasting*	blazers*
bicycles	bird's*	bituminous*	blazes*
bid	bird's-eye	black*	bleach
bidding	birth	black-and-white*	bleached
big	birthday	blackberries	bleak*
bigger	birthdays	blackboard	bleats
biggest	birthplace	black-earth*	bled *
big-headed	birtright	blackened*	bleed*
bill	births	black-eyed*	blend
billboards	biscuit	black-robed*	blended
billfold	biscuits	blacksmith*	bless
billiard	bishop*	blacksmiths*	blessed
billion	bishops*	blade	blessing
billions	bishop's *	blades	blessings
bills	bison*	blame	blest
bin	bit*	blamed	blew
bind	bite	blank	blight
binder*	bites	blanket	blimp*
binding	biting	blanketed	blimps*
binds	bits*	blanket-like	blind
bins	bitten	blankets	blinding
biography*	bitter*	blanks	blindly

blinds	blow	boards*	boilers
blistering	blowgun*	boars	boiling
blizzard*	blowguns*	boast	boils
blizzards*	blowing	boasted	bold
block*	blown	boat*	bolder
blockade*	blows	boatbuilders*	boldest
blockaded*	blowing	boat-building*	boldly
blockading*	blubber*	boathouse*	bull*
blocked*	blue*	boatloads*	bolt*
blockhouse*	blue-and-white	boatman*	bulls*
block-printing*	blueberries	boatmen*	bull-weevil*
blocks*	bluebird*	boats*	bomb*
blond*	blue-flowered*	bobbed	bombed*
blood*	blue-green*	bobbies*	bombers*
bloodiest*	blueprint*	bobsledding	bombing*
bloodily	blueprints*	bodies	bombings*
bloodless	bluff	bodily	bombs*
bloodshed*	bluffs	body	bond*
bloodthirsty*	bluish	body-building	bonds*
bloody*	bluishgray	bodyguard	bone
bloom	blunt	bog*	bones
blossom	blustery	bogged	boneshakers*
blossoming	board*	bogs*	bonfire
blossoms	board-and- sheet-iron*	boil	bonfires
blouse*	boarded*	boiled	bonnets
blouses*	boardinghouse*	boiler	bony

book*	borrow	bowed	brakemen
bookbinding*	borrowed	boweries*	bran
bookkeeper*	boss	bowery*	branch*
books*	botanist*	bowing	branches*
bookshops*	both	bowl*	brand*
bookstore*	bother	bowling	branded*
boom	bottled	bowl-like*	branding*
boomed	bottle-filling	bowls*	brand-new
boomerang*	bottleneck	bows	brass*
boomerangs*	bottles	bowstrings	brave
booming	bottling	box	bravely
booth	bottom	boxcars*	bravery
boots*	bought	boxed	bravest
borax*	boulevards*	boxers	brawny
border*	bounced	boxes	braying
bordered*	bounces	box-shaped	brays
bordering*	bouncing	boy	brazilwood*
borderlands*	bound	boyhood	bread
borders*	boundaries*	boys	bread-and-butter
bore*	boundary*	boys'	breadbasket*
bored*	bounded	braced*	breadfruit*
borer	bounds	bracelet*	break
boring*	bouquets	bracelets*	breakfast
born	bow	braided	breaking
borough*	bow	brain	breaks
boroughs*	bow-and-arrow	brakeman	breakwater*

breakwaters*	brides	broadcasts*	brown
breast	bridge*	broader*	brown-black
breath*	bridgelike*	broadest*	brownish
breathe*	bridges*	broadleaf*	browns
breathed*	brief	broad-leaved*	brown-skinned
breathless*	brigade*	broad-shouldered*	bruise
breath-taking*	bright	broadsides*	bruised
breath-takingly*	bright-blue	brocade	brush*
breeches*	bright-colored	broccoli*	brushes*
breed*	brighter	brocks	brushwood
breeders*	brightest	broke	brutal
breeding*	bright-feathered	broken	bucket
breeze	brightly	broken-hearted	buckets
breezes	brightly-colored	bronco*	buckled
breezy*	bright-sailed	bronze*	buckles
breweries*	brilliant	brook*	buckskin*
brewing*	brilliantly- colored	brooks*	bud
brews*	brimless	broom	budded
bribe	brimming	brooms	budding
bribes	bring	broomstick	budget*
brick	bringing	brother	buds
bricklayers	brings	brotherhood	buffalo*
brick-lined	bristles	brotherly	buffaloes*
bricks	broad	brothers	buffalo-skin*
brickyard	broadcast*	brother's	buffer*
bride-gift	broadcasting*	brought	buggies

buggy	bullfights*	burner	businessmen*
bugle	bullock*	burning	busses
bugs	bulls	burnoose*	bustling
build	bumblebees	burnooses*	busy
builder*	bumped	burnout	but
builders*	bumpy	burns	butchers
building*	bunch	burro*	butler*
buildings*	bunches	burros*	butlers*
builds	bund*	burro's*	butter*
built	bundle	burros'*	butterfat*
built-up	bundled	burrow	butterflies*
bulb*	bundles	burst	butterfly*
bulbs*	bunk*	bursting	buttermilk
bulge	bunkhouse*	bursts	button
bulging	burden	bury	buttonhole
bulk*	burdens	bus	buttonholes
bulky*	bureau*	bush	buttons
bull	burgess*	bushel	buttress*
bulldog*	burgesses*	bushels	buttresses*
bulldozed*	burial*	bushes	buy
bulldozer*	buried	bushy	buyer*
bulldozers*	burlap*	busier	buyers*
bulletin	burn	busiest	buyer's*
bulletin-board	burned	business*	buying
bullets	burned-off	businesses*	buys
bullfight*	burned-out	businessman*	buzz*

by	calculating	campers*	cannon*
by-gone	calculators*	campfire*	cannons*
by-pass	calendar*	campfires*	cannot
by-products*	calf	camping*	canoe*
cab	caliph*	camp*	canoes*
cabbage	caliphs*	campsites*	cans
cabbages	calk*	campos*	cantaloupes*
cabin	call	can	canton*
cabinet*	called	canal*	cantons*
cabinetmakers*	calling	canalboats*	canvas
cabins	calls	canal-builders*	canvas-covered
cable*	calm	canals*	canyon*
cables*	calumet	candidate*	canyons*
caboose	calves	candidates*	cap*
cacao*	came	candied	capable
cache*	camel*	candle	cape*
cackled	camels*	candlelit	capes*
cackling	camel's*	candles	capital*
cactus*	camel's-hair*	candy	capitals*
cafe*	camera*	candy-stripe	capitol*
cafes*	cameramen*	cane*	capped*
cake	cameras*	canes*	caps*
caked	camp*	canned	capsule*
cakes	campaign*	canneries*	capsules*
calcimine*	campaigns*	cannery*	captain*
calculate	camped*	canning*	captains*

captain's*	caretaker	carry	castles*
caption	caretakers	carrying	castor*
captions	cargo*	cars*	castor-oil*
captives*	cargo-carrying*	cart	cat
capture	cargoes*	carted	cataract*
captured	caribou*	cartons	cataracts*
capturing	carillon*	cartoons	catch
car*	caring	carts	catches
caravan*	carnauba*	carve*	catching
caravans*	carnations	carved*	caterpillars*
carbon*	carp*	carving*	cathedral*
card	carpenter	carvings*	cathedrals*
cardboard	carpenters	case	catlike
carded*	carpenters'	casein*	catsup
cardinal	carpet	cases	cattle*
carding*	carpetbaggers*	cash*	cattle-owner*
cards	carpet-making	casing*	cattle-raising*
care	carpeted	casks*	caught
cared	carpets	cassava*	cauliflower*
career	carriage*	cassia*	cause
careers	carriages*	cast*	caused
careful	carried	caste*	causes
carefully	carriers*	castes*	causeway*
careless	carries	casting*	causeways*
carelessly	carrots	castle*	cave*
caressed	carrousel*	castle-like*	cavern*

caves*	centuries*	changing*	chatter
cease	century*	channel*	chattered
cedar*	cereal*	channels*	cheap
cedarwood	cereals*	chants*	cheaper
ceiling	ceremonies*	chapel	cheapest
ceilings	ceremony*	chapter	cheaply
celebrate	certain*	chapters	cheating
celebrated	certainly*	characteristic*	check
celebrating	chaff*	characters*	checked
celebration*	chain*	charcoal*	checker
celebrations*	chained*	charge*	checkerboard
celery	chains*	charged*	checkered
cell	chair	charges*	cheek
cellar*	chairman*	chariot*	cheeks
cellars*	chairmen*	chariots*	cheer
celluloid*	chairs*	charity	cheered
cement*	chalet*	charm*	cheerful
cement-and-steel*	chalk	charms*	cheering
cemetery*	chalkboard	charred	cheerless
census*	challenge*	chart*	cheers
centennial*	chamois*	charter*	cheery
center*	chance	charts*	cheese*
centered*	chancellor*	chase	cheesecloth*
centers*	change*	chased	cheeses*
central*	changed*	chassis*	chefs*
cents	changes*	chatted	chemical*

chemicals*	child's	choice*	chug-chug
chemist*	chili*	choicest*	chugged
chemistry*	chili-con-carne*	choir	chugging
chemists	chill	choirs	chugs
cherish	chiller*	choke*	chunks
cherries	chillers*	choked*	chuno*
cherry	chilly*	choose	chur
chessmen	chime	chooses	church*
chest	chimed	choosing	churches*
chestnuts	chiming	chop	churchmen*
chests	chimney	chopped	churtyard
chewing	chimneys	chopped-up	churn
chewing-gum	chimpanzee	chopping	churned
chick	chimpanzees	chops	churning
chicken	china*	chopsticks*	chute*
chickens	chinaware*	chores*	chutes*
chicks	chinked*	choruses*	cider
chicle*	chip	chose	cigar
chief*	chips	chosen	cigarettes
chiefly*	chisel	chowder*	cigar-making
chiefs*	chisels	chrome*	cigar
chieftains*	chit*	chromium*	cinchona*
child	chits*	chronicle*	cinders
childhood	chivalry*	chrysanthemum	cinnamon*
children	chocolate*	chubby	circle*
children's	chocolates*	chuck*	circled*

circles	civil-rights	cleaned	clinics
circular*	clad	cleaner	clip-clop
circulates*	claim*	cleaning	clipped
circumference*	claimed*	cleanliness	clipper*
circumnavigate*	claims*	cleans	clippers*
circumnavigated*	clambakes	cleansing	clippings
circus*	clambered	clear	cloak
circuses*	clamps	cleared	clock*
cities*	clams	clearing*	clock-and-watch*
citizen*	clan*	clearings*	clocks*
citizens*	clang	clearly	clod
citizens'*	clanked	clear-minded	clods
citrus*	clanking	clear-sighted	clogs*
citrus-fruit*	clap	clerk	cloister*
citrus-growing*	clapped	clever	clop
city*	class*	cleverest	close
city-owned*	classes*	click	closed
city-planning*	classmate*	cliff*	close
city's*	classmates*	cliffs*	closely
city-state*	classroom*	climate*	closer
city-states*	classrooms*	climates*	closes
civic*	clatter	climb	closest
civil*	clattered	climbed	close-up
civilization*	clay*	climbing	close-ups
civilizations*	clay-tablet*	cling	closing
civilized*	clean	clings	cloth*

clothe*	coal*	coconut*	collars
clothed*	coal-and-iron*	coconuts*	collect*
clothes*	coalbin*	cocoon*	collected*
clothing*	coal-burning*	cocoons*	collecting*
clothmaking*	coal-deposits*	cod*	collection*
cloud	coal-dust*	code*	collective*
cloudless*	coal-mining*	codes*	collectives*
clouds	coal-producing*	codfish*	collectors*
cloudy	coals*	cod-liver*	collector's*
clove*	coarse*	coffee*	collects*
clover*	coarser*	coffee-picking*	college*
cloves*	coast*	coffee-producing*	colleges*
club	coastal*	cogs	collie
clubs	coastline*	coin	cologne*
clue	coasts*	coined	colonial*
clumps	coat	coins	colonies*
clumsy	coated	coir*	colonists*
clung	coating*	coke*	colonization*
cluster*	coats	coking*	colonized*
clustered*	cob	cola*	colony*
clusters*	cobalt*	cold*	color
cluttered	cobblers	colder*	colored
coach*	cobblestone*	coldest*	colorful
coaches*	cobblestones*	cold-storage*	coloring
coachman*	cobs	coliseum*	colorless
coachmen*	cocoa*	collapses	colors

colts	comical	communist*	completing*
column*	coming	communists*	complex*
column-like*	command*	communities*	complexioned
columns*	commandant*	community*	complicated*
comb	commanded*	community's*	compliment
combed	commander*	companies*	compose*
combination*	commander-in- chief*	companions	composed*
combine	commandment*	company*	composer*
combine*	commandments*	company's*	composers*
combined*	commands*	compare*	composition*
combined	commend	compared*	compost*
combines	commerce*	comparing*	compromise*
combines*	commercial*	comparison	compulsory
combing*	commissions*	compass*	computer*
combings*	committee*	compete	computers*
combining*	committees*	competed	concealed
combining	committee's*	competition	concentrate*
combs	common*	competitors	concentration*
come	commonwealth*	complain	concerned
comedy*	commune*	complained	concert*
comes	communes*	complaining	concert*
comet*	communicate*	complaint*	concerts*
comfort	communicating*	complete*	concerts*
comfortable*	communication*	completed*	conch*
comforter	communications*	completely*	conclusion
comic	communism*	completes*	concrete*

condensed*	connection*	constructed	continued
condition	connections*	construction	continues
conditioners	connects*	consul*	continuous*
conditioning	conquer*	consuls*	contract*
conditions	conquered*	consult	contract*
conducted	conquering*	consulted	contractor*
conductor	conqueror*	consulting	contrary
cone*	conquers*	consume*	contrast*
cones*	conquest*	consumers*	contrast*
cone-shaped*	conscience	contact	contrasts
confederate*	consent*	contain	contributed
confederation*	conservation*	contained	control*
confer	conserve*	container	controlled*
conference*	conserved*	containers	controls*
conferences*	conserving*	containing	convenience*
confident*	consider*	contains	conveniences*
conflict*	considerably*	content*	convenient*
confused*	considered*	content	convent*
confusing*	consist	contents*	convention*
confusion*	console	contest	conversation*
Congress*	constable*	contestants	converted
Congressman*	constant*	contests	conveyor*
Congressmen*	constantly*	continent*	convicted
connect*	constitution*	continental*	convicts
connected*	constitutions*	continents*	convinced
connecting*	construct	continue	convoy*

convoy*	copies	cornfield*	cotton*
cook	copper*	cornfields*	cotton-growing*
cooked	copper-mining*	corn-growing*	cottonmaking*
cookies	copper- production*	cornhusks*	cotton-picking*
cooking	copper-skinned*	cornice	cotton-producing*
cookouts	copra*	cornmeal*	cottonseed*
cooks	copy	corn-on-the-cob*	cottonseed-oil*
cookstove	copying	corn-picking*	couch
cookstoves	copyist	corn-planting*	coughs
cool	copyists	cornstalk*	could
cooled	coral*	cornstalks*	council*
cooler	corals*	cornstarch*	councilors*
coolie*	cord	corpusles*	councils*
coolies*	cords	corral*	counselor*
cooling	corduroy*	corrals*	counselors*
cools	core	correct	count*
cooper*	cores	correctly	counted*
co-operate*	cork*	corridor*	counter*
co-operated*	cork-oak*	corsets	counties*
cooperates*	cormorant*	cost	counting*
cooperating*	corn*	costly	countless*
cooperation*	corn-belt*	costs	countries*
co-operatives*	corner	costumes	country*
coopers*	cornered	cot	country-men*
cope	corners	cottage	country's*
copied	cornerstone	cottages	countryside*

country-wide*	cowboy*	cranes*	creek*
county*	cowboys*	crank	creep
courage*	cowcatchers*	crate	creeping
courageous*	cowhide*	crater*	creole*
course*	cowhides*	craters*	crept
courses*	cows*	crates	crescent*
court*	cowshed*	crawl	crescent-shaped*
courteous	coyotes*	crawled	crest*
courtesy	crab*	crayolas	crests*
courthouse*	crabmeat*	crayfish	crevasse*
courts*	crabs*	crayon	crevasses*
courtyard*	crack	crazed	crew
courtyards*	crackers	creaked	crews
couscous*	crackled	creaking	cricket*
cousin	cracks	cream*	crickets*
cousins	cradle	cream-colored	cried
cover	cradleland	creameries*	crier*
covered	cradles	creamery*	crime
covering	craft*	creamy*	crippled
coverings	crafts*	creases	crisis
covers	craftsman*	create*	crisp
coves*	craftsmen*	created*	crispness
cow*	crammed	creating*	crisscross
coward	cranberries*	creation*	criss-crossed
cowardly	cranberry*	creatures	criss-crossing
cowards	crane*	credit	crocodile*

crocodiles*	crude*	cultivate*	curiously*
crooked*	cruel	cultivated*	curl
crop*	cruelly	cultivating*	curled
cropland*	cruelty	cultivation*	curling
cropping*	cruise*	cultivators*	currants*
crops*	cruised*	cultural*	current*
cross*	cruisers*	culture*	current-events*
cross-barred*	cruising*	cultures*	currents*
crossed*	crumble*	cuneiform*	curtain
crosses *	crumbled*	cup	curtains
crossing*	crumpled	cupboard	curve
crossings*	crunchy	cupboards	curved
cross-legged*	crusade*	cupful	curves
crossroads*	crusaders*	cups	curving
cross-section*	crusades*	curbed	cushions
cross-stitch*	crush	curbstones	custard
cross-stitching*	crushed	curd	custards
crouching	crushing	curdles	custom*
crowd*	crust	cure*	customer*
crowded*	crusty	cured*	customers*
crowding*	cry	cures*	customer's*
crowds*	crying	curfew*	customs*
crown	crystals	curing*	cut
crowned	cubic	curios*	cutlery*
crowns	cucumber	curiosity*	cut-out
crows	cucumbers	curious*	cut-over*

cuts	dam*	dark-green*	dead*
cutters*	damage	darkness*	deadly
cutting	damaged	dark-red*	deaf
cuttings	damages	dark-skinned*	deafening
cyclone*	damask*	dart*	deal*
cyclotron*	dame*	dash	dealer*
cylinder*	damp*	dashed	dealers*
cymbals	dampness*	date*	deals*
cypress*	dams*	dateline	dealt*
czar*	dance	date-mat*	dear
czars*	danced	dates*	death*
dad	dancers	daughter	deaths*
daffodil	dances	daughters	debate*
daffodils	dancing	dawn*	debt*
daggers	danger	dawning*	debtor*
daily	dangerous*	day	debtors*
dainty	dangers	daybreak	debts*
dairies*	dare	day-by-day	debt-slaves*
dairy*	dared	daydreams	decay*
dairy-farm*	daring	daylight	decaying*
dairying*	dark*	day-old	decays*
dairymaids*	dark-bearded*	days	decent
dairyman*	darken*	day's	decide
dairy-region*	darkenings*	daytime	decided
daisies	darker*	dazed	decides
daisy	darkest*	dazzling	deciding

decision	defeated	deliver	depended
decisions	defeating	delivered	dependent*
deck	defend	delivering	depending
declare	defended	delivery	depends
declared	defender	delta*	deported
declaring	defense*	demand	deposit*
decline	defenses*	demanded	deposits*
decomposes*	defensive*	demands	depressed
decorate	define	democracy*	depression*
decorated	definite*	democratic	depressions*
decorative	definition*	demolition*	depth
decreed*	definitions*	demons	depths
deed*	defraud	demonstrate	derived
deeds*	degree*	demonstrates	derrick*
deep	degrees*	demonstration	derricks*
deep-blue	dehydration*	dense*	desalting*
deepen	delayed*	densely*	descend
deepened	delays*	densely-settled*	descendants*
deeper	delegate*	density*	descent
deeply	delegates*	dental	describe
deep-sea*	delicate*	dented	described
deer*	delicious	dentist	describes
deerhorns*	delight	department*	describing
deerskin*	delighted	departments*	description
deerskins*	delightful	depend	descriptions
defeat	delights	dependable	descriptive

desert*	detective	dialects*	differ
desert*	detectives	dialogues	differed
deserted	detergents	dials	difference
desert-like*	determined	diameter*	differences
deserts*	detours	diamond*	different
deserve	develop	diamond-bearing*	differently
deserved	develope	diamond-cutting*	differs
design	developed	diamonds*	difficult*
designed	developer	diary*	difficulties*
designer	developing	dice	difficulty*
designers	development	dicers	dig
designs	developments	dictates	digging
desirable	develops	dictator*	diggings
desire	device	dictators*	dignified
desired	devices	dictatorship*	dignity
desires	devote*	diction	digs
desk	devoted*	dictionaries	dike*
desks	devour	dictionary	dikes*
desolate*	devoured	did	diligent
despair	devouring	die	diligently
desperate*	dew	died	dim
despite	dew-covered	dies	dimes
destroy	diagram	diesel*	dinars*
destroyed	diagrams	diesel-electric*	diners
destroys	dial	diesel-powered*	dingy
destruction	dialect*	diet*	dining

dining-room	disappear	disease-carrying*	distilleries*
dinner	disappeared	diseases	distinctly
dinners	disappearing	disguise	distinguished
dinnertime	disappointed	disgust	distress
diorama*	disappointing	dish	distributed
dip	disappointment	dishes	district*
diplomas	disapprove	dishonest	districts *
dipped	disaster	dishonorable	distrusted
dipping	disc*	disk*	disturbance
direct	discharged	dislike	disturbed
directed	disciples	disliked	ditch*
direction*	discontent	dismayed	ditchdiggers*
directions*	discouraged	disorder	ditches*
directly*	discouraging	displays	diver
directors	discover*	displease	divers
dirt	discovered*	displeased	diversity*
dirt-colored	discoveries*	displeasing	diverts
dirty	discovering*	disposed	divide*
disabled	discovery*	dispute	divided
disadvantage*	discus*	dissatisfaction	divides
disadvantages*	discuss	disputes	dividing
disagree	discussed	dissatisfied	divine
disagreeable	discussing	distance*	division*
disagreed	discussion*	distances*	divisions*
disagreement	discussions*	distant	dizzy
disagreements	disease*	distillery*	do

dock*	domed	doubled	dragon
docked*	domes	doubted	dragon-like
docking*	domestic*	doubtful	dragons
docks*	domesticated*	doubtfully	drain
dockyard*	dominion*	doubting	drainboards
dockyards*	dominions*	dough*	drained
doctor	done	doughboys*	draining
doctors	donjon*	doughnut	drains
doctor's	donkey*	doughnuts	drama
document*	donkey-back*	doused	dramas
documents*	donkeys*	down	dramitization
does	doomed	downfall	dramatize
dog	door*	downhill	dramatizing
dog-headed	doors*	downpours*	drank
dogie*	doorstep*	downriver*	draped
dogs	doorsteps*	downstairs	draw
dog's	doorway*	downstream*	drawbridge*
dogwoods	doorways*	downtown	drawers
doing	dooryard*	downward	drawing
doled	dories*	dozen	drawings
doll	dormitories*	dozens	drawn*
dollar	dory*	drafted	draws
dollars	dot	draftsmen	dreaded
dollhouses	dots	drag	dreadful
domain*	dotted*	dragged	dreadfully
dome	double	dragging	dream

dreamed	drilled	druggist	dukes*
dreamed-of waterway	drilling	drugs	dull
dreaming	drills	drugstore	dumb
dreams	drink	drum	dumbbells
dreamy	drinking	drumming	dump
dreariness	drinks	drums	dumped
dreary	drip	drunk	dumps
dredge*	drive	dry*	dune*
dredged*	drive-in	dry-cleaning	dunes*
dredges*	driven*	dryer	dungeon*
dredging*	driver	drying*	durable*
drenching	drivers	dryland*	durability*
dress	driver's	dryness*	during
dressed	drives	dub*	durra*
dresses	driveway	duck	dust*
dressings*	driving	duckbill	dusters*
dressmakers	droned	duckbilled	dusting
drew	droning	duckboy*	dusty*
dried*	drop	duckboys*	duties*
drier*	dropped	ducking	duty*
dries	drops	ducks	dwarf
driest	drought*	due	dwarfed
drift*	drought- resistant*	dug	dweller*
drifted	drove	dugout*	dwellers*
driftwood	drowning	dugouts*	dwellings*
drill	drug	duke*	dwelt*

dye*	ears	eaten	eggs
dyed	earth*	eaters	eggshell
dyers	earth-circling*	eating	eight
dyes*	earthen*	eats	eighteen
dyestuffs*	earthenware*	eaves	eighteenth
dynamite*	earth-moving*	ebbing*	eighteenth- century
dynamo*	earthquake*	ebony*	eighth
each	earthquakes*	echidna*	eight-hundred- mile
eager	earth's	echoed	eight-story
eagerly	earth-shaking*	eclipse*	eighty-eight
eagerness	earthworms*	eclipses*	eighty-acre
eagles	ease	economy*	eighty-five
eagle's	easier	edge	either
ear	easiest	edges	ejido*
earlier	easily	edited	elaborate
earliest	east*	editorials*	elaborately
early	east-coast*	educated*	elbow
early-morning	eastern*	education*	elder*
earmuffs	easterners*	educational*	eldest*
earn	easternmost*	eels	elect*
earned	eastward*	effect*	elected*
earnest	east-west*	efficient*	electing*
earnestly	easy	effort	election*
earns	easygoing	efforts	elections*
earphones*	easy-to-mine	eggplant*	electric*
earrings	eat	eggplants*	electrical*

electricians*	embraced	enabled	engine*
electrician's*	embroidered	enamel*	engineer*
electricity*	embroideries	encircles	engineering*
electronic*	embroidering	enclose	engineers*
electronics*	embroidery	enclosed	engineers'*
elegant	emerge	enclosing	engines*
element*	emergencies	encourage	engine's*
elementary	emigrants*	encouraged	engrave*
elephant*	emigration*	encouragement	engraving*
elephantlike*	emperor*	encouraging	enjoy
elephants*	emperors*	encyclopedia*	enjoyable
elevated*	emperor's*	encyclopedias*	enjoyed
elevation*	empire*	end	enjoying
elevator*	empires*	ended	enjoyment
elevators*	employ	endings	enlarged
eleven	employed	endless	enlarging
eleven-year-old	employees	ends	enlightened
elk*	employer	endure*	enlist
elm	employers	enemies*	enlisted
else	emptied	enemy*	enormous
elsewhere	empties	energetic*	enough
emancipate*	empty	energy*	enrich
emancipated*	empty-handed	enforce*	enriched
embalmed*	emu*	enforced*	enslaved*
embalming*	emus*	enforcing*	enslaving*
embrace	enable	engage*	enter*

entered*	erosion*	evaporating*	examination
entering*	errand	eve	examinations
enters*	errands	even	examine
entertain*	erupted*	evening	examined
entertained*	eruption*	evenings	example*
entertainment*	erupts*	evening's	examples*
enthusiastic	escalator	evenly	excavation*
entire*	escalators	event	excavations*
entirely*	escape	events	exceedingly
entrance*	escaped	ever	excel
entrances*	escapes	ever-changing	excellent*
envied	esparto*	evergreen*	except
envy	especial	evergreens*	excess
epic*	especially*	ever-growing	exchange*
epilogue*	establish	every	exchanged*
equal*	established	everybody	exchanges*
equality*	establishing	everybody's	exchanging*
equals*	estate*	everyday	excited
equator*	estates*	everyone	excitement
equip	estimate	everyone's	exciting
equipment*	estuary*	everything	exclaimed
equipped	eternal	everytime	excommunicated*
erase	eucalyptus*	everywhere	excursion*
erect	evaporate*	evidently	excuse
erected	evaporated*	exact*	excuse
ermine*	evaporates*	exactly*	excused

excuses	experiences	export*	eyewitnesses
execute*	experiment*	export*	eyes
executed*	experimenting*	exported*	fable*
executive*	experiments*	exporters*	fables*
exercise	expert*	exporting*	face
exercised	expert*	exports*	faced
exercises	experts*	exposed*	faces
exhaust	explain	express*	facing
exhausted	explained	expressed*	fact
exhibit*	explaining	expression*	factions
exhibits*	explains	expressway*	factories*
exile*	explanation	extend*	factory*
exist	explode	extended*	factory-made*
existed	explodes	extending*	factory-produced*
existence*	exploding	extends*	facts
exit	exploration*	extensive	factual
expansion	explorations*	extent	fade
expect	explore*	extortion*	faded
expected	explored*	extra	fail
expecting	explorer*	extract*	failed
expedition*	explorers*	extract*	fails
expeditions*	explorers'*	extracted*	failures
expense	explores*	extreme*	fain
expenses	exploring*	extremely*	fainly
expensive*	explosion*	eye	faint
experience	explosives*	eyelid	faintest

faintly	famines*	farms*	fathers'
fair*	famous	farmyard *	fat-tailed
fairest	fan*	far-off	fatten
fair-haired	fancy	far-reaching	fattened
fairly*	fan-like*	far-seeing	fattening
fairness	fanned*	farther	faucets
fairs*	fans*	farthest	faults
fair-sized	fan-shaped*	fascinated	favorable*
fair-skinned	far*	fascinating	favorite*
fairyland	faraway*	fashion*	favours
faith	fare	fashionable*	fazenda*
faithful*	fared	fashions*	fear
faithfully	fares	fast	feared
fall*	farewell	fasten*	fearing
fallen	far-flung	fastened*	fearless
falling	faring	fastening*	fearsome
fallow*	farm*	fastens*	fears
fallowing*	farmed*	faster	feast
falls*	farmer*	fastest	feasted
false	farmers*	fast-flowing	feather
fame	farmers'*	fast-growing	feathered
famed	farmhouse*	fast-moving	feathery
families*	farmhouses	fat	features
family*	farming*	fate	fed
family's*	farmland*	father	federal*
famine*	farmlands*	fathers	federation*

fee	fertilizers*	fierce*	fighting
feed*	festers	fiercely*	fight
feeds*	festival*	fiercely-cold*	figs
feel	festivals*	fiercest*	figure*
feeling	festive*	fiery	figured*
feelings	fetch	fiesta*	figures*
feels	feud*	fifteen	file
feet	feudal*	fifteenth	fill
fell	feudalism*	fifteen-year-old	filled
fellow	fever*	fifth	filling
fellow-citizens	feverishly*	fifths	fills
fellows	fever-ridden*	fiftieth	film
felt*	fevers*	fifty	films
felucca*	few*	fifty-eight	filter*
fence*	fewer*	fifty-fifth	filters*
fenced*	fewest	fifty-five	final
fences	fez*	fifty-first	finally
ferment*	fiber*	fifty-four	find
ferocious	fibers*	fifty-nine	finder*
ferris	fiddle	fifty-one	finding
ferry*	fiddles	fifty-six	finds
ferryboat*	fiddlesticks	fifty-year	fine*
ferryboats*	fief*	fig	fined*
fertile*	field*	fight	finer
fertilize*	field-ripened*	fighter	fines*
fertilizer*	fields*	fighters	finest

finger	fire-spitting	fitted	flash
fingered	firewood	fitting	flashed
finger-like	fireworks	five	flashlight
fingerlings	firing	five-and-ten-cent	flashlights
fingers	firm	five-cent	flat
finish*	firmly	five-hundred- pound	flatboat*
finished*	firmness	five-part	flatboats*
finishes*	firms	five-sixths	flat-bottomed*
fins*	first	five-thousand- year	flatcar*
fiord*	first-aid	five-year	flat-roofed*
fiords*	fish*	five-year-old	flatten
fir	fished*	fix	flatter
fire*	fisheries*	fixed	flattest
firearms	fisherman*	fixing*	flat-topped
fire-baked	fishermen*	fizz	flavor
firebox*	fishers*	flag*	flax*
firecrackers	fishes*	flags*	flaxseed*
fired*	fishhooks*	flagship*	fled*
firefighters*	fishing*	flails*	flee
fireflies	fishnet*	flakes	fleece*
fireman*	fishnets*	flame	fleeces*
firemen*	fishtrap*	flames	fleet*
fireplace	fist*	flannel	fleets*
fireplaces	fists*	flaps	flesh
fireproof	fit	flared	flew
fires*	fits	flares	flexible

flickering	flour-and-water*	fog	fool's
flies	flourished	fogs	foot*
flight	flourishing	fold	football
flightless	flour-milling*	folded	foothills*
flights	flow*	folder	foothold
flint*	flowed*	folded	footmen
flinty*	flower*	folders	footpaths*
float*	flower-covered*	folding	foot-powered
floated*	flower-growing*	foliage*	footprints
floating*	flowering*	folk*	footsore
floats*	flowers*	folksongs*	for
flock*	flower-trimmed*	follow	forbade
flocked*	flowing*	followed	forbid
flocks*	flown*	follower	forbidden
flood*	flows*	followers	forbidding
flooded*	fluffs	following	forbids
flooding*	fluffy*	follows	force*
floodlights	flung	folly*	forced*
floods*	flurry	fond	forces*
floodwaters*	flute*	food*	forcibly
floor*	flutes *	food-growing*	forecast
floors*	fly	food-processing*	forecasting
flopping	flying*	food-producing*	forecasts
flounder*	foam	foods*	forefathers
flour	foe	foodstuffs*	foreground*
flour-and-steel	foes	foolish	forehead

foreheads	forming	foundries*	fox*
foreign	forms	forward-looking	foxes*
foreman*	fort*	fot	fraction
foresee	forth	fought	fragments
forest*	fortifications*	found*	fragments
forest-covered*	fortified*	foundation*	fragrant
forested*	fortress*	foundations*	frail
forestry*	forts*	founded*	frame*
forests*	fortunate	founders*	framed*
foretell	fortunately	founding*	frames*
forever	fortune	foundry*	framework*
forfeits	fortunes	fountain	frankfurter*
forgave	forty*	fountains	frankincense*
forge	forty-eight	four	fraternity*
forget	forty-five	four-fifths	freckled
forgetting	forty-four	four-footed	free*
forgot	forty-minute	four-horse	free-born*
forgotten	forty-niners	four-lane	freed*
fork	forty-ninth	four-room	freedman*
forked	forty-one	fourscore	freedmen*
forklift*	forty-three	fourteen	freedom*
forks	forty-six	fourteen-year-old	freedom-loving*
form	forty-two	fourth	freedoms*
formed	forum*	four-thirty	freeing*
former	forums*	fourths	freely
formerly*	forward	fowl	freeway*

freeways*	frightened	fruitful*	furniture*
freeze	frightening	fruit-growing*	furriers*
freezer	frightful	fruitlets*	furrow*
freezing	frijoles*	fruit-picking*	furrows*
freight*	fringe*	fruit-raising*	furry
freighter*	fringed*	fruits*	furs*
freighters*	fringes*	fuel*	further
frequency*	frizzled	fuels*	furthermore
frequent*	fro	full	fur-trading*
frequent*	from	full-grown	future*
frequently*	front	full-size	gable
fresh	frontier*	fully	gadget
freshly-cut	frontiers*	fumes*	gaily
fresh-water	frontiersman*	fumigating*	gain
fret	frontiersmen*	fun	gained
friar*	frost	fund-raising	gainers
friars*	frosted	fungia*	gaining
fried	frost-free	funny*	gains
friend	frosts	fur*	gale
friendliness	frosty	fur-bearing*	gales
friendly	frown	furiously	gallant*
friends	frowned	fur-lined*	gallantry*
friendship	frozen*	furnace*	galleon*
friendships	frozen-food*	furnaces*	galleons*
frieze*	frozen-juice*	furnish*	galleries*
frighten	fruit*	furnished*	gallery*

galley*	gasoline*	geese	geometry*
gallnuts*	gasoline-driven*	gem*	germs
gallons	gasoline-powered*	general*	gestures*
galloped	gasp	general-in-chief*	get
galloping	gate*	generally	gets
game*	gatekeeper*	generals*	getting
games*	gatekeepers*	generate*	get-well
gangplank*	gates*	generated*	geyser*
gantries*	gateway*	generation	geysers*
gantry*	gateways*	generations	ghee*
gap*	gather	generating*	ghost*
gaping*	gathered	generator*	ghosts*
gaps*	gatherer	generators*	giant
garage*	gathering*	generosity	gift
garages*	gaucho*	generous	gifted
garbage	gave	gentle	gifts
garden*	gavel	gentlemen	gigantic
gardener*	gay	gentlemanly	gilded
gardening*	gay-colored	gentlemen's	gill
gardens*	gayest	gently	gill*
garlands	gayly	geographer*	gin*
garlic	gazed	geographers*	ginger
garment*	gazing	geographic*	gingerbread
garments*	gazelle*	geographically	gins*
gas*	gazelles*	geography*	giraffe
gashes	geared	geology*	giraffes

girders*	glassmaking*	glue	golden-red*
girdle*	glassmakers*	glued	gold-mining*
girdled*	glassware*	glycerine*	gold-rush*
girdling	glassworks*	gnats	gold-seeking*
girl	glazed*	go	goldsmiths*
girls	gleam	goal	goldsmiths'*
girl's	gleaming	goat*	golf
give	glided	goats*	gondola*
given	glider*	goatskin*	gondolier*
gives	glimpse*	gobbled	gone
giving	glimpsed*	gobble-gobble- gobble	gongs
glacier*	glimpses*	goblins	good*
glacier-clad*	glistening	god*	good-by
glaciers*	glittered	goddess*	goodbye
glad	glittering	goddesses*	good-day
glade	global*	gods*	good-looking
gladiator*	globe*	goes	good-luck
gladiators*	globes*	goggles	good-natured
gladiolas	glorious	going	good-naturedly
gladly	glory	gold*	goodness
glance	glossary*	gold-and-ivory*	goods*
glanced	glossy	gold-bearing*	good-sized
glare	gloves	gold-covered*	good-smelling
glass*	glow	golden*	good-tasting
glasses*	glowed	goldfish*	good-will
glass-lined*	glowing	gold-handled*	goose*

gorge*	gradually	grapes	gray-brown
gorgeous	graduates	grapevines	gray-green
gorgeously	graduation	graph*	grayish-green
gorges*	grafted	graphite*	grayish-white
gorillas	grafting	graphs*	grays
got	grain*	grappling	graze*
gouged	grains*	grasping	grazed*
gourd*	grammar*	grass*	grazing*
gourds*	granary*	grass-covered*	greasy
govern*	grand	grass-eating*	great*
governed*	grandchildren	grasses*	great-circle- route*
governing*	granddaughter	grasshoppers*	greater
government*	grandfather	grassland*	greatest
governments*	grandmother	grasslands*	great- grandchildren
governor*	grandmother's	grass-like*	great- granddaughter
governor- general*	grandnephew	grassy*	great-grandfather
governors*	grandparents	grateful	great-grandmother
governor's*	grandson	gratitude	great-grandparent
governs*	grandsons	gravel*	great- grandparents
gowns	grandstand	gravel-surfaced*	great-great- grandfather
grabbed	granduncle	graves	great-great-great- great-great- grandchildren
grabbers	granite*	gravestones	
grace	grant	gravity*	greatly
graceful	granted	gravy	greatness
grade*	grants	gray	greed
grades*	grapefruit*	gray-black	greedy

green	groaned	grunts	gum*
greener	groceries	guano*	gummy*
greenhouse*	grocery	guard*	gums*
greenhouses*	grocery-store	guarded*	gun
greenish-black	grooves	guardian*	gun-fire*
greens	ground*	guards*	gunman*
greet	grounded*	guerrilla*	gunner*
greeted	grounds*	guerrillas*	gunners*
greeting	ground-up*	guess	gunny*
greetings	group*	guessed	gun-powder*
greet	groups*	guest	guns
grenades*	grove*	guests	gunsmith*
grew	groves*	guidance	gunsmiths*
grieved	grow	guide	gushed
grim	growers	guided	gusher*
grime	growing	guides	gushers*
grin	grown	guild*	gymnasium
grind*	grown-up*	gilded*	gymnasiums
grinding*	grown-ups*	guilds*	habits
grindstone*	grows	gullies*	hacienda*
grinning	growth*	guillotine*	had
gripman	grubs*	guilty	haddock
grips	grudge	gulf*	hail
gristmill*	grumble	gulfs*	hailed
gristmills*	grumbled	gullies	hair
grits	grumbling	gulls*	hairdresser

hairdressers	hammering	hanged	hardness*
haired	hammers	hanging	hard-riding*
hair-like	hammock*	hangings	hardship*
hairpins	hams	happen	hardships*
hairy	hand*	happened	hard-surfaced*
half	hand-blown*	happening	hard-to-reach*
half-barbarian*	handed	happenings	hard-to-use*
half-brother	handful	happens	hardware*
half-buried	handfuls	happier	hard-won*
half-circle	handiwork*	happily	hardwood*
half-crazy	handicap	happiness	hardwoods*
half-faced	handkerchief	happy	hard-working*
half-finished	handkerchiefs	harbor*	hardy
half-frozen	handicraft*	harboring*	hare
half-spoiled	handle	harbors*	hares
half-starved	handled	hard*	harm
halfway	handles	hard-baked	harmed
half-wild	handling	hardened*	harmful
halibut*	handmade*	hardens*	harmonize
hall*	hands*	harder*	harmony
halls*	handsome	hardest*	harness*
halva*	handwork	hard-fought*	harnessed*
ham	handweaving*	hard-hearted*	harnesses*
hamburger*	hand-woven*	hardier*	harp
hammer	handy	hardly	harpoon*
hammered	hang	hard-muscled*	harpoons*

harrow*	having	healing	heavier
harsh	hay*	health*	heaviest
harvest*	hayloft*	healthful*	heavily
harvested*	haylofts*	healthiest*	heavily-laden
harvester*	haystack*	healthy*	heavily-loaded
harvestime*	haze	heap	heavy
harvesting*	hazelnuts*	heaps	heavy-handed
has	he	hear	hedges
haste*	head	heard	heed
hastily	headache	hearing	heel
hat	headbands	heart*	heel-boom
hatch*	head-cloth	heart-broken*	heels
hatched*	headdress*	hearth	hegira*
hatchery*	headdresses*	hearts*	height
hatches*	headed	heartsick*	heights
hatchet*	head-hunters*	heat	heir
hatchets*	heading	heat-cured*	heirs
hate	headings	heated	held
hated	headless	heaters	helicopter*
hatred	headlights	heathen*	helicopters*
hats	headman*	heather	helium*
haul*	headquarters*	heating	hello
hauled*	headphones*	heats	helmet
hauling*	heads	heaved	helmets
have	head-shawl	heaven	help
haven	headwaters*	heavenly	helped

helpers	hermit*	highland*	hippopotami*
helpful	hero	highlands*	hippopotamuses*
helping	heroes	highly	hire*
helpless	heroic*	high-powered	hired*
helps	heron*	high-quality	hires*
hemisphere*	herring*	high-speed	hiring*
hemlock*	hers	high-voltage	his
hemlocks*	herself	highway*	hiss
hemmed	hevea*	highways*	hissing
hemp*	hewn	hike	historian*
hen	hibachi*	hiked	historians*
henceforth	hickory*	hikes	historic*
henequen*	hid	hiking	historical*
henequen's*	hidden	hill*	histories*
hens	hide*	hills*	history*
hen's	hides*	hillside*	history-making*
her	hiding	hillsides*	hit
heralds	hieroglyphics*	hilltop*	hitched
herbs	hieroglyphs*	hilltops*	hitching
herd*	high	hilts	hither
herders*	high-caste*	hilly*	hoarse
herding*	higher	him	hobby
herds*	higher-built	himself	hockey*
herdsman*	highest	hinder	hoe*
herdsmen*	high-grade	hindered	hoed*
here	high-handed	hinges	hoes*

hogan*	homelands*	hoops	horsepower*
hogans*	homeless*	hoot	horses*
hog-raising*	homely	hooted	horse's*
hogs*	homemade*	hope*	horseshoe*
hoisted	homes*	hoped*	horseshoes*
hold*	homesick	hopeful*	hose
hold	homespun*	hopeless*	hoses
holder	homestead*	hopelessly*	hospital*
holders	homesteaders*	hopes*	hospitals*
holding	hometowns*	hoping*	hostile*
holdings	hominy*	hopper*	hot
holds	homogenized*	hops	hotel
hole	honest	horizon*	hotel-keepers
holes	honey	horn	hotels
holiday*	honey-eating	hornbook*	hot-headed
holidays*	honey-sipping	hornbooks*	hothouse*
holier*	honey-sucking	horned*	hotly
holiest*	honor*	horns*	hotter
hollow*	honorary*	horse*	hottest
hollowed*	honored*	horse-and-buggy*	hot-weather*
hollowed-out*	hood	horseback*	hour
hollows*	hoofs	horsedrawn*	hourglass
holy*	hook	horsehair*	hourly
home*	hooked	horseless*	hours
homecoming	hook-like	horseman*	house*
homeland*	hoop	horsemen*	house*

houseboat*	hulled*	hunter	hydrogen*
houseboats*	hulls*	hurrah	I
household*	hum	hurricane*	ice*
housekeeper*	human*	hurricanes*	iceberg*
housemaid*	humanity*	hurried	icebergs*
house-on-wheels*	humble	hurriedly	ice-blue*
house-raising*	humid*	hurry	icebox*
houses*	humming	hurrying	ice-clad*
housewives *	hump*	hurt	ice-cold*
housework*	hump-backed	hurting	ice-covered*
housing*	humped	husband	ice-cream
hovels*	humps	husbands	ice-free*
how	humus*	husband's	ice-locked*
howdy	hundred*	hush	icicles*
however	hundreds*	hushed	icy*
howling	hundred-year-old*	husk*	idea*
hub*	hung	husked*	ideal*
huddled	hunger	husking*	ideals*
huff	hungrily	husks*	ideas*
huffed	hungry	husky*	idle
huffing	hunt	hut	idlers
huge	hunted	hutch	idols*
hugged	hunter	huts	if
hugging	hunter-pioneers	hyacinth	igloo*
huh	hunters	hydro*	igloos*
hull*	hunting	hydroelectric*	ignorance*

iliad*	imperial*	inaugurated*	indentured*
ill	imperium*	inaugurating*	independence*
illness	implements*	inauguration*	independent*
ill-treating	import*	in-between	index
illustrate	import*	inbound	indicates
illustrated	importance*	incinerator*	indictment*
illustration	important*	incinerators*	indifferent
illustrations	importantly*	inch	indigo*
images	imported*	inches	indirectly
imaginary*	importer*	include*	individual*
imagination*	importing*	included*	individuals*
imagine*	imports*	includes*	indoors
imagined*	imports*	including*	industrial*
imitated	impossible	income*	industrialist*
imitation	impress*	incomes*	industries*
immediate	impressed*	incomplete	industrious*
immediately	impression	increase	industry*
immense*	impressive	increase	infect
immensely*	imprisoned*	increased	infiltration*
immigrant*	improve*	increased	influence*
immigrants*	improved*	increases	influenced*
immigrate*	improvement*	increases	influences*
immigration*	improvements*	increasing	influencing*
impartial	improving*	increasing	influenza*
impatient	impure	incurable*	inform
imperator	in	indeed	information*

inner	instrument*	international*	invite
innkeepers	instruments*	interpreted	invited
inns	insulating	interprets	inviting
inscription	insulation	interrupted	involved
inscriptions	insult	interview	iodine*
insect	insult	into	iris
insecticide*	insurance*	intracoastal*	iron*
insecticides*	insure*	intricate	iron-and-steel*
insect-killing	insured*	introduce	iron-bearing*
insects	intelligence*	introduced	iron-deposits*
inset	intended	introduction	iron-headed*
inshore*	intense*	invaded*	ironing
inside	intention	invader*	ironmakers*
insides	intently	invaders*	iron-making*
insisted	interchangeable*	invading*	iron-ore*
inspect*	interdependence*	invasion*	iron-rimmed*
inspected*	interest	invent*	irons*
inspecting*	interested	invented*	iron-tipped*
inspectors*	interesting	inventing*	ironwood*
inspire	interests	invention*	ironworks*
inspiring	interfere	inventions*	irregular*
instance	interference	inventive	irrigate*
instead	interferred	inventor*	irrigated*
instruct	interior*	inventors*	irrigating*
instructed	intermarried	invisible	irrigation*
instruction	intermontane*	invitation	irritated

is	jaguar*	jewels*	jousting*
island*	jam	jigsaw	joy
island-dotted*	jammed	jingling	joyous
islanders*	jams	job	joyously
islands*	jar	jobless	judge*
island's*	jars	jobs	judges*
isolated	javelin*	job-training	judging*
issue	jawbreaker	joey*	judgment*
issued	jaws	johnnycake*	judicial*
isthmus*	jealous	join	juice
it	jealousy	joined	juices
italic*	jeep	joining	juicy
item	jeeps	joins	jumped
items	jellies	jointly	jumping
its	jelly	joke	jumping-off
itself	jennies*	joked	jungle*
ivory*	jenny*	joking	jungles*
jack	jerk	jokingly	junior
jackal	jerked	jolly	junk*
jackals	jet*	jostled	junks*
jackass	jets*	journey	junkyard
jacket	jetties*	journeyed	jury*
jade*	jetty*	journeyman*	jurymen*
jail	jeweled*	journeymen*	jurors*
jails	jewel-like*	journey's	just
jagged	jewelry*	joust*	justice*

justly*	keelboats*	kite	knitting*
jute*	keen	kite-fighting	knives*
jutting	keep	kite-flying	knobs*
kind	keeping	kites	knock
kindergarten	keeps	kitten	knocked
kindly	kept	kittens	knocker
kindness	kernel*	kiva*	knocking
kinds	kernels*	kivas*	knot
king	kerosene*	kiwi*	knots
kingdom*	kettle	kiwis*	know
kingdoms*	kettles	kiwi's*	know-how
kingfisher	key*	kneading	knowing
kings	keys*	knee-deep	knowledge
king's	khans*	kneel	known
kink	kibbutz*	kneeling	knows
kissed	kill	knee-length	koala*
kit	killed	knees	kookaburra*
kitchen	killing	knelt	lab*
kaffir*	kills	knew	label
kafir*	kiln*	knife	labeled
kangaroo*	kilns*	knight*	labels
kangroos*	kilogram*	knighthood*	labor*
kaoling*	kilometer*	knightly*	laboratories*
kapok*	kimono*	knights	laboratory
karroo*	kimonos*	knit*	labored*
keelboat*	kitchens	knitted*	laborers*

laborings	laid	landslides*	latex*
laborious*	lain	language*	lathe*
laboriously*	lake*	languages*	latitude*
labor-saving*	lakes*	lantern	latitudes*
lac*	lake-shore	lanterns	latter
lace*	lamb	lap	lattice-like
lace-like*	lambs	lapping	laugh
lacemaker*	lamp*	lard	laughed
lacemaking*	lamps*	large*	laughing
laces*	lance*	largely*	laughingly
lack	lances*	larger*	laughter
lacked	land*	large-scale*	launch
lacks	landed*	largest	launched
lacquer*	landfarm*	lariats*	launching
lacquered*	landfarms*	larvae*	laundress*
lacy*	land-hungry*	lash*	laundries*
lad	landing*	lashed	laundry*
ladder	landlocked*	lassos*	lava*
ladders	landlord*	last	law*
laddies	landlords*	lasted	lawbreakers*
laden	landmarks*	lasting	lawless*
ladies	landowner*	lasts	lawmaker*
lady	landowners*	late	lawmakers*
lady's	lands*	late-model	law-making*
lagoon*	landscape*	later	lawn
lagoons*	landscaped*	latest	lawns

laws*	learn	legions*	less-skilled
lawyer	learned	legislative*	lest
lawyers	learning	legislature*	let
lay	learns	legislatures*	lets
layer	least	legs	letter
layers	leather*	legume*	lettering
laying	leather-dressing*	legumes*	letters
lays	leatherware*	lei*	letting
lazy	leather-worker's*	leis*	lettuce*
lead*	leave	lemon	lettuce-growing*
lead	leaves	lemons	levee*
leader*	leaving	lend	levees*
leaders*	lecture	lending	level*
leadership*	lectured	length*	leveled*
leading*	lectures	lengths*	level-headed*
leads	led	lengthwise*	levels*
leaf*	ledge	lens*	lever
leafy*	ledges	lenses*	levers
league*	leeks	lentils	liberties*
leagues*	left	leopard*	liberty*
leak	left-hand	leopards*	librarian*
leaned	left-over	less*	librarian
leaning	left-overs	lesser*	libraries
leaped	legend*	less-fortunate	library
leaping	legends*	lesson	libraries
leaps	legion*	lessons	license*

lick*	lightly	lines*	literacy*
licks*	lightning	linger	literally
licorice*	lights*	lingered	literature*
lie	lignite*	link	litter*
lied	like*	linked	litterbug*
lies	liked*	linking	litter-careful*
lieutenant	likely*	links	littered*
life*	likeness*	linoleum	litters*
life-giving*	likenesses*	linseed*	little
lifeguard	likes*	linsey-woolsey*	little-known
lifeless	liking*	lions	littles
lifelike	lilacs	lips	live
life-long*	lilies	lipsticks	live
life's*	lily*	liquid*	lived
lifetime*	limb	lips	livelihood*
lift	lime*	liske	lively
lifted	limestone*	list	liver*
lifters	limited	listed	lives
lifting	limp	listen	lives
light*	line*	listened	livestock*
lighted	lined*	listeners	living*
lighter*	linen*	listening	lizard
lightest*	linen-covered*	listens	lizards
light-hearted*	linens*	listing	llama*
lighthouse*	liner*	lists	llamas*
lighthouses*	liners*	lit	llanero*

llanos*	lodging	longed	lords*
load	lodges	longer*	lord's*
loaded	loess*	longest*	lose
loader	loft	long-fibered	losing
loading	loftiest*	long-forgotten	loss
loads	lofty*	long-haired	losses
loaf*	log*	long-handled	lost
loan	loganberries	longhorns*	lot
loaned	log-cabin*	longing	lots
loans	logger*	longitude*	loud
loaves*	loggers*	long-legged	louder
lobsters*	logging*	long-tailed	loud-speaker
local*	logpond*	look	loud-speakers
locate*	logponds*	looked	lounge
located*	logs*	looking	lounges
locating*	loin	lookout	lovable
location*	lone	looks	love
lock*	lonely	loom*	loved
locked	lonesome	looms*	loveliest
locket	long*	loops	lovely
locks*	long-ago*	loose	lover
locomotive*	long-awaited	loose-fitting	lovers
locomotives*	long-buried	loosen	loves
locust*	long-dead	loosened	loving
locusts*	long-distance	looted*	lovingly
lodge	long-dry	lord*	low

low-caste*	lump	machines*	mailboxes*
lower*	lumps	machinists*	mailed*
lowest-paid	lunch	mackerel*	main*
low-fare	lunchrooms	made	mainland*
lowered	luncheon	made-up	mainlands*
lowering	lurched	madman	mainly*
lowest	lure	madras*	mains*
low-flying	lurk	magazine	maintaining*
low-grade*	lurked	magazines	maize*
lowland*	luxuries*	magic*	majesties
lowlands*	luxurious*	magical	major*
low-lying	luxury*	magician	majority
loyal	lycee*	magnesium*	make
loyalty	lye	magnetic*	make-believe
lubricants*	lying	magnificence	maker
lubricating*	lynx*	magnificent	makers
luck	lyre*	magnolias*	makes
luckier	macadam*	maguey*	making
luckily	macaroni*	maharaja*	malaria*
lucky	macaws*	maharajas*	malice*
lumber*	mace*	mahogany*	mallets
lumbering	machete*	maidens	malt
lumberjacks*	machetes*	mail*	malted
lumberman*	machine*	mailbag*	mama
lumbermen*	machine-made*	mailbags*	mammal*
lumber-producing*	machinery*	mailbox*	mammoth*

mammoths*	manual*	marine*	masks
man	manufacture*	maritime*	masons*
manage*	manufactured*	mark	masquerading
managed*	manufacturers*	marked*	mass*
manager*	manufacturing*	marker*	massacred
managing*	manure*	markers*	massage*
mandarin*	manuscript*	market*	masses*
mandate*	manuscripts*	marketed	massive
mandates*	many	markets*	mast*
mane	many-colored	marking*	master*
manes	map*	markings*	mastered*
manganese*	maple*	marks*	masterpiece
mango*	maples*	marksman*	masters*
mangoes*	mapmaker*	marriage*	masts*
manhole	mapmakers*	marriages*	mat*
manhood	mapped*	married*	matador*
manioc*	mapping*	marrow	match
mankind	maps*	marry	matches
man-made	marathon*	marsh*	matching
manner	marble*	marshes*	mate
manor*	marbled*	marshlands*	material*
manpower	marbles*	marshy*	materials*
man-powered	marble-topped*	mart*	mathematicians*
man's	march*	marveled	mathematics*
mansion	marched*	marvelous	matted*
mantle	margarine*	mashed	mats*

matter*	meanwhile	meets*	mentioned
matters*	measure*	megalopolis*	menn*
matting*	measured*	mellow	merchandise*
mattness-like*	measurements*	melodies	merchant*
mattress	measures*	melons	merchants*
mattresses	measuring*	melt	merchants'*
may	meat*	melted	merciful*
maybe	meat-eaters*	melter*	merciless*
mayor*	meat-packing*	melters*	mercury*
maze	meats*	melting	mercy
me	mechanical*	melts	merely
meadow*	mechanics*	member	merge*
meadowland*	mechanize	members	merged*
meadowlark	mechanized	memorable	meridian*
meadows*	medal	memories	meridians*
meal	medals	memorize	merriest
mealing*	medical*	memorized	merry
meals	medicine*	memory	merry-go-round
mean	medicines*	men	mesa*
meanest	medieval*	men-at-arms	mesas*
meaning	medium*	mend	meseta*
meanings	medium-sized*	mended	message
means	meet*	mender	messages
meant	meeting*	menhaden*	messenger
meantime	meeting-place*	men's	messengers
measles	meetings*	mention	mestizos*

met	midway	milled*	mining*
metal*	mid-winter	millier*	minister
metallic*	might	millet*	mink*
metals*	mighty	milling*	minks*
metalsmith*	migrant*	million	minority*
metalsmiths*	migrate*	millions	minstrels*
metalworking*	migrated*	millowner*	mint*
meteoric	migration*	millowners*	mints*
meteorologist*	migrations*	mills*	minute
meteorologists*	mild*	millstones*	minuteman*
meter*	milder*	minaret*	minutemen*
meters*	mile*	minarets*	minutes
method*	mileage*	mind	mir*
methods*	mile-deep*	minded	miracle*
metropolitan*	miles*	minds	mirror
mice	milestones*	mine*	mirrored
microphone	military*	mined*	mirrors
microscope*	milk*	miner*	mischievous
midday*	milk-bottle*	mineral*	miserable
middle*	milked*	minerals*	misery
middle-aged*	milkhouse*	miners*	misjudged
middle-class*	milking*	miners'*	misplaced
mid-latitude*	milk-like*	mines*	miss
midnight*	milkman*	mingle	missed
midst	milk-producers*	mingled	missing
midsummer	mill*	mingles	missile*

missiles*	moderation*	monarchs*	mooed
mission*	modern*	monarch's	mooing
missionaries*	modern-day*	monarchy*	moon
missionary*	modernize*	monasteries*	moonlight
missions*	modern-looking*	monastery*	moos
mist*	modern-minded*	monastic*	moose*
mistake	modest	money*	more
mistaken	mohair*	money-lender*	morning
mistakes	moist*	monk*	mortar*
mistress	moistens*	monkey*	mosaic*
mittens	moisture*	monkeypod*	mosque*
mittens	moisture-bearing*	monkeys*	mosques*
misused	moisture-filled*	monks*	mosquito*
mix	molasses*	monk's*	mosquitoes*
mixed*	mold*	monorail*	moss*
mixer*	molded*	monotheism*	most*
mixes*	molds*	monsoon*	mostly*
mixing*	mole	monsoons*	motel*
mixture*	molten*	monster	motels*
moat*	molybdenum*	monsters	moth*
mob	moment	month	mother*
mobile*	momentous	monthly	mothered*
moccasins*	moments	months	motherland*
model*	moment's	monument*	mothers*
modeled*	monarch*	monuments*	mother's
models*	monarchies*	moods	motion*

motioned*	moved	multiplied	muslin*
motion-picture*	movement*	multiple-exposure	mussels*
motions*	movements*	multiply	must
motor*	moves	multitude*	mustache
motorboat*	movie	mummies*	mustangs*
motorbuses*	movie-producing	mummy*	mustard
motorcars*	movies	mural	mutton*
motorcycle*	moving	murals	muzzle
motorcycles*	mower*	murder	my
motor-driven*	much	murmur	myself
motors*	much-loved	murmured	mysteries
motor-scooter*	mud*	muscle	mysterious
motto*	mud-and-brick*	muscles	mystery
mound	mud-brick*	muscular	naked
mounds	mud-covered*	museum*	nail
mount*	muddled	museums*	nailed
mountain*	muddy*	mush*	nails
mountainous*	mud-walled*	mushrooms*	name
mountains*	muffins	music*	named
mountainside*	muffled	musical*	names
mountainsides*	muffler	musically*	naming
mourning	mulberry*	musician*	nap
mouth	mule	musicians*	napkins
mouth*	mule-pack	muskets*	narcissus*
movable	mules	muskrat*	narcissuses*
move	mullet*	muskrats*	narrate

narrow*	navigators*	needlework*	never
narrower*	navy*	needs	nevertheless*
narrowest*	near	needy	new*
narrow-gauge*	nearby	neglect	newborn*
nation*	near-by	neglected	newcomer*
national*	nearer	negro*	newcomers*
nationalism*	nearest	neighbor*	newer*
nationalities	nearly	neighborhood*	newest*
nationally*	nearness	neighborhoods*	newly*
nationhood*	neat	neighboring*	newly-found*
nations*	necessary	neighbors*	newly- independent*
nation's	necessities	neighs	newly-picked*
native*	necessity	neither	newness*
native-born*	neck	neon	news*
natives*	necklace*	nephew	newscaster*
natural*	necklaces*	nerves	newscasters*
naturalist*	neckpieces*	nest	newsletters*
naturalists	necks	nested	newspaper*
naturally*	nectarines*	nesting	newspapers*
nature*	need	nestle	newsprint*
nature's*	needed	nestles	next
naval*	needing	nests	next-door
navel	needle*	net-making	nibble
navies*	needle-like*	netting	nibbling
navigable*	needles*	network*	nibs
navigation*	needle-woman*	neutral*	nice

nicer	no	northern*	not-too-clean
nicest	noble*	northern-coast*	nourishing
nickel*	nobleman*	northerners*	now
nickels*	noblemen*	northlands*	novel
nickname	nobles*	northernmost*	nowhere
nicknamed	nobody	north-south*	nuclear*
night	nod	northward*	nuclear-powered*
nightfall*	nodded	northward- flowing*	nuisance
night's	nodding	northwest*	number
nights	noise	northwestern*	numbered
nine	noisy	nose	numbering
nine-mile	nomad*	noses	numbers
nineteenth*	nomadic*	not	numerals*
nineteen-thirties	nomads*	notable	numerous*
ninety	nominate*	notches	nun*
ninety-four	nominated*	note	nuns*
ninety-mile	none	notebook	nurse
ninety-nine	nonsense	notebooks	nurseries
ninety-one	nonstop	noted*	nursery
ninety-two	noon	notes	nurse's
nine-year-old	noonday	note-taking	nurses
nipped	noontime	nothing	nut
nitrate*	nor	notice	nutmegs*
nitro*	north*	noticed	nuts
nitrogen*	northeast*	notion	nylon*
nitroglycerine*	northeastern*	notions	oak*

oaks*	obtained	offend	okra
oars	occasional	offer	old*
oarsmen	occasions	offered	older*
oasis*	occident	offering	oldest*
oases*	occupation*	offerings	old-fashioned*
oath*	occupations*	office	old-styled*
oatmeal	occupied*	officer	old-time*
oats	occupies*	officers	olive*
obedience	occupy*	officer's	olive-growing*
obelisk*	occurred*	offices	olives*
obelisks*	ocean*	official*	on
obey	ocean-going*	officially*	on-and-off- fountain
obeyed	oceanic*	officials*	once
obeying	oceans*	oft-disturbed	once-active
obi*	ocean-to-ocean*	often	once-empty
object*	ocean-view*	oh	once-golden
object*	octopus	oil*	one
objected*	odd	oil-burning*	one-dollar
objections*	oddest-shaped	oil-cake*	one-family
oblong	odd-looking	oilcloth*	one-fifth
observatory*	oddly	oil-drilling*	one-fourth
observe	odds	oiled*	one-half
observed	odor	oil-producing*	one-inch
observing	of	oilseeds*	one-man
obstacle	off	oil-well*	one-room
obtain	off-coast*	oily*	ones

one's	operating	orchestra	orphans
one-story	operations	orchestras	ostrich
one-tenth	operator	orchids*	ostriches
one-third	operators	order*	other
one-way	opinion	ordered*	others
one-word	opium*	orderly*	other's
onions	opossum*	orders*	otherwise
onion-like	opossums*	ordinary	otter*
onion-shaped	opponent	ore*	otters*
onlookers	opponents	oreboats*	ought
only	opportunities*	ore-loading*	our
onto	opportunity*	ore-receiving*	ours
oozed	opposed	ores*	ourselves
oozes	opposite*	organ*	out
opaque	opposition*	organisms*	outbound
open	oppressed*	organization*	outbreak
open-air	optical	organizations*	outcaste*
open-front	or	organize	outcastes*
opened	orange*	organized	outcome
open-hearth	orange-red	organizing	outcroppings*
opening	oranges*	orient*	outdoor
openings	orbit*	oriental*	outdoors
open-pit*	orbited*	originated*	outer*
opera*	orbits*	origins*	outfit*
operate	orchard	ornaments	outfitted
operated	orchards	orphan	outgrown

outings	ovens	overturned	packers*
outlawed*	over	owe	packets
outlet*	overcoat	owed	packing*
outlets*	overcoats	owes	packs*
outline	overcome	owl	padded
outlines	overflow	own	paddies*
outlook	overflows	owned	paddle*
outlying	overhanging	owner	paddled*
outnumber*	overhead*	owners	paddler*
outnumbered*	overhead	owns	paddles*
out-of-doors	overland*	ox*	paddle-wheel*
out-of-the-way	overlapping	oxcart*	paddling*
out-of-town	overlooked	oxcarts*	paddy*
outpost*	overlooking	ox-drawn*	pads
outposts*	overlook	oxen*	pagan*
output	overnight	oxen-drawn*	pagans*
outrageous	over-night	oxygen*	page*
outranks	over-populated*	oyster*	page
outrigger*	overpowered	oystermen*	pages
outside	overrun	oysters*	pagoda*
outskirts*	overseas*	pa*	pagodas*
outspoken	overseer*	pack*	paid
outstretched	overseers*	package	pail
outward	overthrew*	packaged	pain
oval	overthrow*	packages	painful
oven	overtook	packed*	painlessly

pains	panning*	parasols	partly
paint	pans*	parentheses	partner
painted	panthers	parch*	partners
painter	pantomime	parched*	partners
painters	pantry	parchment*	parts
painting	pants	pardon	party*
paintings	papaya*	parents	pass*
paint-mixing	papayas*	park*	pass
paints	paper*	parked*	passable
pair	paperbark*	parking*	passage*
pairs	paper-making*	parks*	passages*
palace*	papers*	parkways*	passageway*
palaces*	paper-mache	parliament*	passed
pale	papyrus*	parliaments*	passenger
palm*	parable*	parlor	passengers
palm-bordered*	parables*	paroles	passes*
palms*	parachute	parrot*	passing
palm-shaded*	parachutes	parrots*	passionately
pampa*	parade	parsnips	passport*
pampas*	parades	part	past
pan*	paradise	parted	paste
pancake	paraffin	part-flights	pasted
panel*	paragraph	particular*	paste-like
panels*	parakeets	particularly*	pasteurization*
panic	parallel*	parties*	pasteurize*
panned*	parallels*	partitions	pasteurized*

pasteurizer*	patriotism*	peacetime*	peeled
pastime	patriots*	peach	peeling
pasting	patrols*	peaches	peep
pasturage*	patroon*	peacocks	peered
pasture*	patted	peak*	peers
pastured*	pattern*	peaks*	pegs
pastures*	patterned*	peanuts	pelt*
patch	patterns*	pear	pelts*
patches	paused	pearl*	pemmican*
patchwork*	pave	pearl-button*	pen
patent*	paved	pearls*	penal
patented*	pavement	pears	pencil
path	pavilion	peas	pencils
pathfinder*	paving	peasant*	penguin*
pathless	paw	peasants*	peninsula*
paths	pawing	peat*	peninsulas*
pathway	pawpaws*	pebble*	pen-like
patience	pay	pebbles	pennies
patient*	paying	pecan*	penniless
patiently*	payment	pecans*	penny
patio*	payments	peccary*	pens
patios*	pays	peddled	people*
patrician*	peace*	peddler	peopled*
patricians*	peaceful*	peddlers	peoples*
patriot*	peacefully*	peddling	people's*
patriotic*	peace-loving*	pedestal	pepper*

peppered*	persecute*	photo*	picks
peppers*	persecuted*	photo-electric*	picnic
per*	persecuting*	photograph*	picnicking
percentage	persecutions*	photographed*	picnics
perched	person	photographers*	picture*
perches	personal	photographs*	picture-book*
perfect	persons	photos*	picture-phone*
perfect	persuade	phrase	pictures*
perfected	persuaded	phrases	picture-writing*
perfection	pests	physical*	picturing*
perform	pet*	physical- political*	pie
performance	petals	physics*	piece
performed	petition*	piano	pieced
perfume*	petitions*	piano-playing	pieces
perfumes*	petrified*	pianos	piedmont*
perhaps	petroleum*	pick	pie-man
period*	pets*	pickaxes*	pier*
periods*	pewter*	picked	pierce
perish	pharaoh*	picker	piers*
perished	pharaohs*	pickers	pies
permanent*	phenomena	picket	pig*
permanently*	philosophers*	picking	pigeons
permanently- settled*	philosophy*	pickle*	pigpens*
permission*	phonograph*	pickled	pigs*
permit	phosphate*	pickles*	pigtails*
permitted	phosphates*	pickling	pike*

pile	pioneer*	plague*	planter*
piled	pioneers*	plaid	planters*
piles	pioneers'*	plaids	planting*
pilgrim*	pipe*	plain*	plant-like*
pilgrimage*	piped*	plainly	plants*
pilgrims*	pipeline*	plains*	plaster*
piling	pipelines*	plaint	plastered*
pillaged*	pipes*	plaiting*	plasterer*
pillars	pipestems*	plan	plasterers*
pills	pirate*	plane*	plastering*
pilot*	pirates*	planes*	plastic*
pilothouse*	pistachio*	planet*	plastics*
pilots*	pistol	planetarium*	plate*
pilot's*	pistols	planets*	plateau*
pin	pit	planks	plateaus*
pine*	pitch*	plankton*	plated*
pineapple*	pitchblende*	planned	plates*
pineapples*	pitched*	planners	platform*
pinex*	pitcher	planning	platforms*
piney*	pitchforks	plans	plating*
pink	pith*	plant*	platinum*
pinky-white	pits	plantain*	platter
pinnacle*	place	plantains*	platters
pinnacles*	placed	plantation*	platypus*
pinon*	places	plantations*	play
pins	placing	planted*	played

player	plot*	pockets	policy*
playground	ploting*	pod	polish
playgrounds	plots*	pods	polished
playhouse	plotted*	poem	polishing
playhouses	plow*	poems	polite
playing	plowed*	poet	politely
plays	plowing*	poetic	politeness
playtime	plowman*	poetry	political*
plaza*	plows*	poets	politics*
pleaded	plucky	poi*	poll*
pleas	plugged	point*	pollen*
pleasant*	plum	pointed*	polls*
pleasanter*	plumbers*	pointing*	pollute*
please	plume	points*	polluted*
pleased	plumed	poison*	pollutes*
pleasing	plumes	poking	pollution*
pleasure	plums	polar*	polo*
pleasure-loving	plunder*	polder*	polytheism*
pleasures	plundered*	polders*	pomegranites*
plebian*	plunge	pole*	poncho*
plebians*	plunged	poled*	pond
pledge	plush	pole-like*	ponds
pledged	ply	poles*	pone*
plentiful*	plywood*	police	ponies*
plenty	pocket	policeman	pontoon*
plied	pocketknife	policemen	pony*

pony-express*	porcupine	postage	pounded
pool	porcupines	postal*	pounding
pooled	pores*	postcards	pounds
pooling	pork	poster	pour
pools	porous*	posters	poured
poor	porridge	postman*	pouring
poorer	port*	postmaster*	pours
poorest	portable	postmen*	poverty*
poorly	portcullis*	postrider*	powder
pop	porter	postriders*	powdered
popcorn	portrait*	posts*	powdery
pope*	portraits*	pot	power*
popes*	portray	potash*	power-driven*
poplar	portrayed	potato*	powerful*
poplars	ports*	potatoes*	powerhouse*
popped	poses	potful	powerhouses*
popping	position	pots	powers*
populace*	positions	potted	pow-wow*
popular*	possess	potter*	practical*
populated	possesses	potters*	practically*
population*	possession	potteries*	practice
populations*	possessions	pottery*	practiced
populous*	possible	pouch*	practicing
porcelain*	possibilities	poultry*	practices
porch	possibly	poultrymen*	prairie*
porches	post*	pound	prairies*

praise	preparing*	priced	prison*
praised	presence	priceless	prisoner*
praising	present	prices	prisoners*
prancing	present	pride	prisoners'*
pray*	present-day	prides	prisons*
prayed*	presented	priest*	private*
prayer*	presently	priestess*	privateer*
prayers*	presents	priest-king*	privateers*
praying	presents	priestly*	privilege
preach	preserve*	priests*	privileges
precious*	preserved*	primary*	prize
precipitation*	preservers*	prime*	prized
precision-tool*	president*	primer*	prizes
predict	presidio*	primitive*	probably*
predicted	press*	prince*	problem
prediction	pressed*	princess*	problems
predictions	presses*	principal*	problem-solving
prefer	pressure	principally*	process
preferred	presumably	principle	processed
premier*	prettier	principles	processes
premiers*	pretty	print	processing
premium	prevent	printed	procession
preparation*	prevented	printer*	proclaim*
preparations*	prevention	printer's*	proclaimed*
prepare*	prey	printing*	proclamation*
prepared*	price	prints	produce*

produce	prolong	prosper	provisions*
produced*	prominent	prospering	prowlers
producer*	promise	prosperity*	prows*
producers*	promised	prosperous*	prunes
produces*	promises	prosper	psalm*
producing*	promising	protect*	public*
product*	promote	protected*	public-school*
production*	promptly	protecting*	published*
productive*	pronounce	protection*	publisher*
products*	pronounced	protectorate*	publishing*
profess	pronunciation	protectorates*	pudding
profile	proof	protects	puddings
profit*	prop*	protestantism*	puddle
profitable*	propeller*	protested	puddles
profits*	propellers*	protesting	pueblo*
program	proper	proud	pueblos*
programs	properly	proudly	puff
progress*	property*	prove*	puffed
progress*	prophet*	proved*	puffers
progressing*	prophets*	provide*	puffing
project*	proportions*	provided*	puffs
project*	proposed	provides*	pull*
projected*	proposition	providing*	pulled
projector*	props*	province*	pulley*
projects*	prospector*	provinces*	pulling*
projects*	prospectors*	proving*	pulls*

pulp*	pure	pyrite*	question
pulpwood*	pure-blooded	python*	questioned
pulse	purification*	qanat*	questionnaire
pumas	purified*	qanats*	questions
pump	purify*	quail	quetzals*
pumped	purifying*	qualities*	quick
pumping	purity	quality*	quick-cooked
pumpkin	purple	quantities	quicken
pumpkins	purple-bordered	quantity	quicker
punch*	purpose	quaint	quickest
puncheon*	purposes	quakes	quick-freezing
punches	purse	quarantine*	quick-frozen
punish	purses	quarrel	quickly
punished	pursuit	quarreled	quicksand*
punishment	push	quarreling	quicksilver*
pup	push-button	quarrels	quiet
pupil	pushed	quarried*	quietly
pupils	pushes	quarries*	quill*
puppet*	pushing	quarry*	quilt*
puppets*	put	quarrying*	quilted*
puppies	puts	quarters*	quilting*
puppy	putting	quebracho*	quilts*
pups	puzzled	queen*	quince
purchase	puzzles	queens*	quinine*
purchased	pyramid*	queer	quit
purchases	pyramids*	queried	quiver

quota	ragged	rains*	ranger*
quotation	raging	rain-swept*	rangers*
rabbis*	rags	rainwater*	ranges*
rabbit	raid*	rainy*	ranier*
rabbit-proof	raided*	raise	rank
rabbits	raiders*	raised	ranks
raccoon	raiding*	raises	rap
raccoons	raids*	raising	rapid*
race*	rail*	rajah*	rapid-growing*
racecourse*	railing*	rajahs*	rapidly*
raced*	railings*	raked	rapidly-growing
races*	railroad*	rakes	rapids*
racial*	railroads*	rampart*	rare
racing*	rails*	ramparts*	rarely*
rack	railway*	ramps	rasin
racks	railways*	rams*	rasin-producing
radar*	rain*	ranshackle*	rasins
radiate*	rain-bearing*	ran	raspberries
radiators	raincoat	ranch*	rate
radio*	raincoats	rancher*	rather*
radios*	rain-drenched*	ranchers*	ratify*
radishes	rained*	ranches*	rats
radium*	rainfall*	ranchos*	rattan*
raft*	rainforest*	ranching*	rattle
rafts*	raining*	rang	rattled
raged	rainless*	range*	rattlesnakes

ravines*	really	receives	red-and-blue*
raw*	reaper*	receiving	red-and-yellow*
rawhide*	reaper-binder*	recent*	red-brick*
rayon*	reapers*	recently*	red-bricked*
rayons*	rear	re-check	red-brown*
rays	reason	recipe	reddish*
razor	reasonable	recipes	red-haired*
razors	reasonably-priced	recite	red-headed*
razor-sharp	reasons	recited	red-hot*
reach	reassembled*	reciting	rediscovered*
reached	rebel*	reclaimed*	red-roofed*
reaches	rebel*	recognize	red-tiled*
reaching	rebelled*	reconquest*	redwoods*
reactor*	rebellion*	record	reduced
read	rebels*	record	reed*
read	rebels*	recording	reed-filled*
readied	rebirth	records	reeds*
readily	rebuild*	records	reedy*
reading	rebuilding*	recover	reef*
reads	rebuilt*	recovered	reel
ready	recall	recovering	reeled
ready-to-wear	recalls	recreation*	reestablish
real	receipts	recruits*	re-established
realize	receive	rectangle	refer
realized	received	rectangular	reference*
realizing	receivers	red*	references*

referred	regained	religious*	rent*
referring	regarded*	reload	rented*
refers	region*	reloading	renters*
refine*	regions*	remain	reopen
refined*	regular	remained	reopened
refineries*	regularly	remaining	repaid
refinery*	regulate	remains	repair*
refining*	reheated	remarkable	repaired*
reflect	reign*	remarkably	repairing*
reflects	reigned*	remarked	repairs*
reform*	reigns*	remember	repay
reformer*	reindeer*	remembered	repeal*
reformers*	reindeer-drawn*	rememberers*	repeat
reforms*	reinforcements	remembers	repeating
reforested*	related*	remind	replace*
refresh	relation*	reminded	replaced*
refreshments	relations*	reminder	replanted*
refrigerated	relatives	reminders	replants*
refrigeration	relax	remote	replied
refrigerator	relay	remove*	reply
refrigerators	released*	removed*	report
refuel*	relief*	removes*	reported
refuge*	relieved*	removing*	reporters*
refugees*	relieves*	renders	reports
refuse	religion*	rendezvous*	represent*
refused	religions*	renewal	representation*

representative*	reserves*	responsible*	reviewed
representatives*	reserved*	rest	reviewing
represented*	reservoir*	restaurant*	reviews
representing*	reservoirs*	restaurants*	revolt*
represents*	resettled	rested	revolting*
repressions*	residence	resting	revolts*
republic*	resident	resting-place	revolution*
republican*	residential*	restless	revolutionaries*
republics*	residents	restlessness	revolutionary*
reputation*	resign*	restore*	revolutions*
request	resigned*	restored*	revolutionists*
requested	resin*	restriction	revolve
requests	resist*	rests	revolver*
require	resistance*	result*	revolvers*
required	resold	resulted*	revolving
requires	resolved	results*	rewarded
reread	resort*	retires*	rewrite
rescue*	resorts*	retreated*	rhinoceros*
research*	resource*	return*	rhinoceroses*
researcher*	resourceful*	returned*	rhyme
resemble	resources*	returning*	rhymes
resembled	respect	reunited*	rhythm
resembles	respected	revenge	ribbon
reservation*	respectful	reverence*	ribbons
reservations*	respects	reverse*	rice*
reserve*	responsibility*	review	rice-growing*

rich	ring	riverbank*	robbery
richer	ringing	river-delta*	robes
riches	rings	rivermen*	robs
richest	rink	rivers*	rock*
rich-looking	riot*	river's	rocket*
richly	rioting*	road*	rockets*
richness	riots*	roadbed*	rock-like*
rich-soiled*	ripe*	roadbeds*	rocks*
rid	ripen*	roadblock*	rocky
ride	ripened*	roadblocks*	rod
rider	ripening*	roads*	rode
riders	ripens*	roadside*	rodeo*
rides	ripped	roadways*	rodeos*
ridge*	ripple	roam	rods
ridges*	rippled	roamed	role
riding*	rise	roaming	roll
rifle	risen	roar	rolled
rifles	rises	roared	rollers
rig*	rising	roast	rolling
riggings*	risk	roasted	rolls
right*	risked	roasting	roof
right-hand*	rituals*	roasts	roofed-in
rights*	rival*	rob	roofing
rigs*	rivalry*	robbed	roofs
rim*	rivals*	robber	rooftop
ribs*	river*	robbers	room

rooms	rounded*	rudder*	runners*
rooster	roundhouse*	rudders*	running
root*	roundish*	rude	runs
rooted*	rounds*	rudely	runway*
roots*	round-up*	ruffled	runways*
rope	rousing	rug	rush*
ropelike	route*	rugged*	rushed*
rope-making	routes*	rugs	rushes*
rose	roved	ruin	rush-hour
rosell*	rover*	ruined	rushing
roses	rovers*	ruining	rust*
rosewood*	roving	ruins*	rusted*
rosin*	row	rule	rusting*
rosy	row	ruled	rustle
rot	rowed	ruler	rusty*
rotate*	rows	rulers	ruthless
rotates*	royal*	rules	ruts
rotating*	royally*	ruling	rye*
rotation*	royalties*	rumble	sable*
rots	royalty*	rumbled	sack
rotted	rubbed	rumbling	sacked
rotting	rubber*	rumor	sacking*
rough*	rubbing	run	sacks
rougher*	rubbish	runaway	sacred*
round*	rubble*	rung	sacredness*
roundabout*	rubies	runner*	sacrifice*

sacrificed*	sails	sand	satisfaction
sad	saints*	sandal-maker	satisfactory
saddest	saint*	sandals	satisfied
saddle*	salad*	sandalwood*	satisfies
saddled*	sale	sandbags	satisfy
saddles*	sales	sandbars*	satisfying
sadly	salmon*	sanding	sauce
safe	salmon-canning*	sand-laden*	saucer
safeguarding	salt	sandstorm*	saucers
safely	saltbush	sandstorms*	sausage
safer	salted	sandwich*	savage*
safety	saltmaking	sandwiches*	savages*
saffron*	salt-water*	sandy*	savanna*
saffron-colored*	saltworks	sang	savannas*
sage*	salty*	sanitary*	save
sagebrush*	salute	sanitation*	saved
sage-covered	saluted	sank	saves
said	saluting	sap	saving
sail	salve	sapphires	savings
sailboat	same	sarape*	saw
sailboats	sampan*	sardines	sawdust
sailcloth*	sampans*	sari*	sawed
sailed	sample	sash	sawing
sailing	sampled	sat	sawmills
sailor	samples	satellite*	saws
sailors	sampler*	satellites*	say

saying	schedules	scooters	scroll*
says	scholar*	scorched	scrolls*
scale*	scholars*	scorching	scrub
scaled*	scholarship	scored	script*
scales	school*	scores	scriptures
scallops*	schoolbooks*	scout*	scrubby
scanned	schoolboys*	scouts*	sculptor*
scant*	schoolhouse*	scramble	sculptors*
scanty*	schoolhouses*	scrap	sculpture*
scarce*	schooling*	scrapbook	sculptured*
scarcely	schoolroom*	scraped*	sculptures
scarcity	schoolyards*	scrapers*	scythe*
scare	schools*	scrapes*	scythes*
scarf-like	school-teacher*	scrapper*	sea*
scarfs	schoolteachers*	scrapping	seaboard*
scarlet	schooners*	scream	sea-bottom*
scarred	science*	screamed	seacoast*
scatter	scientifically*	screaming	seacoasts*
scattered	scientific*	screech	seafarers*
scattering	scientist*	screens	seafaring*
scene	scientists*	screen	seafood*
scenery*	scissors	screw	seagoing*
scenes	scolded	screws	seagulls*
scenic*	scoop	scribble	seal*
scepters*	scopped*	scribe*	sealed*
schedule	scooter	scribes*	seal-oil*

seals*	seceded*	seedsman	self-sustaining
sealskin*	secession*	seeing	self-government*
sealskins*	seclusion*	seek	selfish
seam*	second	seeker	sell
seaman*	second-growth	seekers	sellers
seamen*	secondhand	seeking	selling
seaport*	seconds	seem	sells
seaports*	secret	seemed	semi-arid*
search	secretaries*	seems	senate*
searched	secretary*	seen	senator*
searchers	secretly	seeped	senators*
searching	secrets	seeps	send
sea-roving*	section*	sees	sender
seas	sectional	segregated*	sending
seashore*	sections	segregation*	sendoff
season*	secure	seigneur*	sends
seasoning	sector*	seigneurs*	sense
seasons*	securely	seine*	senseless
seat	security*	seize	senses
seated	sedan*	seized	sensible
seats	see	seizing	sent
seawater*	seed	seldom	sentence
seaways*	seedcake	selection	sentenced
seaway*	seedbeds	self-defense	sentences
seaweed*	seedlings*	self-feeders	separately
secede*	seeds*	self-governing	separateness

separate	services*	severe*	shaken
separated	serving*	severely*	shakers
separates	sesame*	sew	shakes
separating	session	sewage*	shaking
separators*	set	sewed	shall
sequioa*	sets	sewer	shallow*
sequoias*	setting*	sewers	shale*
serenading	settle*	sewing	shalt
serf*	settlements*	sews	shame
serfdom*	settlement*	sextant*	shape
serfs*	settled*	shabby	shaped
serf's*	settler*	shack	shapeless
series*	settlers*	shacks	shapes
serious	settles*	shade	shaping
seriously	settling*	shaded	share*
sermons	seven	shades	sharecropper*
serpents	seventeen	shading	sharecroppers*
servant*	seventeen-year- old	shady	shared
servants*	seventeenth*	shadow*	shares*
served	seventh	shadows	sharing
serve	seventy	shadowy	sharp
serves	seventy-five	shaft*	sharpened
service*	seventy-five- year-old	shafts*	sharply
serviced*	seventy-four	shaggy	sharp-pointed
serviceman*	seventy-one	shah*	shasta
servicemen*	several	shake	shatter-proof

shawl	shellac*	shiploads*	shone
shawls	shellfish*	shipowners*	shoo
she	shells*	shipped*	shook
shear*	shelter*	shipping*	shoot
sheared*	sheltered*	ship-repairing*	shooting
shearers*	shelters	ships*	shoots
shearing*	shelves	ship's*	shop
shears*	shelving	shipphone*	shopkeeper
sheaths*	shepherd*	ship-to-shore*	shopkeepers
sheaves*	shepherds*	shipwrecked*	shopped
shed*	she-wolf*	shipyard*	shopper
sheds*	shield*	shipyards*	shoppers
sheep*	shields*	shire*	shopping
sheepherder*	shift	shirt	shops
sheepherders*	shifted	shirtmaking	shore
sheep-raising*	shifting	shirts	shoreline*
sheep-skin*	shimmering	shiver	shores
sheer	shine	shod	short
sheet*	shines	shoe	shortage
sheets*	shingles	shoemaker	shortcake
sheik*	shining	shoemakers	shortcut
sheikdom*	shiny	shoe-off	shortened
sheikdoms*	ship*	shoes	shorter
shekel*	shipbuilders*	shoeshop	shortest
shelf	shipbuilding*	shoestring	short-handled
shell	shipload*	shogun*	shorthorns*

short-lived	showrooms	sickness	signing
shortly	shows	side	signs
shorts	shrank	sided	silage*
short-season	shredded*	sides	silence
short-short	shreds*	sidetracked	silent
shot	shrieking	sidewalk*	silently
shots	shrill	sidewalk's*	silk*
should	shrimp*	sidewheels*	silken*
shoulder	shrine*	sidings*	silk-like
shouldering	shrines*	siege	silk-producing*
shoulders	shrink	sieve	silks
shout	shrinking	siesta	silkworm*
shouted	shrinks	sift	silkworms*
shouting	shrubs	sigh	silkworm's*
shouts	shuddered	sighed	silky
shove	shut	sighing	sill
shovel	shut-off	sight	silly
shoveled	shuts	sights	silo*
shovels	shutters	sight-seeing	silos*
show	shuttles*	sight-seers	silt*
showcase	shy	sign	silver*
showed	shaduf*	signal*	silver-colored*
shower	shadufs*	signalmen*	silvered
showers	sick	signals*	silver-plated*
showing	sickle*	signature	silversmith*
shown	sickles*	signed	silversmiths*

silverware*	sir	sixty-mile	skillfully*
silver-white*	sire	sixty-seven	skills*
silvery	sirens	sixty-two	skim*
silvery-dark	sirup*	six-year-old	skimmed*
silvery-gray	sisal*	size	skimming*
similar	sister	sized	skims*
simpler	sisters	sizes	skin
simple	sit	sizzling	skin-covered
simplified	site*	skate*	skinned
simply	sits	skated	skins
since	sitting	skates	skinny
sincere	situated	skating	skipping
sinew*	situation	skeins*	skirt
sinful	situations	skeleton	skirts
sing	six*	skeletons	skunks
singer	six-acre	sketch	sky
singers	six-and-a-half	sketchbook*	sky-blue
singing	six-shooters*	sketched	skyline*
single	sixteen*	sketches	skys
singlehanded	sixteenth	ski	skyscraper*
single-shot	sixteen-year-old	skiers	skyscrapers*
sink	sixth	skies	skyward
singling	sixtieth	skiing	slab
sinks	sixty*	skill*	slabs
sinner	sixty-five	skilled*	slack
sipped	sixty-four	skillful*	slag*

slander	sleeping	slips	smacked
slanted	sleeps	slits	small
slanting	sleepy	sliver*	smaller
slapped	sleet	slivers*	smallest
slash	sleeves	slogan	smallpox*
slashed	sleighing	slope	small-town
slate*	sleighs	sloped	smash
slats	slender	slopes	smasher
slaughter*	slenderlimbed	sloping	smear
slaughtered*	slept	sloth*	smell
slaughterhouses*	slew	slow	smelled
slaughtering*	slice	slow-burning	smelly
slave*	sliced	slowed	smelt*
slave-holding*	slicers	slower	smelter*
slave-hunting*	slices	slow-flowing	smelters*
slaveowners*	slide	slowly	smelting
slave-owning*	slides	slow-moving	smile
slavery*	sliding	slows	smiled
slaves*	slighter	slow-sailing	smiling
slay	slightly	sludge*	smog*
sled	slink	slug	smoggy*
sledge*	slip	slum*	smogs*
sleds	slipped	slums*	smoke
sleek	slippers	slung	smoked
sleep	slippery	slush	smoke-filled
sleepers	slipping	slyly	smokehouse

smokehouses	sneak	soberly	soldiers*
smokestacks	sneaked	soccer*	solemn
smoking	sniff	social	solemnly
smoky	snout	socialist*	soles*
smooth	snow*	social-studies*	solid*
smoothed	snow-bound*	societies*	solidly*
smoother	snow-capped*	society*	solo
smoothest	snow-covered*	sod*	solution
smoothing*	snow-crowned*	soda	solve
smooth-looking	snow-drifts*	soddy*	solved
smoothly	snowing*	sofa*	solving
smorgasbord*	snowstorms*	soft	sombrero*
smuggle*	snowy*	soften	sombreros*
smuggled*	snowclad*	softening	some
smuggling*	snow-peaked*	softer	somebody
snack	snowplows*	softly	somehow
snag	snows*	soft-toned	someday
snails	snow-white	softwood*	someone
snake*	snug	soggy	something
snakeskin*	so	soil*	sometime
snapper*	soaked	soiled*	sometimes
snappers*	soap	soils*	somewhat
snaps	soapstone*	solar	somewhere
snapshot	soared	sold	son
snare	sobbed	soldier*	song
snatch	sober	soldiering*	songbirds

songs	south-central*	space-age*	spearhead*
son-in-law	southeast*	spacecraft*	spearheads*
sons	southeastern*	spaces*	spears
soon	southeastward*	spacious*	specia*
sooner	southern*	spade	special*
soot*	southerners	spades	specialize*
soot-blackened*	southernmost*	spaghetti*	specialized*
sore	southland*	spanned	specially
sorghum*	southward*	spans	specially- designed
sorrow	southwest*	spare	specially-made
sorry	southwestern*	spared	specially-trained
sort	southwestward*	spare-time	special-purpose
sorted	souvenir*	sparked	specialty
sorting	souvenirs*	sparkle	speck
sorts	soviet*	sparkled	specks
soul	soviets*	sparkling	spectacles
sound*	sovereignty*	sparks	spectacular*
sounded*	sow*	sparse*	spectators
sounding*	sowed	sparsely*	sped
soundly*	sown	sparsely- populated*	speech
sounds*	sows	spawn*	speeches
soup*	soy*	spawning*	speed
soups*	soybean*	speak	speedboats
source*	soybeans*	speaking	speeded
sources*	spaas	speaks	speeding
south*	space*	spear	speeds

spell	spinach	spoiled	sprawling
spelled	spindle*	spoiling	spray
speller*	spindles	spoils	sprayed
spelling*	spinners*	spoke	spread
spends	spinning*	spoken	spreading
spending	spins*	spokes	spreads
spends	spiny	sponge*	spring*
spent	spiral	sponge-like*	springing
spermaceti*	spire	sponges*	spring-like*
sphere*	spires	spongy*	springs
sphinx*	spirit	spoon	springtime*
spies*	spirited	spoonful	spring-wheat*
spice*	spirits	spoons	sprinkle
spice-bearing*	spiritual	sport*	sprinkled
spices*	spit	sports*	sprinklers
spicy*	spite	sportsmanship	sprinkling
spider	splashed	sports-minded	sprout*
spike*	splashing	sportswear*	sprouted*
spiked	splattered	spot	sprouts*
spikes	splendid	spotless	spruce*
spike-tooth- harrows*	splinter	spotlessly	spruces*
spiky	splints	spots	sprung
spilled	split	spout*	spun*
spilling	splitting	spouting*	spurs*
spills	splits	spouts*	spurted
spin	spoil	sprang	spy*

spying*	staffs*	stamped*	starved
square*	stage	stampede*	starving
squared*	stagecoach*	stampedes*	state*
squarely	stagecoaches*	stamping	stated
squares	stages	stamps*	statehood*
squash	staghorn	stanchions*	stately
squatters*	stagnant*	stand	statement
squaw*	stained	standard	statements
squeaked	stained-glass	standards	state-owned*
squealing	stainless*	standing	stateroom*
squeals	stainless-steel	stands	states
squeeze	staircase	standstill*	statesmen*
squeezed	stairs	star*	station*
squire*	stairsteps	starch*	stationed*
squires*	stair-step	starched	stations*
squirmy	stairway*	starchy	statuary*
squirrel	stairways*	stared	statue*
squirrels	stake	staring	statuettes*
stabbed	staked	stars*	statues*
stable	stakes	star-shaped*	staves*
stables	stalk	start	stay
stack	stalks	started	stay-at-homes
stacked	stall	starting	stayed
stacks	stamina	startling	staying
stadium*	stalls	starts	stays
staff*	stamp*	starvation*	steadier

steadily	steer*	stiff	stone-paved*
steady	steered	stiff-brimmed	stones*
steal	steers*	still	stony*
stealing	stem	stilts	stood
steam*	stems	sting*	stool
steamboat*	stencil	stinging*	stoop
steamboats*	stencils	stir	stooped
steam-driven*	step	stirred	stop
steamed*	steppe*	stirring	stopped
steamer*	stepped	stitch	stopping
steamers*	steppes*	stitches	stops
steaming*	stepping	stock*	storage*
steamship*	steppingstone*	stockade*	store
steamships*	steppingstones*	stockades*	stored
steamy*	steps	stockfish*	storehouse*
steed	sterilize*	stockings	storehouses*
steel*	sterilizer*	stockmen*	storekeeper*
steel-arch*	sterling*	stock-raising*	storekeepers*
steel-maker*	stern*	stock-ranching*	storeroom*
steel-making*	sternly	stocks*	storerooms*
steelworks*	stew	stockyards*	stores*
steeper*	stewardesses*	stocky	stories
steep*	stick	stolen	storks
steeple	sticking	stomach	stork
steeples	sticks	stone*	storm
steeply	sticky	stoned*	stormed

storming	strangely-carved	stretches	strong*
storms	stranger*	stretching	stronger*
stormy	strangers*	strewn	stronghold*
story	strangled	stricken	strongholds*
storybook	strapped	strict	strong-muscled
story-poem	strategic*	stricter*	strong-tasting
story-teller	straw	strike*	strong-willed
story-tellers	strawberries	strikes*	strongly
storytelling	straw-covered	strike-outs*	struck
stout	straw-filled	striking*	structures*
stoutly	straws	string	structure*
stove	strayed	strings	struggle*
stoves	streaks	stringy*	struggled*
straight	stream*	strip*	struggling*
straightbodied	streaming	stripe	struggles*
straightened	streams*	stripes	strung
straighter	street	strips*	stubble
straight-sided	streetcar*	strive	stubs
straining	streetcars*	stripping	stucco*
strait*	streets	strives	stuck
straits*	strength*	strode	student
strand	strengthen*	strokes	students
strands	strengthening	stroke	studied
strange	stressed	strolled	studies
strange-looking	stretch	strolling	studio
strangely	stretched	stroll	studios

study	substance*	suffrage*	summer*
studying	substantial	suffragette*	summers*
stuffed	subtract	suffragettes*	summertime*
stuffs	subtropical*	sugar*	sums
stumble	subtropics*	sugarcane*	sun*
stumbled	suburb*	sugar-making*	sun-baked
stump-filled	suburban*	sugar-maple*	sun-bathers
stumps	suburbs*	sugarworks*	sun-bleached
stunt	subway*	suggest	sun-bonnets
stunted	subways*	suggested	sunburned
sturdier*	succeed	suggestion	sundown
sturdy*	succeeded	suggestions	sun-dried
sturgeon*	success	suggests	sundial*
style*	successful	suit	sunflower
styles*	succotash*	suitable*	sunflowers
styling	successors	suitcase	sung
stylish	such	suites	sunglasses
subcontinent*	suddenly	sulphur*	sunk
subheadings	successive	sulphuric*	sunken
subheads	successfully	sultan*	sunlight
subject	suds	sultans*	sunlit
subjects	suffer	sultanas*	sunniest
submarine*	suffered	sum	sunny
submarines*	suffering	summarizing	sunrise
submit	suffers	summary	sunrises
stylus	sudden	suits	sun's

sunset	suppose	surveyor*	sweater
sunshine	supposed	surveyors*	sweaters
sun-swept	supreme*	survival	sweep
sup	sure	survive	sweeper
superhighway*	sure-footed*	suspected	sweepers
superhighways*	surely	suspended	sweeping
superintendent	surf*	suspenders	sweeps
superior*	surface*	suspension*	sweet*
supermarket	surfaces*	suspicious	sweetening*
supermarkets	surgeon	sustain	sweeter
supernatural	surgeons	swallow	sweethearts
supersonic*	surgery	swallowed	sweet-smelling*
superstition*	surplus*	swamp*	sweets*
superstitions*	surprise	swampland*	swelter
superstitious*	surprised	swamplands*	swept
supervised	surprising	swamps*	swept-back
supervises	surrender*	swampy*	swift*
supervisor	surround	swarm	swiftest*
supper	surrounded	swarmed	swift-flowing*
supplied*	surrounding*	swarming	swiftly*
supplies*	surroundings*	swarms	swim
supply*	surrounds	swastika*	swimming
supplying*	survey*	swatter	swine*
support	survey*	swayed	swing*
supported	surveyed*	swears	swinging
supports	surveying*	sweat	swirling

swish	table	taken	tangle
switch	table-bed	take-off	tangled
switched	tablecloths	takes	tank*
swollen	tableland*	taking	tanker*
swoop*	table-lands*	talc*	tankers*
swooped*	tablelands*	talents	tanks*
sword*	table-like	tales	tanned
swords*	tables	tale-teller	tanneries*
swordfish*	tablet*	talk	tanners*
swore	tablets*	talked	tannery*
swung	tableware	talker	tannic*
sycamore	tack	talkers	tanning
sycamores	tackle	talking	tap
syllable	tackled	talking-box	tapa*
syllables	taconite*	talks	tape
symbol*	tadpoles*	tall	tapering
symbols*	taffy*	taller	tapestries*
sympathy	tag	tallest	tapestry*
symphonies	tags	tall-grass	tapioca*
symphony	tagua*	tallow*	tapir*
synagogue	taiga*	tallying	tapped
synthetic*	tail	tame	tapping
synthetics*	tailor	tamed	taps
syrup	tailors	tamer	tar
system*	tails	taming	tariff*
systems*	take	tan	tariffs*

taro*	teaching	tell	ten-story
tart	teachings	teller	tent
task	teacup	telling	tented
tasks	teahouse	tells	tenth
tassel	teak*	temperate*	tents
tassels	teakettle	temperate- climate*	ten-year
taste	teakwood*	temperature*	ten-year-old
tasted	team	temperatures*	tepee
tasty	teamsters*	tempers	tepees
tatami*	teamwork	temple*	term
taught	tear	temples*	terminals*
tax*	tearing	temporary	terms
taxation	tears	temptra	terrace*
taxed	tears	temptation	terraced
taxes	teasing	tempting	terraces*
taxi*	technical*	ten	terracing*
taxicab*	teen-agers	tenant*	terrible
taxicabs*	teeth	tenants*	terrifying
taxiing	telegram*	ten-cent	territorial
taxis*	telegraph	tend*	territories*
tea*	telephone*	tended	territory*
teach	telephoned*	tender	terror
teacher	telephones*	tending	test
teachers	telescope*	tendons*	testament*
teacher's	television*	tennis	tested
teacher-training	televisions*	tens	testing

tests	themselves	thinkers	thorns
text	then	thinking	thorny
textbook	there	thinks	thorough
textbooks	therefore	thinly	thoroughfare*
textile*	thermal*	thinly-settled*	thoroughly
textiles*	thermometer*	thinner	thoroughness
than	these	thin-skinned	those
thank	they	third	thou
thanked	thick	thirds	though
thankful	thicker	third-story	thought
thanks	thickest	thirsty	thoughtful
thanksgiving	thickets	thirteen	thoughtfully
thank-you	thick-growing	thirteenth	thoughtless
that	thickly	thirty	thoughts
thatched*	thickly-populated*	thirty-eight	thousand
thatched-roffed*	thickly-replanted*	thirty-five	thousands
thawed	thickly-settled*	thirty-four	thousand-year
the	thickly-wooded	thirty-nine	thread*
the	thickness	thirty-one	thread-and-cloth*
the	thick-walled	thirty-six	threaded*
theater	thieves*	thirty-three	threading*
theaters	thin*	thirty-two	threadlike*
thee	thing	this	threads*
their	things	thornbush*	threat
theirs	think	thornbushes*	threaten
them	thinker	thornless	threatened

threatening	thriving	tickets	timbers*
threatens	throat	tide*	time*
three	throats	tides*	timed*
three-day	throne*	tide-water	timeless*
three-decked	thrones*	tidy	time-line*
three-fourth	throng	tie	timely
three-fourths	thronged	tied	times*
three-hour	through	tierra*	timid*
three-hundred twenty-acre	throughout	ties	tin*
three-legged	throw	tiger	tin-bearing*
three-quarters	thrower	tigers	tin-can
three-room	throwers	tight	ting
threes	throwing	tighter	tinkling
three-sided	thrown	tightly	tin-plate*
three-year	throws	tightrope	tint
thresh*	thru	tile*	tiny
threshed*	thrust	tile-covered*	tip
threshers*	thumb	tiles*	tipped
threshes*	thumbs	till*	tipple*
threshing*	thunder	tilled*	tipples*
threw	thundered	tilling*	tiptoe
thrift	thunderstorms	tilt	tire
thrifty	thus	tilted	tired
thrilled	thy	tilts	tired-looking
thrive	thyself	timber*	tires
thrives	ticket	timberland*	tiresome

tissues	tomato	tops	tourists*
title	tomatoes	topsoil*	tournament*
titles	tomb*	toquilla*	tournaments*
to	tombs*	torch*	tourpath*
toad	tomorrow	torches*	tow*
toast	tom-tom*	tore	toward
toaster	ton	torn	towards
toasty	tone	tornado*	towboats*
tobacco*	toned	torpedo*	towelng
tobacco-growing	tongs	torpedoed	towels
toboggans*	tongue	torrents	tower*
today	tongues	torrid*	towered*
today's	tonight	tortillas*	towering
toe	tons	tortoises	towers*
toes	too	tossed	towing*
toga*	took	total	town*
together	tool	totem*	towns*
toiled	toolmakers	touch	town's*
toilet	tools	touchdown	townspeople*
tola*	toothbrushes	touched	toy
told	top	touches	toys
toll*	top-grade	touching	trace*
toll-free*	topic*	tough	traced*
tollgate	topics*	tour*	traces*
tolls	topped	tourism*	tracing*
tomahawks	topple	tourist*	track

tracks	trained	transparent	treadle*
tract*	training*	transplant*	treasure*
tractor*	trainloads*	transplanting*	treasured*
tractor-drawn*	trainmen*	transport*	treasure-hunters*
tractors*	trains*	transportation*	treasurer*
tracts*	traitor*	transported*	treasures*
trade*	traits	transporting*	treasuries*
traded*	tramped	transports*	treasury*
trader*	trample*	trap	treat
traders*	trampled*	trapped	treated
trades*	trampling*	trapper*	treaties*
tradesmen*	transact	trappers*	treating
trade-wind*	transatlantic*	traps	treatment
trading*	transcontinental*	trash	treaty*
tradition	transferred*	travel*	tree*
traditional	transform	traveled	tree-covered*
traffic*	transformed	traveler*	tree-ferns*
tragedies*	transformer*	travelers*	tree-less*
tragedy*	transformers*	traveler's*	tree-lined*
tragic*	transistor*	traveling	tree-planting*
trail*	translate*	travels	trees*
trailer*	translated*	travois*	tree-shaded*
trailers*	translation*	trawlers*	trek*
trailing*	transmission*	tray	trellises
trails*	transmits	trays	trembled
train*	transmitted	treacherous*	trembling

tremendous	trim*	truck*	tube*
tremendously	trimmed*	truck-drawn*	tubs
trencher	trimmings*	truck-farming*	tucked
trenches*	trinkets	truckload*	tufts
trestle*	trip	trucks*	tug
trial*	triple	trudge	tugboat*
triangle*	trips	trudged	tugboats*
tribal*	triumph*	trudging	tugged
tribe*	triumphal*	true	tugs*
tribes*	trod	truly	tulip*
tribesmen*	trolley	trumpet	tulips
tribune*	trombone	trumpeters	tumble
tribunes*	troops	trumpeting	tumbled
tributaries*	tropic*	trumpets	tumblers
tributary*	tropical*	trunk	tumbles
tribute*	tropics*	trunks	tumbling
trick	trouble	trust	tuna*
tricked	troubled	trusted	tunable
trickle	troubles	truth	tundra*
trickles	troublesome	try	tuneful
trickling	trough	trying	tung*
tricks	troughs	tsar*	tungsten*
tried	troups	tsars*	tunic*
tries	trousers*	tsar's*	tunnel*
trigger	trout*	tsetse*	tunnels*
triggers	truce*	tub	turban*

turbans*	twelve-month	twist*	tyrant*
turbine*	twelve-year-old	twisted*	tzar*
turbines*	twentieth	twisters*	tzars*
turkey*	twenty	twisting*	ugly
turkeys*	twenty-acre	twists	umbrella
turn	twenty-eight	two	umbrellas
turned	twenty-five	two-acre*	umpire
turned-up	twenty-four	two-and-one-half	umpire's
turning	twenty-nine	two-house*	unable
turnips	twenty-one	two-hundred-mile*	unafraid
turnpike*	twenty-seven	two-hundred-yard*	unbearable*
turnpikes*	twenty-six	twos*	unbeatable
turns	twenty-three	two-story*	unbeliever
turpentine*	twenty-two	two-thirds	unbelievers
turquoise*	twenty-year-old	two-way	unbirdlike
turrets*	twice	two-wheeled*	unbroken*
turtle	twigs	two-year-old	uncertain
turtle-like	twilight*	type*	unchanging
turtles	twilight's	types*	uncharted
tusk*	twin	typewriter*	uncivilized
tusks*	twine*	typewriters*	uncle
tutor	twinkle	typical*	uncles
tutors	twinkled	typing*	uncomfortable
tweed*	twinker	typist*	uncover
tweeds*	twins	tyrannical*	uncovered
twelve	twin-spired	tyranny*	uncultivated

under	unexpected	uninviting	unloading
under-and-over	unfair	union*	unloads
underbrush*	unfairly	unions*	unlock
underfed	unfavorable	unique	unlovely
undergone	unfenced	unison	unlucky
underground*	unfit	unit	unpack
undergrowth*	unfolded	unite*	unpainted
underneath	unforgettable	united*	unpaved
understand	unfortified	uniting	unplanted
understandably	unfortunately	units	unpleasant
understanding	unfortunates	unity	unprotected
understood	unfriendly	universally	unreasonable
undertake	unfruitful	universe*	unrest
undertaking	unfurling	universities*	unroll
underwater*	unhappiness	university*	unrolled
undotted	unhappy	unjust*	unsanitary
undoubtedly	unharmful	unjustly	unseen
undressed	unhealthful	unkind	unselfish
unearthed	unhealthy	unkindly	unselfishly
uneasy	unhitch	unknown*	unsettled*
uneducated*	unhooked	unlawful	unskilled
unemployed*	unhorse	unless	unspoiled
unemployment*	uniform	unlike	unstable
unending	uniforms	unlikely	unsuited
unequal	unified*	unload	unsweetened
uneven	unify*	unloaded	untidy

until	upraised	ushered	vaqueros*
untouchability*	upright	using	varied*
untouchable*	uprising*	usually	varies*
untouchables*	uprisings*	utensils*	variety*
untouched*	upriver*	utterly	various*
untrained	uproot	vacant	varnish*
untrimmed	uprooted	vacation*	varnishes*
untrue	upset	vacationers*	vary*
unused*	upstairs	vacationland*	vase
unusual	upstream*	vacationlands*	vases
unusually	up-to-date	vacations*	vassal*
unwelcome	upturned	vaccinating*	vassals*
unwilling	upward	vacuum*	vast*
unwillingly	uranium*	vain	veal*
unwind	urban*	valiantly	vegetable*
unwinds	urge	valley*	vegetable- canning*
unwise	urged	valleys*	vegetable- growing*
unwound*	urn*	valor*	vegetables*
up	us	valuable*	vegetation*
uphill	use	valuables*	vehicles
upland*	use	value	veil
uplands*	used	valued	veils
uplifted	useful	vanes*	vein*
upon	usefulness	vanilla*	veld*
upper	useless	vanished	velvet
uppity	uses	vapor*	velvet-like

vender*	view*	visitor's	vulcanized*
vender*	views*	visits	vulcanizing*
vendors*	vigor*	vitamins*	vulture*
venetian	vigorously*	vocabulary	wade
venture	viking*	voice	waded
ventured	vikings*	voices	wadi*
venturesome	village*	volcanic*	wading
veranda*	villager*	volcano*	waffles*
verdant*	villagers*	volcanoes*	wage
verse	villages*	volley	waged
verses	villain	volume	wages
verse-speaking	vine*	volunteering	wagon
very	vine-covered*	volunteers	wagonloads
vessel*	vinegar	vote*	wagons
vessels*	vines	voted*	waist
vest	vineyard*	voter*	wait
veto*	vineyards*	voters*	waited
vetoed*	violet	votes*	waiter
vibrations*	violinist	voting*	waiting
vice	violins	vow	waits
vice-president*	visions	vowed	wake
viceroys*	visit	waterfowl	waked
victor*	visited	vows	wakened
victories*	visiting	voyage*	walk
victorious*	visitor	voyages*	walked
victory*	visitors	vulcanize*	walking

walks	warlords*	wash	watercress*
wall	warm	washable	watered
wallboard	war-making*	washday	waterfall*
walled	warmed	washed	waterfalls*
walled-in	warner	washerman	waterfront*
walls	warmest	washes	waterholes*
walnut*	warmly	washing*	water-level*
walnuts	warming	wasps	water-life*
walrus*	warms	waste	watering*
walruses*	warmth	wastebasket	watermelon
walrus-tusks*	warm-weather	wasted	watermelons
wander	warn	wasteful	waterproof*
wandered	warned	wasteland	waters*
wandering	warning	wastes	water's*
wanders	warns	wasting	water-soaked*
want	warpath*	watch	watertight*
wanted	warring*	watched	waterway*
wanting	warrior*	watchers	waterways*
wants	warriors*	watches	waterwheel*
war*	warships*	watchful	waterworks*
warfare*	wars*	watching	watery*
warehouse*	war's*	watchmakers*	wattle*
warehouses*	war-stricken*	watchman*	wave
wares*	wartime*	watchword	waved
warlike*	war-torn*	water*	waves
warlord*	was	waterbags*	waving

wavy	weary	weeks'	well-named
wax	weasels	weigh	well-organized
waxlike	weather*	weighed	well-paved
waxy	weather-beaten*	weighs	well-planned
way	weatherman*	weight	well-prepared
wayfarers*	weave*	weights	well-protected
ways*	weaver*	welcome	well-seasoned
wayside	weavers*	welcomed	well-stocked
we	weaves*	welcoming	well-suited
weak	weaver's*	weld*	well-tended
weaken	weaving*	welfare*	well-to-do
weakened	web	well*	well-trained
weaker	webbed	well	well-united
weaklings	wedding	well-balanced	well-watered
weakness	weddings	well-being	well-worn
weaknesses	wedge	well-built	wells*
wealth*	wedge-shaped*	well-designed	went
wealthier	weed-killer	well-drained	were
wealthiest	weed	well-educated	west*
wealthy	weeded	well-equipped	westerlies*
weapons	weed-like	well-fed	westerly*
wear	weeds	well-governed	western
wearily	week	well-informed	westward-moving
weariness	weekday	well-kept	westerners*
wearing	weekend	well-known	westernmost*
wears	weeks	well-liked	western-style*

westward*	wheel-like*	whistles	whose
wet*	wheeled*	white*	why
wettest	wheels*	white-capped	wickedness
wetting	when	white-haired	wicks
whale*	whenever	white-hot	wick
whalebone*	where	whiten	widely
whale-oil*	wherever	whites	widely-scattered
whalers*	whether	whitest	widen
whales*	they*	white-washed	widened
whale's*	which	white-winged	wideness
whaling*	whig*	whitish	wide
wharf*	while	whitish-yellow	wider
wharves*	whip	whittled	widespreading
what	whipping	whizz	widens
whatever	whips	who	widespread
whatsoever	whirl	whoa	widest
wheat*	whirled	whole	wide-swept
wheatfields*	whirlie*	wholesale*	widow
wheat-growing*	whirling	wholesaler*	wife
wheatlands*	whirr	wholesalers*	wide-open
wheat-raising*	whirred	wholesome*	wiggles*
wheat-storage*	whisper	wholly	wigs
wheel*	whispered	whom	wigwam*
wheelbarrows*	whispering	whoopee	wigwams*
wheelhorse*	whistle	whooping	wild*
wheeling*	whistled	whoops	wildcats

wilder	wine-making	wishes	wondering
wilderness	wineries*	wisp	wonders
wildest	wing*	wisteria*	wonder-working
wildfire*	winged*	witch	wondrous
wildlife*	wings*	witches	wondrously
will	winning	with	wood*
willing	winnowed*	withdraw	woodblock
willow*	wins	withdrew	wooded
willows*	winter*	within	wooden*
win	winter-green*	without	woodland*
wind	winter-wheat	withstand*	woodlands*
wind	wintry	withstood*	woodpecker
windbreak*	wipe	wits	woods*
windbreaks*	wintertime	wives	woodwork*
wind-driven	winters	wizard*	wool*
winding	wiped	woke	wool-dyeing*
windlass*	wire*	wolverine*	woolen*
windmill*	wireless*	wolverines*	woolen-cloth*
windmills*	wires	wolves*	word
window	wiry	woman	words
windows	wisdom	women	work*
winds	wise	women's	wore
winds*	wisely	won	workable*
wind-swept	wisest	wonder	worked*
windy	wish	wondered	worker*
wine*	wished	wonderful	workers*

workers '*	worshipped*	wreckage	yardmaster*
work-horse*	worshippers*	wrecked	yards
workingmen*	worshipping*	wrecking	yarn*
working*	worships*	wrecks	yarns
workman*	worst	wrestle*	yawned
workmanship*	worth	wrestler*	year
workmen*	worthless*	wrestlers*	year-long
workmen's*	worthwhile	wrestling*	yearly
workrooms*	worth-while	wriggled	year-round
works*	would	wrinkles	years
workshop*	wound*	wrists	yeast
workshops*	wound	write	year's
world*	wounded	writer	yellow*
world-circling*	wounds	writes	yellow-brown
world-famous*	wounds*	writing*	yellowish-brown
world's*	wove*	writings*	yellowish-white
world-wide*	woven	written	yellow-robed
worm	wow	wrong	yellow-skinned
worms	wrangler*	wrongdoing	yen*
worn	wrap	wrote	yerba*
worn-down	wrapped	wrought*	yes
worn-out	wrapping	yacht*	yesterday
worried	wraps	yachts*	yet
worry	wreath	yaks*	yield
worse	wreaths	yams	yields
worship*	wreck	yard	yips

yogurt*	zinc*
yoke*	zing
yoked*	zink*
yonder	zip
you	zone*
young	zones*
younger	zoo*
youngest	zoom
your	zoos
yours	
yourself	
yourselves	
youth	
youths	
yurt*	
yurts*	
zapote*	
zebra*	
zebras*	
zero*	
zero-numbered*	
zest	
ziggurat*	
ziggurats*	
zigzag	
zigzags	

APPENDIX C

COMPARISON OF THE UTILITY OF INDIVIDUAL
OCCURRENCES AND FREQUENCY OF OCCURRENCES
OF THE COMPOSITE WORD LIST AND TECHNICAL WORD LIST

TABLE 5

COMPARISON OF THE UTILITY OF INDIVIDUAL OCCURRENCES AND FREQUENCY OF OCCURRENCES OF THE COMPOSITE WORD LIST AND TECHNICAL WORD LIST^a

Generalization	Per Cent of Utility			
	Total Individual Occurrences	Total Frequency of Occurrences	Individual Occurrences of Technical Words	Frequency of Occurrences of Technical Words
1. When there are two vowels side by side, the long sound of the first one is heard and the second is usually silent.	38	33	33	37
2. When a vowel is in the middle of a one-syllable word, the vowel is short.	68	67	64	54
middle letter	(87)	(65)	(86)	(76)
one of the middle two letters in a word of four letters	(64)	(74)	(61)	(49)
one vowel <u>within</u> a word of more than four letters	(65)	(56)	(60)	(53)
3. If the only vowel letter is at the end of a word, the letter usually stands for a long sound.	75	37	75	99

TABLE 5--CONTINUED

Generalization	Per Cent of Utility			
	Total Individual Occurrences	Total Frequency of Occurrences	Individual Occurrences of Technical Words	Frequency of Occurrences of Technical Words
4. When there are two vowels, one of which is final <u>e</u> , the first vowel is long and the <u>e</u> is silent.	70	43	71	89
5. The <u>r</u> gives the preceding vowel a sound that is neither long nor short.	82	91	84	84
6. The first vowel is usually long and the second silent in the digraphs <u>ai</u> , <u>ea</u> , <u>oa</u> , and <u>ui</u> .	64	61	54	51
ai	(69)	(56)	(61)	(55)
ea	(63)	(62)	(50)	(47)
oa	(89)	(92)	(86)	(92)
ui	(7)	(2)	(2)	(0)
7. In the phonogram <u>ie</u> , the <u>i</u> is silent and the <u>e</u> has a long sound.	17	15	20	15
8. Words having double <u>e</u> usually have the long <u>e</u> sound.	90	89	87	87

TABLE 5--CONTINUED

Generalization	Per Cent of Utility			
	Total Individual Occurrences	Total Frequency of Occurrences	Individual Occurrences of Technical Words	Frequency of Occurrences of Technical Words
9. When words end with silent <u>e</u> , the preceding <u>a</u> or <u>i</u> is long.	61	53	55	64
10. In <u>ay</u> the <u>y</u> is silent and gives <u>a</u> its long sound.	97	91	94	99
11. When the letter <u>i</u> is followed by the letters <u>gh</u> , the <u>i</u> usually stands for its long sound and the <u>gh</u> is silent.	42	87	76	76
12. When <u>a</u> follows <u>w</u> in a word, it usually has the sound <u>a</u> as in <u>was</u> .	25	55	20	5
13. When <u>e</u> is followed by <u>w</u> , the vowel sound is the same as represented by <u>oo</u> .	23	22	11	1
14. The two letters <u>ow</u> make the long <u>o</u> sound.	67	57	63	44
15. <u>W</u> is sometimes a vowel and follows the vowel digraph rule.	45	46	43	24

TABLE 5--CONTINUED

Generalization	Per Cent of Utility			
	Total Individual Occurrences	Total Frequency of Occurrences	Individual Occurrences of Technical Words	Frequency of Occurrences of Technical Words
16. When <u>y</u> is the final letter in a word, it usually has a vowel sound.	86	48	86	77
17. When <u>y</u> is used as a vowel in words, it sometimes has the sound of long <u>i</u> .	7	11	9	6
18. The letter <u>a</u> has the same sound (⊙) when followed by <u>l</u> , <u>w</u> , and <u>u</u> .	40	54	37	51
19. When <u>a</u> is followed by <u>r</u> and final <u>e</u> , we expect to hear the sound heard in <u>care</u> .	96	4	100	100
20. When <u>c</u> and <u>h</u> are next to each other, they make only one sound.	100	100	100	100
21. <u>Ch</u> is usually pronounced as it is in <u>kitchen</u> , <u>catch</u> , and <u>chair</u> , not like <u>sh</u> .	83	89	73	66
22. When <u>c</u> is followed by <u>e</u> or <u>i</u> , the sound of <u>s</u> is likely to be heard.	90	92	84	86

TABLE 5--CONTINUED

Generalization	Per Cent of Utility			
	Total Individual Occurrences	Total Frequency of Occurrences	Individual Occurrences of Technical Words	Frequency of Occurrences of Technical Words
23. When the letter <u>c</u> is followed by <u>o</u> or <u>a</u> , the sound of <u>k</u> is likely to be heard.	100	100	100	100
24. The letter <u>g</u> often has a sound similar to that of <u>j</u> in <u>jump</u> when it precedes the letter <u>i</u> or <u>e</u> .	81	78	94	99
25. When <u>ght</u> is seen in a word, <u>gh</u> is silent.	100	100	100	100
26. When a word begins <u>kn</u> , the <u>k</u> is silent.	100	100	100	100
27. When a word begins with <u>wr</u> , the <u>w</u> is silent.	100	100	100	100
28. When two of the same consonants are side by side, only one is heard.	98	99	99	99
29. When a word ends in <u>ck</u> , it has the same last sound as in <u>look</u> .	100	100	100	100

TABLE 5--CONTINUED

Generalization	Per Cent of Utility			
	Total Individual Occurrences	Total Frequency of Occurrences	Individual Occurrences of Technical Words	Frequency of Occurrences of Technical Words
30. In most two-syllable words, the first syllable is accented.	87	85	89	93
31. If <u>a</u> , <u>in</u> , <u>re</u> , <u>ex</u> , <u>de</u> , or <u>be</u> is the first syllable in a word, it is usually unaccented.	89	79	87	69
32. In most two-syllable words that end in a consonant followed by <u>y</u> , the first syllable is accented and the last is unaccented.	99	99	99	95
33. One vowel letter in an accented syllable has its short sound.	61	51	59	54
34. When <u>y</u> or <u>ey</u> is seen in the last syllable that is not accented, the long sound of <u>e</u> is heard.
35. When <u>ture</u> is the final syllable in a word, it is unaccented.	100	100	100	100
36. When <u>tion</u> is the final syllable in a word, it is unaccented.	100	100	100	100

TABLE 5--CONTINUED

Generalization	Per Cent of Utility			
	Total Individual Occurrences	Total Frequency of Occurrences	Individual Occurrences of Technical Words	Frequency of Occurrences of Technical Words
37. In many two- and three-syllable words, the final <u>e</u> lengthens the vowel in the last syllable.	54	46	51	30
38. In the first vowel sound in a word is followed by two consonants, the first syllable usually ends with the first of the two consonants.	80	71	81	69
39. If the first vowel sound in a word is followed by a single consonant, that consonant usually begins the second syllable.	45	50	49	53
40. If the last syllable of a word ends in <u>le</u> , the consonant preceding the <u>le</u> usually begins the last syllable.	71	43	60	45
41. When the first vowel element in a word is followed by <u>th</u> , <u>ch</u> , or <u>sh</u> , these symbols are not broken when the word is divided into syllables and may go with either the first or second syllable.	100	100	100	100

TABLE 5--CONTINUED

Generalization	Per Cent of Utility			
	Total Individual Occurrences	Total Frequency of Occurrences	Individual Occurrences of Technical Words	Frequency of Occurrences of Technical Words
42. In a word of more than one syllable, the letter <u>y</u> usually goes with the preceding vowel to form a syllable.	67	77	65	88
43. When a word has only one vowel letter, the vowel sound is likely to be short.	70	64	65	53
44. When there is one <u>e</u> in a word that ends in a consonant, the <u>e</u> usually has a short sound.	21	35	21	24
45. When the last syllable is the sound <u>r</u> , it is unaccented.	93	94	94	95

273

^aThese lists are taken from the totals for grades one through six.

^bFigures in parentheses indicate specific applications of the generalizations.

APPENDIX D
COMPARISON OF UTILITY OF PHONIC GENERALIZATIONS
TO SOCIAL STUDIES AND READING PROGRAMS

TABLE 6

COMPARISON OF UTILITY OF PHONIC GENERALIZATIONS
TO SOCIAL STUDIES AND READING PROGRAMS^a

Generalization	Per Cent of Utility			
	Primary Readers (Clymer)	Primary and Intermediate Readers (Bailey)	Social Studies Programs	
			Total Individual Occurrences	Total Frequency of Occurrences
1. When there are two vowels side by side, the long sound of the first one is heard and the second is usually silent.	45	34	38	33
2. When a vowel is in the middle of a one-syllable word, the vowel is short.	62	71	68	67
middle letter	(69) ^b	(78)	(87)	(65)
one of the middle two letters in a word of four letters	(59)	(68)	(64)	(74)
one vowel <u>within</u> a word of more than four letters	(46)	(62)	(65)	(56)
3. If the only vowel letter is at the end of a word, the letter usually stands for a long sound.	74	76	75	37

TABLE 6--CONTINUED

Generalization	Per Cent of Utility			
	Primary Readers (Clymer)	Primary and Intermediate Readers (Bailey)	Social Studies Programs Total Individual Occurrences	Social Studies Programs Total Frequency of Occurrences
4. When there are two vowels, one of which is final <u>e</u> , the first vowel is long and the <u>e</u> is silent.	63	57	70	43
5. The <u>r</u> gives the preceding vowel a sound that is neither long nor short.	78	86	82	91
6. The first vowel is usually long and the second silent in the digraphs <u>ai</u> , <u>ea</u> , <u>oa</u> , and <u>ui</u> .	66	60	64	61
ai	(64)	(72)	(69)	(56)
ea	(66)	(55)	(63)	(62)
oa	(97)	(95)	(89)	(92)
ui	(6)	(10)	(7)	(2)
7. In the phonogram <u>ie</u> , the <u>i</u> is silent and the <u>e</u> has a long sound.	17	31	17	15

TABLE 6--CONTINUED

Generalization	Per Cent of Utility			
	Primary Readers (Clymer)	Primary and Intermediate Readers (Bailey)	Social Studies Programs Total Individual Occurrences	Total Frequency of Occurrences
8. Words having double <u>e</u> usually have the long <u>e</u> sound.	98	87	90	89
9. When words end with silent <u>e</u> , the preceding <u>a</u> or <u>i</u> is long.	60	50	61	53
10. In <u>ay</u> the <u>y</u> is silent and gives <u>a</u> its long sound.	78	88	97	91
11. When the letter <u>i</u> is followed by the letters <u>gh</u> , the <u>i</u> usually stands for its long sound and the <u>gh</u> is silent.	71	71	42	87
12. When <u>a</u> follows <u>w</u> in a word, it usually has the sound of <u>a</u> as in <u>was</u> .	32	22	25	55
13. When <u>e</u> is followed by <u>w</u> , the vowel sound is the same as represented by <u>oo</u> .	35	40	23	22
14. The two letters <u>ow</u> make the long <u>o</u> sound.	59	55	67	57

TABLE 6--CONTINUED

Generalization	Per Cent of Utility			
	Primary Readers (Clymer)	Primary and Intermediate Readers (Bailey)	Social Studies Programs	
			Total Individual Occurrences	Total Frequency Occurrences
15. <u>W</u> is sometimes a vowel and follows the vowel digraph rule.	40	33	45	46
16. When <u>y</u> is the final letter in a word, it usually has a vowel sound.	84	89	86	48
17. When <u>y</u> is used as a vowel in words, it sometimes has the sound of long <u>i</u> .	15	11	7	11
18. The letter <u>a</u> has the same sound (\hat{o}) when followed by <u>l</u> , <u>w</u> , and <u>u</u> .	48	34	40	54
19. When <u>a</u> is followed by <u>r</u> and final <u>e</u> , we expect to hear the sound heard in <u>care</u> .	90	96	96	4
20. When <u>c</u> and <u>h</u> are next to each other, they make only one sound.	100	100	100	100
21. <u>Ch</u> is usually pronounced as it is in <u>kitchen</u> , <u>catch</u> , and <u>chair</u> , not like <u>sh</u> .	95	87	83	89

TABLE 6--CONTINUED

Generalization	Per Cent of Utility			
	Primary Readers (Clymer)	Primary and Intermediate Readers (Bailey)	Social Studies Programs	
			Total Individual Occurrences	Total Frequency of Occurrences
22. When <u>c</u> is followed by <u>e</u> or <u>i</u> , the sound <u>s</u> is likely to be heard.	96	92	90	92
23. When the letter <u>c</u> is followed by <u>o</u> or <u>a</u> , the sound of <u>k</u> is likely to be heard.	100	100	100	100
24. The letter <u>g</u> often has a sound similar to that of <u>j</u> in <u>jump</u> when it precedes the letters <u>i</u> or <u>e</u> .	64	78	81	78
25. When <u>ght</u> is seen in a word, <u>gh</u> is silent.	100	100	100	100
26. When a word begins <u>kn</u> , the <u>k</u> is silent.	100	100	100	100
27. When a word begins with <u>wr</u> , the <u>w</u> is silent.	100	100	100	100
28. When two of the same consonants are side by side, only one is heard.	99	98	98	99

TABLE 6--CONTINUED

Generalization	Per Cent of Utility			
	Primary Readers (Clymer)	Primary and Intermediate Readers (Bailey)	Total Individual Occurrences	Total Frequency of Occurrences
29. When a word ends in <u>ck</u> , it has the same last sound as in <u>look</u> .	100	100	100	100
30. In most two-syllable words, the first syllable is accented.	85	81	87	85
31. If <u>a</u> , <u>in</u> , <u>re</u> , <u>de</u> , <u>ex</u> , or <u>be</u> is the first syllable in a word, it is usually unaccented.	87	84	89	79
32. In most two-syllable words that end in a consonant followed by <u>y</u> , the first syllable is accented and the last is unaccented.	96	97	99	99
33. One vowel letter in an accented syllable has its short sound.	61	65	61	51
34. When <u>y</u> or <u>ey</u> is seen in the last syllable that is not accented, the long sound of <u>e</u> is heard.

TABLE 6--CONTINUED

Generalization	Per Cent of Utility			
	Primary Readers (Glymer)	Primary and Intermediate Readers (Bailey)	Total Individual Occurrences	Total Frequency of Occurrences
35. When <u>ture</u> is the final syllable in a word, it is unaccented.	100	95	100	100
36. When <u>tion</u> is the final syllable in a word, it is unaccented.	100	100	100	100
37. In many two- and three-syllable words, the final <u>e</u> lengthens the vowel in the last syllable.	46	46	54	46
38. If the first vowel sound in a word is followed by two consonants, the first syllable usually ends with the first of the two consonants.	72	78	80	71
39. If the first vowel sound in a word is followed by a single consonant, that consonant usually begins the second syllable.	44	50	45	50
40. If the last syllable of a word ends in <u>le</u> , the consonant preceding the <u>le</u> usually begins the second syllable.	97	93	71	43

TABLE 6--CONTINUED

Generalization	Per Cent of Utility			
	Primary Readers (Clymer)	Primary and Intermediate Readers (Bailey)	Social Studies Programs Total Individual Occurrences	Social Studies Programs Total Frequency of Occurrences
41. When the first vowel element in a word is followed by <u>th</u> , <u>ch</u> , or <u>sh</u> , these symbols are not broken when the word is divided into syllables and may go with either the first or second syllable.	100	100	100	100
42. In a word of more than one syllable, the letter <u>y</u> usually goes with the preceding vowel to form a syllable.	73	65	67	77
43. When a word has only one vowel letter, the vowel sound is likely to be short.	59	69	70	64
44. When there is one <u>e</u> in a word that ends in a consonant, the <u>e</u> usually has a short sound.	76	92	21	35
45. When the last syllable is the sound <u>r</u> , it is unaccented.	95	79	93	94

^aThis table presents a comparison of the forty-five phonic generalization.

^bFigures in parentheses indicate specific applications of the generalizations.

APPENDIX E
CORRESPONDENCE

EARNEST W. TIEGS
5825 Green Oak Drive
Los Angeles, California 90028
6-2-1969

Miss Betty King
3720 Burlington
Norman, Oklahoma 73069

Dear Miss King:

Your letter of May 19 has been referred to me for reply. I will number my responses to match the numbers of your requests.

1. Fay Adams and I gladly approve your using the Series for your study, but you should also request permission of Ginn and Company.
- 2.& 3. We have retained practically nothing related to the vocabularies of the books of the Series, but we can tell you our general plan of development. The vocabulary of each book consists of words assumed to be known plus certain new words. For example, the Manual for Book 1 contains the list of words assumed to be known and the list of new words near the beginning of the volume. New words are given near the front of the Manual for Book 3.

In the primary books, the words from the Ginn Basic Readers were assumed to be known; in the upper grades, the words assumed to be known came from a combination list of the study of Dr. B. R. Buckingham and the Thorndike-Lorge The Teacher's Word Book of 30,000 Words. The combination list were reviewed by teachers on different grade levels and revised in the list of their suggestions.

Most of the new words introduced in the books were related to essential social studies concepts. When these new concepts were introduced the words identifying them were defined or explained and used in pictures wherever possible. These new words were reused many times because they are basis to an understanding of social science materials. They were not reused a set number of times to develop reading skills as in a reading series.

4. In developing the first editions of the Series we did have a variety of other difficulty controls. For example, we controlled sentence and type, beginning with short simple sentences and gradually lengthening them and introducing compound and complex sentences. We introduced idiomatic expressions gradually in the same way. However, no one of these controls or a combination of

all of them guaranteed satisfactory materials. We found that we had to try out the materials on pupils of average ability and then rewrite materials until they were satisfactory on different grade levels.

As the years passed, there has been a demand for more difficult materials and some of these have been introduced. However, the primary purpose of Social Studies Series is to aid children to achieve social studies objectives. For this reason we believe that the reading difficulting of social studies books should always be lower than that of books of a reading series on each grade level. In this way, reading difficulty will not interfere with the achievement of social studies objectives.

Our best wishes for the success of your study.

Sincerely,

Ernest W. Tiegs
EWT/hs

GINN AND COMPANY

STATLER BUILDING, BOSTON MASSACHUSETTS 02117

August 13, 1969

Miss Betty King
3720 Burlington
Norman, Oklahoma 73069

Dear Miss King:

I know that time is precious to you, so please accept my apologies for the delay. I wish we could help you with your dissertation project, but unfortunately we do not have on file the various lists of vocabulary words and vocabulary-control information you requested.

All that I can offer you is Ginn's permission to use our Tiegs-Adams social studies series (Kindergarten through grade nine) for the purpose of research, as stated in your letter of June 17, 1969.

Honestly, Miss King, I am sorry that we cannot assist you more specifically in your study, for it certainly sounds as if it will provide valuable information for social science teachers and publishers.

I wish you luck with your dissertation.

Sincerely,

Walter Beevers, Director
Elementary Social Science Department

WB/mem

SILVER BURDETT COMPANY

22 July 1969

Miss Betty King
3720 Burlington
Norman, Oklahoma 73069

Dear Miss King:

Your letter of 23 June 1969 concerning the Silver Burdett Social Studies program has been reviewed by our Social Studies Department editors. Because the statements and requests in your letter are not social studies in nature, I shall do my best to answer you.

First, we appreciate the fact that someone considers our social studies series as one of the three most widely used and well written. Although you do not give the titles of the series, I presume you mean: FAMILIES AND THEIR NEEDS, COMMUNITIES AND THEIR NEEDS, PEOPLE USE THE EARTH, LEARNING TO LOOK AT OUR WORLD, CHANGING NEW WORLD, CHANGING OLD WORLD.

Each of your four points of information requests are answered individually in the paragraphs below.

1. Permission to use these books in your study for your dissertation is granted.
2. A list of words by grade, or otherwise, is not available. Since this is not a language arts series, no word list was used as a guide for writing, nor was a word list prepared after publication. Vocabulary level guides were used and referred to so that reading levels would be appropriate.
3. More or less the same question has been restated from a different direction, and the reply to #2 is applicable here.
4. A vocabulary control as such was not used, that is if you mean something definite and inflexible. A reading or spelling series would be more likely to have such a listing or control.

As manuscript for a social studies series, such as that published by Silver Burdett Company, is being edited and reviewed, it is subjected to whatever standardized reading level test is appropriate. It is allowed to stand or is rewritten according to the grades placement or reading level of the children for whom it is intended. Social Studies has need for special words which are explained in the text and/or in a glossary. A good, well written social studies series could be not be restricted to any listing which would be termed a reading word list; a fact which I am certain you can appreciate.

Word lists, as such, are not as important in a social studies as are the development of skills and concepts—the words are a means to those ends. Our authors need the freedom of language to develop these skills and concepts. If they write above or below the proper reading level, editors bring the writings back to the necessary boundaries of comprehension and vocabulary levels.

From what I have written to you, I trust that you understand that there is no separate listing of words outside of the pupils' and teachers' texts that we can reproduce for you. Silver Burdett Company would have to create such material. For us to undertake such a task for you would be most expensive.

It is realized that this reply has not been as helpful as you might have liked. If you have other questions, please feel free to ask them.

Sincerely yours,

Thane L. Bierwert
Editorial Business Manager

THE MACMILLAN COMPANY
A Subsidiary of Crowell Collier and MacMillan, Inc.
866 Third Avenue, New York, N. Y. 10022

School Division

June 18, 1969

Miss Betty King
3720 Burlington
Norman, Oklahoma 73069

Dear Miss King:

Dr. Cutright has forwarded to us your letter of May 18. The work you are doing for your doctorate sounds interesting indeed. We will certainly be glad to give permission for you to use our books.

I am sorry, however, we do not have available the list of words used by grade nor a list of all the words used in all the grades nor the number of times each word is used. In Grades One and Two we do have a vocabulary list in the backs of the books showing some of the words taught which might be the basis for the beginning of your study.

The glossary in each of the upper grades books is a cue also to some of the social studies words used in the series.

We check our books against both the Dale-Chall and Spache readability texts in order to be sure that the grade level of the carrying vocabulary is suitable for the age level for which the books is intended.

I'm sorry we do not have the personnel to do the kind of research you asked for. We wish you every success on the completion of your doctoral thesis.

Sincerely yours,

Mrs. Dorothy S. Arnof
Assistant Vice President
Executive Editor

DSA/ww
cc: Dr. Cutright